

# World's First 5MW AEM System Delivered: Horizon Transforming Green Hydrogen

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[/EINPresswire.com/](#) -- The world's first 5MW [Anion Exchange Membrane](#) (AEM) electrolyser system was recently delivered to the Rockcheck Steel industrial park in Tianjin by [Horizon Fuel Cell](#) subsidiary HET Hydrogen. This marks a significant milestone in Horizon's mission to commercialise megawatt-scale AEM products globally, with the technology hailed as an important next-generation enabler for Green Hydrogen.

With more than twenty years advancing hydrogen R&D and commercialisation, Horizon enjoys a global leadership position in hydrogen technology in both fuel cells and electrolysers. In late 2024, the 5MW AEM electrolyser system (HET-A1000) was unveiled by Horizon. The goal was to set a new benchmark in green hydrogen, delivering low power consumption, wide operating range, rapid dynamic response, and use of low-cost materials. In early 2025, the first deployment was secured with Tianjin Zhonghe Energy Management Co., Ltd (a subsidiary of Rockcheck Steel Group Co., Ltd.), officially launching the group's "Low-Carbon Smelting Project Using Green Hydrogen."

The HET-A1000 equipment delivered to Rockcheck establishes the world's first integrated system combining Photovoltaics (PV), AEM Hydrogen Production and Hydrogen-Enriched Blast Furnace Smelting. The industrial park is constructing a new 17MW Building-Integrated Photovoltaic (BIPV) system, supported by two 5MW AEM electrolyser systems (each producing 1,000Nm<sup>3</sup>/h). The



Horizon logo file



HET 5MW AEM Electrolyser Site Installation



HET 5MW AEM Electrolyser Stack Container

green hydrogen produced will be used for hydrogen enrichment in Rockcheck Steel Group's blast furnaces, reducing coal consumption and carbon emissions, transforming the steel plant from a major carbon emitter into a decarbonisation showcase.

Horizon is working with the client to finalise commissioning of the systems that will deliver high efficiency, flexibility and economic operations.

The innovative modular systems provide a scalable pathway for hydrogen metallurgy and offer a compelling solution for deep decarbonisation in heavy industry, chemicals and transportation worldwide, with greater self-reliance protecting against supply chain disruptions.

The hydrogen industry has long faced the challenge of validating attractive technology without a clear path to reach economies of scale. By deploying the large-scale 5MW AEM system as a “first of a kind”, Horizon has created a powerful proving ground for this cutting-edge technology, and the end result will be greater viability for green hydrogen projects.

Horizon will continue focusing on enhancing the performance and optimising the cost of its AEM electrolyser systems, delivering high quality, cost-competitive green hydrogen solutions to customers worldwide. Horizon is redefining the economics and sustainability of green hydrogen production, working with partners to build a hydrogen energy ecosystem that is cost-competitive and self-sufficient.

#### About Horizon Fuel Cell Group

Horizon Fuel Cell was founded in 2003, with a focus on fundamental innovation in materials and systems-level technology for fuel cells and electrolysers. Horizon is a world leader in key technologies across the hydrogen value chain, making hydrogen viable through the provision of best-in-class equipment, and is a global leader in eliminating diesel from heavy duty applications such as commercial transport and industrial processes. HET Hydrogen serves markets with innovative electrolyser technology.

#### About Rockcheck Group

Rockcheck Group was formed in 1988, and is headquartered in Tianjin, China. With over 10,000 personnel, the company is one of the top 500 enterprises in China. Rockcheck has a sense of urgency around ESG, and is investing heavily in environmental protection and social welfare. Rockcheck sees their decarbonisation efforts as part of a broader technology-enabled modernisation that positions the group well on the international stage.



HET 5MW AEM Electrolyser Gas System

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