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From stranded asset to green powerhouse: AM Green's 1.3GW green ammonia project

By [Stephen B. Harrison](#) on Mar 05, 2026

India's southeast coast is rapidly emerging as a focal point in the global clean molecule economy, and few projects exemplify this momentum better than AM Green's flagship green ammonia complex in Kakinada, Andhra Pradesh.

Following its final investment decision (FID) in August 2024, the project has entered its [execution phase](#), positioning it as India's first commercial-scale green ammonia and green hydrogen production facility[1].

At the heart of the development is a bold transformation. AM Green acquired and is repurposing the former Nagarjuna Fertilizers grey ammonia and urea complex, a 495-acre industrial site strategically located on the Kakinada deep-water port.

From grey to green

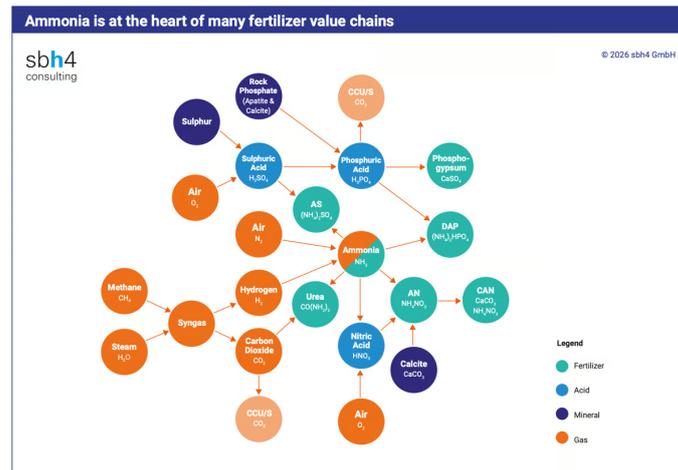
Grey ammonia production is globally responsible for a similar amount of carbon dioxide emissions as the aviation sector. The transition from grey to green will have a material impact on climate change mitigation.

The existing grey ammonia plant, which was slated for shutdown due to uncertainty around long-term natural gas supply, is being fully converted to run on renewable electricity and electrolytic hydrogen – preserving an estimated 500 direct jobs and breathing new life into a once-stranded asset.

Madhura Joshi, Programme Lead – Asia Hub, Global Clean Power Diplomacy at E3G, based in India, said, "India imports thousands of tonnes of grey ammonia each year to support local agriculture and feed the nation."

Estimates suggest that nearly 86% of India's total ammonia use is reliant on imports of ammonia, natural gas, or ammonia embedded in fertiliser end-products.

"The production of green ammonia locally," Joshi continued, "will be a tremendous win for balancing international trade and ensuring food security. Development of the first wave of projects at commercial scale is essential to drive this sector forward."



The Kakinada facility is being built in phases to reach truly world-scale capacity. Phase 1 will deliver 0.5 million tonnes per annum (mtpa) of green ammonia by late 2027, progressing toward 1 mtpa in its full configuration.

Hydrogen at its heart

AM Green is pursuing a 5 mtpa green ammonia production target by 2030. This requires circa 1 mtpa of green hydrogen, which is 20% of India's green hydrogen production target under the National Green Hydrogen Mission^[2].

This places the Kakinada project among the largest green ammonia developments globally, and one that will become increasingly influential in shaping international clean molecule trade.

Hydrogen will be produced on 1.28GW of pressurised alkaline electrolyzers supplied by John Cockerill. These electrolyzers are configured in 5MW stacks, each producing roughly 100Nm³/hr. In total, this equates to approximately 545 tonnes of electrolytic hydrogen per day.

A total of 128 stacks will be installed in the first 640MW phase, with mechanical completion targeted for September–October 2027 and the first 20MW block commissioned as early as Q1 2027¹.

The hydrogen is then combined with nitrogen produced by two on-site cryogenic air separation units, which will also be fed with renewable electricity. Ammonia is produced in two synthesis trains, which will be refurbished and modernised by Casale and Rely (a Technip Energies and John Cockerill joint venture).

Competitiveness from hybrid renewable electricity

A key advantage underpinning the project's competitiveness lies in India's integrated power system. The "One Nation, One Grid, One Frequency" policy allows renewable electricity from resource-rich regions, including solar, wind and pumped hydro generation, to be transmitted to electrolytic hydrogen production sites with firm round-the-clock (RTC) supply.

AM Green has secured 1.3GW of RTC carbon-free power, enabled by [4.5GW of hybrid wind and solar assets](#) and 950MW of pumped storage capacity.

According to Joshi, "In support of renewable power generation, India has successfully scaled up local PV solar module manufacturing, reaching around 144GW per annum. This capacity is now sufficient to meet domestic demand and allows significant room for exports."

