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Hydrogen mission: Long way to go	The Sunday Express	14	Rakesh Kumar

Hydrogen mission: Long way to go

Govt says purpose of this mission is to cut India's oil import and provide clean fuel

RAKESH KUMAR @ New Delhi

IN January 2023, the government approved a whopping ₹19,744 crore for the implementation of National Green Hydrogen mission in the country. Considered as a future fuel, green hydrogen or ammonia is said to be a replacement of traditional fossil fuels. The government said the purpose of this mission is to reduce India's oil import and provide clean fuel to citizens. At the same time, to make India a global hub for using, producing and exporting green hydrogen.

"The National Green Hydrogen Mission will facilitate transition of the economy to low-carbon intensity and reduce dependence on fossil fuel imports. It will make the country assume technology and market leadership in this sector," said finance minister Niramala Sitharaman, while presenting budget 2023-24.

The initial outlay for the scheme is ₹19,744 crore. The power and renewable ministry will be the nodal point and will formulate guidelines related to the scheme.

GREEN HYDROGEN MISSION

5 MT India's annual Green Hydrogen production likely by **2023**.

₹8 lakh cr Investments and 6 lakh jobs by **2030** through Green Hydrogen Mission.

28 MT The demand for hydrogen expected by **2050** in India

50 MT Annual CO2 emissions to be averted by **2030** due to use of Green Hydrogen.

50% The estimated reduction of the cost of hydrogen by **2030**

₹19,744 cr The initial outlay for Green Hydrogen Mission

EXPRESS ILLUSTRATION

Why hydrogen energy?

Hydrogen is the most abundant chemical element in the world. India has a favourable geographic location and abundance of sunlight and wind for the production of green hydrogen. Therefore, the country targets to produce at least 5 MT (million tonne) per annum with an associated renewable energy capacity of about 125 GW by 2030. Its production capacity is likely to invite investment of ₹8 lakh crore and create over 6 lakh clean jobs.

Hydrogen is light, can be stored, is energy dense and doesn't generate direct polluting emission. Therefore, it is considered as the substitute for fossil fuels in heavy transport sectors like maritime transport or aviation sector, where it is hard to decarbonise the fuel.

How is it produced?

Hydrogen is the lightest element and most abundant element in the universe. It isn't found in nature in its elemental form, thus it has to be extracted from other hydrogen-containing compounds. Based on the method of extracting, hydrogen is divided into three categories -- Grey, Blue and Green. Green Hydrogen is produced using electrolysis of water with electricity generated by renewable energy. The carbon intensity ultimately depends on the carbon neutrality of the source of electricity -- the more renewable energy in the electricity fuel mix, "greener" the hydrogen produced. Grey Hydrogen is produced via coal or lignite gasification (black or brown), or via a process called steam methane reformation (SMR) of natural gas or methane (grey) and Blue Hydrogen is produced via natural gas or coal gasification combined with carbon capture storage (CCS) or carbon capture use (CCU) technologies to reduce carbon emissions. This is the most environmentally sustainable way to produce hydrogen.

Current status in India

As per analysis by the Council for Energy, Environment and Water, Green hydrogen currently accounts for less than 1% of global hydrogen production due to it being expensive to produce. The government believes by 2030, the hydrogen costs will be down by 50%. Hydrogen demand is expected to see a five-fold jump to 28 MT by 2050 where 80% of the demand is expected to be green in nature.

The opportunity in the sector gave private firms an opportunity to invest. Reliance Industries (RIL) plans to become a net-carbon zero firm by 2035 and invest nearly ₹750 billion over the next three years in renewable energy. State-owned oil companies like Indian Oil (IOCL) are planning to set up India's first green hydrogen unit in Mathura refinery, which will be used to process crude oil. Similarly, National Thermal Power Corporation (NTPC), has recently issued a tender to establish a hydrogen refuelling station to be powered by renewables in Leh through a standalone 1.25 MW solar system. Two hydrogen refuelling stations have been established (one each at Indian Oil R&D Centre, Faridabad and National Institute of Solar Energy, Gurugram).

India is also planning to export hydrogen to Japan, South Korea, and Europe. Meanwhile, various hydrogen powered vehicles have been developed and demonstrated under projects supported by government that includes 6 Cell buses by Tata Motors, 50 hydrogen enriched CNG (H-CNG) buses in Delhi by IOCL in collaboration with Government of NCT of Delhi, 2 hydrogen fueled Internal combustion engine buses (by IIT Delhi in collaboration with Mahindra & Mahindra). With proactive collaboration among innovators, entrepreneurs and government, green hydrogen has the potential to reduce CO2 emissions, fight climate change, and put India on a path towards net-zero energy imports. As per the government, it will help India export high-value green products, making it one of the first major economies to industrialise without the need to 'carbonise'.

What experts say?

Hydrogen and ammonia are envisaged to be the future fuels to replace fossil fuels but energy experts have some reservations about the scheme. They called the usage of green hydrogen as a still nascent stage all over the world. India can take a lead in the green hydrogen, but as per them, the country doesn't have required infrastructure to execute it yet.

