

# VERDE HYDROGEN World's First 25MW Hydrogen Electrolyzer Module Reaches a Significant Milestone

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VERDE HYDROGEN has announced the successful operation of the world's first 5-in-1, single-module 25MW pressurized alkaline hydrogen electrolyzer system, delivered to CHN ENERGY and seamlessly integrated with the VERDE ANALYTICS fully automated control system. Since its commissioning, this groundbreaking system has been operating continuously for 10 months, achieving a cumulative green hydrogen production of over 5 million Nm<sup>3</sup>, and reaching a record daily green hydrogen output of more than 5,000 kg.



As a pioneering ecological project in the hydrogen energy sector, this initiative integrates green hydrogen production, storage, transportation, refueling, usage, and quality assurance. With a strong emphasis on improving production stability, system flexibility, and energy efficiency, the project has successfully overcome the critical challenges related to personnel and gas handling, as well as photovoltaic load tracking.

VERDE HYDROGEN plays a key role in the project by leveraging advanced electrolyzer technology and intelligent control platforms. Through AI- Driven topology optimization and CFD simulations, VERDE enhances electrolyzer performance while a proxy model powered by Artificial Neural Networks (ANN) enables rapid performance predictions, enhancing efficiency with minimal data. The AI integration within its cloud-based control platform utilizes real-time sensor data for fault prediction, maintenance recommendations, and system stability. The successful deployment of 5 electrolyzers operating on a single BOP design represents a significant industry breakthrough, demonstrating 10 months of stable performance that validates reliability, safety, and scalability.

This milestone not only reaffirms VERDE HYDROGEN's technological leadership but also signals a promising future for both the company and the hydrogen industry. As global demand for

sustainable energy solutions accelerates, VERDE HYDROGEN is well-positioned to drive innovation and play a pivotal role in shaping the future of the green hydrogen economy.

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