

Rely being part of one of the world's most pioneering green ammonia projects

Rely is currently executing for AM Green an EPCm contract to convert an existing grey ammonia plant located in Kakinada (Andhra Pradesh, India) into a Green Ammonia Complex powered by renewable energy sources. The complex features one of the world's largest green hydrogen facilities and will produce 0.5 million tons x 2 trains of green ammonia annually, primarily for export to Europe.

To what extent does it mark a significant milestone for the green ammonia industry? Why can it be considered as a pioneering project? How does it contribute to the energy transition?

All answers, and more, with Vijay Mohan Chawla, Project Director.

Can you tell us more about the Kakinada project?

Vijay Mohan Chawla: The AM Green's Kakinada project is one of India's largest green ammonia projects that has moved into execution phase. It features one of the world's largest green hydrogen facilities (640 MW x 2), with green ammonia capacity of 2 x 1,500 tons per day (TPD), translating to 1 million tons annually. Most of this green ammonia will be exported to Europe. The plant benefits from 24/7 carbon-free power generated through a combination of wind, solar, and pumped hydro storage. This multi-source approach effectively manages energy intermittency, ensuring a stable, zero-carbon power supply that is essential for green hydrogen, green ammonia production. Notably, the project has received CertifHY pre-

certification for green ammonia, making it the first project of its kind in India to achieve this milestone. This project supports India's green hydrogen ambitions, potentially producing and exporting green ammonia from India, contributing about 5% of the country's Green Hydrogen Mission target.

What is Rely's scope in this project?

VMC: Rely is responsible for the Engineering, Procurement services, Construction management, and commissioning assistance for the entire facility – what we call 'EPCm services'. This involves integration of electrolyzers for the green hydrogen, air separation units for nitrogen, two trains of ammonia synthesis, ammonia storage tanks, ammonia pipe to port, ammonia loading facility

Featuring one of the world's largest green hydrogen facilities, the Kakinada project demonstrates that large-scale, green alternatives are feasible and scalable, therefore accelerating the decarbonation of various industries.

at the port and offsite utilities including Zero Liquid Discharge (ZLD) Package. Overall, our role is thus to ensure seamless integration of electrolyzer systems with the whole plant, optimizing layout with due attention to safety and operational efficiency. We focus on equipment mutualization and ease of maintenance, which are critical for such a large-scale project. Electrolysers will be supplied by John Cockerill Hydrogen.

How does this project contribute to the energy transition?

VMC: Our project is a pioneering example of converting existing grey ammonia production to green ammonia – likely the first such full conversion globally. This transformation is a crucial step in decarbonizing various industries, demonstrating that large-scale, green alternatives are feasible and scalable.



Through this project, we are demonstrating the viability of large-scale green hydrogen / green ammonia production and acting as a market catalyst, encouraging further investments and technological advancements.

What does it take to execute such project?

VMC: To execute such a large-scale project, it's fundamental to leverage extensive experience in execution of world scale engineering projects and technology integration. This is precisely what Rely is all about, benefitting from the legacy of two mother companies: Technip Energies, recognized for its expertise in project execution, and John Cockerill, relying on bicentennial history as OEM and being one of the leaders in the global alkaline electrolyzers. This combined heritage along with present dynamic team enables us to design and engineer at large scale, integrating cutting-edge electrolyzer technology from John Cockerill Hydrogen with innovative balance-of-plant solutions, thereby optimizing footprint, costs, and safety.

Moreover, executing a project like this requires excellent knowledge and understanding of the local industrial landscape. It's also one of our strengths to be able to leverage on the strong presence and experience our mother companies have here in India.

Besides this, execution of this first-of-its-kind project is a joint effort of various teams coming together and working towards a common goal. Rely teams in India and Europe, John Cockerill Hydrogen teams in India and Europe, AM Green teams and various other stakeholders are working together, putting their best strengths to overcome challenges and finding innovative, sustainable solutions.

To what extent does this project serve as a learning opportunity?

VMC: No doubt that this project will serve as a milestone for the industry. It provides valuable insights while you scale up green hydrogen production. Internally, projects like this also foster knowledge sharing through team exchanges, management meetings, and our internal "Tech Talks" series*. We're also developing digital tools for knowledge management and exploring partnerships with universities to support research and innovation.

Why is this project so important for Rely?

VMC: It's a proud moment for us – being selected to engineer and deliver such a flagship project. This demonstrates Client's trust in Rely's capabilities, as well as Rely's commitment to deliver such complex energy transition project. It positions us as a leader in large-scale green hydrogen and ammonia production, setting new industry standards and reinforcing India's role in global climate efforts. This project not only advances our technological expertise but also exemplifies our dedication to sustainable development and innovation.



Executing such a first-of-its-kind project is a joint effort. The kick-off meeting gathered teams for Rely, John Cockerill Hydrogen and of course AM Green.

* Tech Talks are Rely internal knowledge sharing meetings designed to learn more on technical topics across the company, ensuring that everyone stays at the forefront of the latest developments and technological advancements.



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The Kakinada Project in Figures

640 x 2

(Installed power of electrolyzers, in MW)

1,500 x 2

(Green Ammonia Production Capacity, in tons/day)

0,5 million x 2

(Green Ammonia Production Capacity, in tons/annum)

9 million x 2

(CO₂ emissions avoided, compared to conventional grey ammonia)



Vijay Mohan Chawla
Project Director

A PMP-certified Project Executive, Vijay Mohan Chawla focuses on driving green energy initiatives. Leveraging his extensive expertise in project strategy and business proposals – particularly in the green energy sector – he currently leads the execution of India's largest Green Ammonia project on an EPC basis.

A music enthusiast with artistic sensibility, Vijay also has a keen interest in global affairs and is deeply passionate about emerging developments in the energy industry.

Discover more about him in this episode of the "Voices of Rely" video series.