Oil Prices Rise Over 1%	The Indian Express	10	Bureau

CRUDE WATCH

OIL PRICES RISE OVER 1%

Oil prices climbed more than 1% on Friday after better-than-expected US employment data, though both benchmarks fell more than 3% on the week on US interest rate hike jitters. **REUTERS**

The Indian EXPRESS Sun, 12 March 2023 https://epaper.india

Auto fuel consumption down for second straight month in Feb	The Hindu Business Line	12	Rishi Ranjan Kala

Auto fuel consumption down for second straight month in Feb

Rishi Ranjan Kala
New Delhi

Largely flat industrial activity and subdued mobility pulled down India's consumption of petrol and diesel during February 2023, the second consecutive month of decline, after the higher demand observed during November-December 2022.

While petrol consumption fell by 2 per cent m-o-m to 2.78 million tonnes (mt) in February, diesel usage declined 2.5 per cent m-o-m to almost 7 mt. Similarly, LPG demand was also down 4.6 per cent at 2.4 mt. The consumption of aviation turbine fuel (ATF) was also lower by around 7 per cent m-o-m at 0.62 mt.

Petroleum products used in industries such as furnace oil (FO) and low sulphur heavy stock (LSHS) consumption was also down on a monthly basis by 5 per cent at 0.57 mt. That apart, the usage of petroleum coke fell marginally by 1.4 per cent to 1.5 mt in February 2023.

Overall, the consumption of petroleum products fell marginally on a monthly basis to 18.5 mt last month.

FLAT ACTIVITY

Market insiders point to issues such as inflation, rising interest rates, weak external demand and waning domestic pent-up demand exerting some pressure on the momentum in manufacturing activity. The seasonally adjusted S&P Global India Manufacturing Purchasing Managers' Index (PMI) was at 55.3 in February, with hardly any change from 55.4 in January 2023. Data implied that the domestic market was the main source of new business growth, as new orders from abroad increased only fractionally.

S&P pointed out that suppliers' capacities seemed adequate to keep up with improving input demand, as signalled by stable vendor performance. The seasonally adjusted Suppliers' Delivery Times Index was at the 50.0 no-change mark in February.

A senior oil marketing company (OMC) official said that industrial activity has been slightly subdued in the last two months. For instance, mining, road as well as rail freight was slightly down on an annual basis in February 2023.

"This, to some extent, was neutralised by higher vehicle registrations and steel demand. There was less fuel requirement for irrigation as rabi sowings are nearing harvest. These factors reflect in lower diesel consumption, the mainstay of irrigation and transport. Besides, tourism and marriage seasons are over, which reflects in the decline in demand for petrol," he explained.

Oil loses direction	The Hindu Business Line	05	Akhil Nallamuthu

Oil loses direction

CRUDE CHECK. Prices moving back and forth

Akhil Nallamuthu
bl. research bureau

The crude oil prices fell over the last week because of the fears of a fast paced tightening from the US Fed.

The Brent crude futures on the Intercontinental Exchange (ICE) posted a 3.6 per cent loss as it closed at $82.8 a barrel. Similarly, the MCX crude oil futures (March contract) declined 3.1 per cent and ended the week at ₹6,299 per barrel.

MCX-CRUDE OIL (₹6,299)

Unable to sustain above the key level of ₹6,500, the March crude oil futures declined to post a weekly loss of 3.1 per cent. Nevertheless, this time too, the support at ₹6,150 helped the bulls to fight back and gain some ground.

Notably, the price band of ₹6,000-6,150 is a support band against which the contract has rebounded several times since the beginning of this year.

However, further rally from here can be difficult as the contract faces a series of resistances. The 20- and 50-day moving averages lie at ₹6,400 and ₹6,440 respectively, which are potential barriers.

GETTY IMAGES/ISTOCKPHOTO

Just above these levels, there is a falling trendline resistance. The contract is expected to meet this trendline at around ₹6,500, which is already a considerable hurdle.

Therefore, the contract should breach either the resistance at ₹6,500 or the support at ₹6,000 for us to reasonably predict the next leg of trend.

Supports below ₹6,000 are at ₹5,850 and ₹5,550, whereas resistance above ₹6,500 are at ₹6,750 and ₹7,000.

Trade strategy: The crude oil futures fell short of our target for the longs at ₹6,700 as the contract fell after making an intra-week high of ₹6,583. It then hit our trailing stop-loss at ₹6,200. The trade was initiated at ₹6,150.

We recommend traders refrain from trading crude oil until we see a technical confirmation.

Full energy yet to be tapped	The Hindu Business Line	05	Nalinkanthi V

Full energy yet to be tapped

NATURAL GAS. Three reasons why the stock of Mahanagar Gas is a good option

Nalinakanthi V
bl. research bureau

Investors with a two-to-three-year horizon can consider accumulating the stock of Maharashtra-based natural gas distribution company Mahanagar Gas (MGL). Promoted by GAIL and Government of Maharashtra, MGL caters to the piped natural gas (domestic and industrial) and compressed natural gas (auto) needs of Mumbai Metropolitan Region and adjoining areas.

