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We aim to set-up four green hydrogen, green ammonia plants globally by 2030: Rajat Seksaria, CEO, ACME Group

The company is in the advanced stage of finalising long-term offtake contract for their green ammonia project in Oman

Aarushi Koundal | ETEnergyWorld | October 11, 2021, 08:52 IST



Rajat Seksaria, CEO of ACME Group, in an exclusive interview with ETEnergyWorld, says that he believes there is enough demand for green hydrogen in India. His company has set up the world's first integrated commercial-scale pilot plant for green hydrogen and green ammonia production in

Rajasthan. Edited excerpts:

Tell us about your green hydrogen outlook for the next 5-10 years.

ACME Group is very optimistic about green hydrogen as the fuel for the future. Essentially, we see good momentum on the energy transition theme globally. Green hydrogen as a fuel will be central to this transition. Green Ammonia that is produced using green hydrogen and nitrogen captured from the air will be the initial carrier of hydrogen and has immediate use in several industries like fertilizers, refineries etc. We also expect that very soon there will be use of green hydrogen (or green ammonia) in various industries such as power generation and storage, transportation and the marine sector. These will lead to a demand explosion. Concurrently, there are several regulator developments globally that will make it imperative to use green fuels. For example, the implementation of the RED II ([Renewable](#) Energy Directive) directive and carbon border tax mechanism in Europe. This means that any Company exporting to that region will have to specify the quantity of carbon emission in the manufacturing of the product. This will make the firms shift to greener fuels in their factories.

For India, there is an added driver for a shift to green fuels, as this will be in our vision as a country to become energy independent. Unlike hydrocarbon, which we as a country largely import, green fuels like green hydrogen and green ammonia can be produced in India itself using India's abundant sun and wind resources.

What are your investment plans for green hydrogen for this period?

ACME Group has set up the world's first integrated commercial-scale pilot plant for green hydrogen and green ammonia production in Rajasthan. This R&D pilot has given us the knowledge, experience and learning, which we shall utilize in our large scale green hydrogen and green ammonia plants under development overseas. ACME is also developing one of the world's largest green ammonia projects at SEZ (Special Economic Zone) at Port of Duqm in Oman with an investment of about \$3.5 billion. Our vision is to develop at least four global-scale green hydrogen and green ammonia plants in the world by 2030 in geographies including India with abundant renewable resources.

Where do you see India as a green hydrogen market in the coming years?

Different estimates peg India's hydrogen energy ecosystem to be worth \$2-3 trillion in the next 20-25 years. The deployment of green hydrogen at the lowest cost will help us in a cost leadership position. We can meet our green hydrogen demand internally and at the same time become a leading exporter of green hydrogen worldwide. The Prime Minister has already announced the National Hydrogen Mission and we are expecting a policy roll out soon.

What are the key components for a stable hydrogen economy in India?

Creating and sustaining a green hydrogen economy in India would require a vision backed up by an investment-friendly policy. Fortunately, the Government is moving proactively in this area.

The Government's policy must create a sizable initial market for the deployment of

these green products and the policy set up providing for large investment into these areas. Green hydrogen and ammonia projects are very capital-intensive and hence financing institutions will also have to come forward and take their leap of faith into this sector. Also for India to compete and become an export hub for green hydrogen and green ammonia we will need to develop lower-cost structures to implement large scale projects using India's frugal engineering abilities and initial incentives from the Government of India.

This is important since India, while having good solar resources for producing lower-cost renewable electricity, will be competing with some other geographies like Australia, Middle Eastern countries who have higher solar resources.

What are your demands from the government in terms of upcoming bids?

Specifically, we are awaiting the rollout of the Green Hydrogen Mission details. First and foremost there needs to be sizable demand creation through the regulatory push in a similar way that we created the demand for renewable power. Secondly, the Government should firm a clearly defined year-wise road map for the adoption of green fuels in multiple areas like transportation, industries, 24X7 power generation. Thirdly, financing markets need to be enabled for the capital requirement for these sectors. Financing institutions need to be enabled and mandated to finance projects in this sector. Wherever possible, a dollar-denominated purchase mechanism can be created for Indian developers of these projects to avail low-cost dollar-denominated funds. Fourth, to integrate the Make in India angle in this emerging sector, Government should consider a scheme like PLI for components like electrolyzers, ammonia synthesis loop etc for the beginning so that we don't end up importing components required in these projects.

Also, for the vibrant and competitive landscape in this new sector, we must have multiple players in the industry that thrives.

With big Indian players announcing their foray in this sector, do you think future bids will see aggressive competition?

Competition will help to reduce cost and advancement of technology. It is a fact that Government policies will drive the initial demand. We have witnessed the same in renewable capacities. Today, we have crossed 100 GW of renewable capacity and will achieve the target of 450 GW of renewable energy capacity by 2030 before the deadline. As you build more and more capacity; your learning improves and the product becomes more popular and customers accept it.

Does India have enough demand for a full-scale rollout of government bids? What are your suggestions to increase demand?

Yes, there is enough demand in India. Green hydrogen can be mixed with nitrogen to make green ammonia, which has mass scale use in fertilizers. Green hydrogen can be mixed with natural gas for city gas distribution networks. India has world's largest refining capacity where green hydrogen can be utilised.

Regarding your plant in Rajasthan, have you signed any long-term purchase agreements for selling renewable hydrogen?

Our Rajasthan plant is a semi-commercial plant and was set up with the intention of an early learning curve for our organisation. We started investing in this plant way before green hydrogen was a buzzword. In fact, we are proud of the fact that this is the world's first integrated green ammonia plant. We are not targeting long-term offtake contracts from this plant but have already put in place a mechanism to sell the output on short-term contracts.

However, for our under-development green ammonia project in Oman, we are in the advanced stage of finalizing the long-term offtake contract with one of the leading ammonia players globally.

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