HDF Energy Selects Topsoe for 250 MW Power Plant in Texas

HDF Energy's BaseBlue Power™ plant solution will use Topsoe's SynCOR™ technology to produce hydrogen from natural gas, capture CO_2 and power fuel cells to deliver firm, low-carbon electricity to data centers in West Texas from 2030.



- *BaseBlue Power™ will produce 400 tons of hydrogen per day from Permian Basin natural gas with Topsoe's SynCOR™ technology and capture 98% of the CO_2, about 1.1 million metric tons per year which will be compressed and stored underground*
- *Approximately 250 MW of PEM (Proton Exchange Membrane) fuel cells will generate firm electricity from hydrogen, with rapid response to fluctuations in demand.*
- *BaseBlue Power™'s modular, scalable design could be replicated at other sites to help meet growing data center electricity demand.*

HOUSTON, October 29, 2026 – HDF Energy, a fuel cell project developer and manufacturer, has selected Topsoe as technology licensor for BaseBlue Power™, a 250 MW power plant project planned for West Texas.

Under the agreement, Topsoe will provide the technology license, process design and basic engineering, proprietary equipment and catalysts for the plant's hydrogen production and CO_2 capture unit, based on its SynCOR™ autothermal reforming (ATR) technology.

Addressing data centers' growing demand for reliable, clean power

Data centers require large volumes of uninterrupted electricity, with increasing pressure to limit their carbon footprint. Natural gas offers a readily available energy source for delivering reliable power at scale, making the Permian Basin an increasingly attractive location for data center development. However, conventional gas turbines and engines face reported lead times of four years or more and generate significant emissions.

BaseBlue Power™ takes a different approach. Topsoe's SynCOR™ technology will convert natural gas into hydrogen through ATR. The process produces a concentrated CO_2 stream that is captured and compressed before any fuel is burned, then transported by pipeline for underground storage in the region. The hydrogen will then power approximately 250 MW of proton exchange membrane (PEM) fuel cells, delivering electricity directly to data center facilities.

PEM fuel cells offer electrical efficiency above 50%, modular deployment and respond within seconds to load swings, emitting only water at the point of generation.

The process produces a concentrated CO_2 stream, so the CO_2 can be captured and compressed before any fuel is burned."

Building on proven industrial technologies

Topsoe's ATRs have been delivering hydrogen molecules to the syngas industry since 1958. With 40 years of track record, PEM fuel cells are a mature, increasingly scalable and cost-competitive technology and HDF Energy has been developing multi-megawatt hydrogen power plants using PEM fuel cells in Martinique and French Guiana.

To deliver BaseBlue Power™ at a 250 MW scale, HDF Energy is partnering with established heavy-duty fuel cell manufacturers with the industrial capacity to meet the project's requirements for volume, performance, reliability and integration.

"*Data centers are growing faster than the grid can follow, and their operators need power that is both firm and low-carbon. Most power solutions offer one or the other. BaseBlue Power™ offers both. We chose Topsoe because SynCOR™ integrates carbon capture in a proven and bankable way, at the scale and reliability a power plant demands*," said Thibault Menage, Vice President US & Caribbean, HDF Energy.

“BaseBlue represents an important first for Topsoe: our SynCOR™ technology will be used to produce low carbon blue hydrogen for a data-center power project. By combining natural gas conversion and carbon capture with HDF Energy’s fuel-cell systems, the project is designed to deliver reliable electricity onsite and around the clock. As demand for data-center power grows, solutions that pair reliability with lower emissions will become increasingly important. We’re excited to be working with HDF Energy to bring this approach to Texas,” said Henrik Rasmussen, Managing Director of the Americas at Topsoe.

ABOUT HDF ENERGY

HDF Energy develops hydrogen power plants that deliver firm electricity and manufactures multi-megawatt fuel cell systems. Founded in 2012 and headquartered in France, the company has projects in development in Europe, Mexico, the Caribbean, Africa and Asia-Pacific, and expanded to the United States in 2026. HDF Energy has been listed on Euronext Paris since 2021.

For more information on BaseBlue Power™, visit www.basebluepower.com.

ABOUT TOPSOE

Topsoe is a leading global provider of advanced energy transition solutions for producing clean and conventional fuels and chemicals. Built on decades of scientific research and innovation, the company works with customers and partners to drive energy resiliency and to achieve their sustainability goals. Topsoe offers world-leading catalysts and technologies for transforming resources into renewable, low-carbon and conventional fuels and chemicals, as well as ensuring clean air. Founded in 1940, Topsoe is headquartered in Denmark, with around 2,500 employees serving customers all around the globe. To learn more, visit www.topsoe.com.

ABOUT SynCOR™

SynCOR™ is Topsoe's autothermal reforming technology for large-scale hydrogen and syngas production. It runs at a low steam-to-carbon ratio, which reduces operating costs, equipment size and footprint, and it concentrates the CO2 in the process stream so that it can be captured.

Media Contact

america@hdf-energy.com