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Hive Hydrogen to invest $1 Bn in Coega Green Ammonia Project using Topsoeâ??s SOEC Technology

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Hive Hydrogen has announced a capital expenditure commitment of over $1 billion for its Coega Green Ammonia project, selecting Danish technology company Topsoe to supply its dynamic ammonia loop and 850 MW Solid Oxide Electrolyzer Cell (SOEC) system, marking a major step in scaling industrial green hydrogen-to-ammonia production. The project is designed to leverage high-efficiency electrolyser technology to significantly improve conversion efficiency and reduce overall production costs.

The Coega facility is expected to produce over 1 million tonnes of green ammonia annually, with an estimated FOB price of $650 per tonne and a CIF price below $700 per tonne, positioning it among the most competitively priced green ammonia projects globally. The Commercial Operation Date (COD) is targeted for 2031, subject to development and execution milestones.

Topsoe, a Danish original equipment manufacturer, has been selected for its advanced Solid Oxide Electrolyzer Cell technology and ammonia loop solution, which will be supplied from its newly inaugurated SOEC stack manufacturing facility in Herning, Denmark, launched in October 2025 with a production capacity of 500 MW per year. The system is expected to play

a critical role in enabling large-scale, cost-efficient green hydrogen production for ammonia synthesis.

Hive Hydrogen stated that Topsoeâ??s technology will materially improve project economics, enabling a reduction in renewable energy capital expenditure of over â?¬0.5 billion, alongside a 25 per cent reduction in electricity transmission and wheeling costs, thereby lowering overall operating costs and enhancing competitiveness against conventional ammonia production pathways, including blue ammonia.

Giles Redpath, CEO and co-owner of Hive Energy, said the efficiency gains from SOEC technology represent a â??massive step upâ?• for the green hydrogen industry, enabling significantly lower cost green ammonia production and supporting unsubsidised price competitiveness in global markets. He added that the project is expected to deliver green ammonia at some of the lowest cost levels globally while also advancing South Africaâ??s Just Energy Transition through job creation and community upliftment.

The Coega project has already completed its Environmental Impact Assessment and has entered the final stages of Front-End Engineering Design (FEED). Hive Hydrogen is currently engaging potential investors and partners as it moves toward financial close and execution readiness for the large-scale infrastructure project.