Additional renewable power will be used to generate the green ammonia. Construction of new clean electricity generation capacity from wind and solar generation will displace fossil fuels. The Kakinada project will integrate the non-programmable renewables with pumped hydro to firm the power supply.

Greenko Group is developing a 1.68GW pumped hydro storage plant at Pinnapuram in the Kurnool district of Andhra Pradesh. This hybrid renewable power generation approach avoids wasteful power curtailment, meaning more of the electrons that are produced can actually be used.

International seal of approval

Additional renewable electricity supply is central to achieving the strict EU renewable fuels of non-biological origin criteria, for which the project has already obtained pre-certification from Hincio under the CertifHy scheme.

With EU renewable fuels certification, the Kakinada facility is ideally placed for energy exports to support international climate targets. Approximately 75% of the ammonia output will be exported, with the balance serving India's domestic fertiliser sector, which is heavily reliant on ammonia imports for food-security needs.

AM Green has secured a robust international offtake pipeline, including a [binding agreement with Uniper](#) (up to 500,000 tonnes per year starting in 2028) and term sheets with Yara and Keppel.



Yara Nauma ammonia bulk tanker on the Kiel Ship Canal, Germany © miraflores

Additionally, the green ammonia value chain is emerging and must be proven at scale with the first wave of projects. In the coming decades, replication will have a significant positive climate impact.

This intersection of industrial repurposing, export-led growth, and renewable energy scaling marks Kakinada as a blueprint for decarbonisation of heavy industry and the energy sector.

Tariff busting

On January 27, 2026, the EU and India closed a comprehensive Free Trade Agreement, dubbed the "mother of all deals". It will eliminate duties on about 99.5% of Indian exports and around 96.5% of EU goods and services. The agreement connects roughly two billion people and reduces trade barriers, which will deepen and secure intercontinental economic ties.

Despite this agreement, the EU will still apply the Carbon Border Adjustment Mechanism (CBAM) to ammonia imports. However, this tariff is based on the CO₂ intensity of the ammonia arriving in the EU. For green ammonia, the CO₂ intensity is zero, meaning it is effectively exempted from this import duty.

This tariff busting means that the CBAM has provided a competitive advantage to green ammonia over grey.

Stefan Sipka, Senior Policy Analyst and Head of Sustainable Prosperity for Europe Programme at the European Policy Centre, based in Brussels, said, "The introduction of the CBAM rules in the EU is designed to encourage decarbonisation in countries that trade with EU nations so that there is a wide international accountability for mitigating the effects of climate change."

"Additionally," he added, "it helps to level the playing field in terms of the additional cost of making green molecules."

There have been reactions from farming communities in some EU nations related to the import of ammonia, which is used to make fertilisers. They are concerned that if the costs of commodities increase due to CBAM rules, their costs of food production will rise, threatening their competitiveness and livelihoods. Additionally, the MERCOSUR trade agreement has received attention for similar reasons.

"Consultation with multiple EU nations and stakeholder groups is essential during policy development," said Sipka. "Furthermore, measured reactions to valid concerns that are raised when the impact of policies becomes clearly understood should also be considered in good faith."

"Long-term investment decisions and multi-year trade contracts rely on policy certainty. However, the world is dynamic, and some degree of policy evolution is also to be expected while staying true to the overall climate ambition."

However, the European Commission recently proposed a [temporary duty-relief on certain fertilisers](#) to ease the cost strains on farmers. It has said that CBAM will remain in place.

Bankability and replicability

From an investor and developer perspective, AM Green's execution philosophy provides valuable lessons: brownfield conversion reduces capex, grid-supplied firm renewable power minimises operating costs, and strategic offtake agreements secure long-term revenue visibility and bankability.

Joshi said, "The lessons from early projects, such as AM Green's scheme in Kakinada, will de-risk replication, introduce tangible economies of scale and lead to greater bankability of future projects. Development of these execution and technical capabilities offers the tremendous benefits of: improved supply security; increased savings by reducing imports; and supporting decarbonisation of fertiliser production in the future."

With construction already underway and phased commissioning beginning in 2027, the Kakinada project represents one of the most advanced examples of large-scale, certification-aligned green ammonia manufacturing anywhere in the world.

"Overall, I am convinced that green ammonia production in India for export is a win-win-win for building capability to support India's social, industrial and economic development, international trade, and the climate," Joshi continued. "AM Green's export-oriented project is undoubtedly net-positive for India."

As global industries seek low-carbon feedstocks and fuels, AM Green's Kakinada complex is poised to influence both supply chain economics and decarbonisation pathways. It is a beacon demonstrating how Indian innovation can meet stringent international climate standards, while catalysing industrial rejuvenation.

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