The company is also expanding its presence in Maharashtra and also foraying into neighbouring States such as Karnataka through the acquisition of Unison Enviro Private Limited (UEPL), which will help the company sustain growth over the medium-term. Also, the Kirit Parikh report to review the natural gas price hike decision, if accepted by the Government, will augur well for MGL's profits. At the current price of ₹985, the stock trades at 14.9 times its trailing twelve-month earnings.

KEY POSITIVES

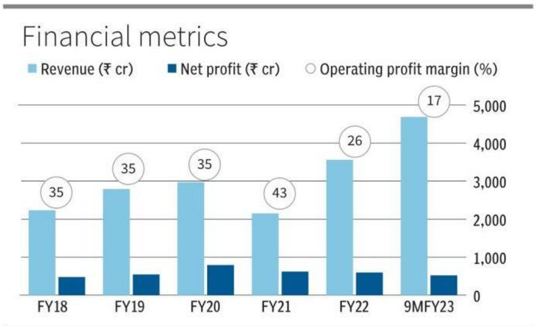
We believe MGL to be a good investment option to consider for investors with a moderate risk appetite for three reasons.

First, the company — which has a strong foothold in the Mumbai metropolitan area — is now expanding its geographical area. MGL currently caters to 2.1 million households through its piped natural gas (PNG) infrastructure. Likewise, its PNG business supports over 4,106 small commercial establishments and over 382 industrial customers that use gas as feedstock or fuel. In the compressed natural gas (CNG) segment, the company fuels over 0.91 million vehicles. The company also supplies to over 301 filling stations.

MGL has three geographical areas (GAs) in Mumbai, Thane Urban and Raigad. The acquisition of Unison for ₹531 crore will help the company add additional GAs – Ratnagiri, Latur and Osmanabad (Maharashtra) and Chitradurga and Davanagare (Karnataka). Unison had revenue of approximately ₹90 crore in FY22. With about 72 CNG stations to be added, the acquisition is expected to help the company's growth in the medium-term. Further, with net cash in the books of ₹200 crore and hence no leverage concerns, MGL is well-positioned to capitalise on opportunities for consolidation in the CGD (city gas distribution) space. This has been the first acquisition by the company, and there is expectation that MGL will continue to pursue inorganic growth opportunities going forward, too.

Second, with the unprecedented increase in global energy prices in 2022, thanks to the Russia-Ukraine crisis, the Government had to increase the domestic gas prices in line with the global trend. Increase in administered price mechanism (APM) gas price beginning March 2022, from $2.9 per mmBtu to $6.1 resulted in a moderation in profitability in 2022-23. From 43 per cent in FY21, the operating profit margin moderated to 17 per cent for the nine-month period December 2022. In addition to higher costs, companies could not pass on the input cost increases fully to end customers, due to inflationary pressure.

ISTOCKPHOTO.COM



ACCUMULATE

MGL ₹985.45

WHY

- Expanding its geographical area
- Margins bottoming out
- Strong balance sheet

However, with three price hikes taken in April, October, and November 2022, the company is better positioned to sustain profitability going forward. From ₹65 a kg in March 2022, the price of CNG increased to ₹72 in April and further to ₹86 in October and ₹89.5 in November last year. The full benefit of price increases should start flowing in January-March 2023 quarter.

Further, the Kirit Parikh committee recommendation, tabled in 2022, has recommended price cap on APM gas, which is supplied to CGD players such as MGL. If this happens, it will help MGL's margins further. While the market has already factored in higher APM gas prices and resultant margin decline, any positive development on Kirit Parekh report will be incrementally positive for the company's profitability and also stock price.

Third, the company's strong balance sheet with no debt and healthy return ratios of about 20 per cent – return on equity and return on capital employed is also a positive. This offers sufficient legroom for the company to grow inorganically. This can be an added growth kicker. The company is a consistent dividend payer, with the current yield at around 2.5 per cent. On the valuation front, too, the stock looks interesting at current levels, trading at 14.9 times its trailing 12-month earnings. Given that the stock has gained almost 18 per cent on a YTD basis, investors can use any dips to accumulate the stock.

In the April-December 2022 period, MGL managed to grow revenue by 90 per cent, thanks to the price increases. However, its operating profit rose at a slower pace of 12 per cent on higher costs – APM gas prices. This led to a moderation in the operating profit margin from 29 per cent in 9MFY22 to 17 per cent in 9MFY23. However, now with the next round of price increases in November 2022, the margins should stabilise from here and gradually improve.

PAIN POINTS

While we do not foresee any significant increase in APM gas prices in the near term, any unexpected increase in gas prices can further risk MGL's profitability. Also, the volume growth in CNG has been a tepid 3-5 per cent with conversions also growing at single digit levels; higher prices can also narrow the spread between petrol, diesel and CNG and may not support conversion to CNG, thereby impacting volume growth. However, this can be mitigated by the strong demand in the piped gas segment. While we do not foresee any near-term impact due to electric vehicles, the medium- to long-term prospects of CNG may be contingent on the penetration of EV in India. That said, we do not see any major risk to the existing business of MGL.