

# AFTER RIGOROUS REVIEW, CAPSTONE CHOOSES POWERSCAPE GLOBAL GASIFIER FOR UPCOMING COAL GASIFICATION PRE-FEED STUDIES

*CapStone emphasizes the importance of coal gasification in ammonia and power production and selects Powerscape Global as priority technology in future projects.*



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EINPresswire.com/ -- Following nearly five months of comprehensive technical, commercial, and environmental due diligence, Capstone Sustainable Carbon Solutions LLC ("CapStone") is proud to announce its selection of the PSG Multi-Zone Fluidized Gasifier ("MFG") designed and optimized by Powerscape Global (PSG) as the integral component for all future pre-FEED (Front-End Engineering Design) studies in coal-to-ammonia and coal-to-power projects developed by CapStone.

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*Terrence Manning, the  
Managing Partner of  
CapStone*

## Gasification Opportunity

Gasification provides a unique opportunity to convert abundant coal resources into low-carbon chemicals or low-carbon power. With growing recognition of ammonia's strategic importance—not only as a key fertilizer feedstock but also as an energy carrier—there is renewed urgency to develop secure domestic sources. Globally, approximately 70% of ammonia is currently being produced from natural

gas via steam reforming, with most of the remainder generated via coal gasification.

Regarding energy, the unprecedented expansion of artificial intelligence ("AI") and information storage ("Data Centers") is placing extraordinary pressure on the U.S. power grid. In fact, data center energy demand is actively delaying the retirement of existing fossil-fuel plants and in the near-term, is driving new generation capability development, notably gas and coal.

Applying latest generation gasification technology is a clear enabler to the above challenges

because it converts the Nation's abundant coal resources coal into clean, important, and high-value products. To this end, there is global policy momentum, including in the U.S., India, and Japan, to support clean coal applications leading to an estimated coal gasification sector growth from \$187B in 2022 to \$544B by 2032 (11.4% CAGR).

## Powerscape Global Difference

Over months of rigorous evaluation, the PSG MFG gasifier emerged as the most commercially viable and technically sound option, offering:

- Proven Flexibility: Converts diverse coal grades, including low-rank coal into clean syngas.
- Syngas Optimized for Ammonia and Power: Enables efficient hydrogen extraction for chemical conversion and power generation.
- US-Based Innovation: Applies advanced American coal technology to strengthen domestic supply chains.

CapStone, is directing subject matter expertise to initiate pre-FEED studies using the PSG MFG technology design, in the following applications:

- Coal-to-Ammonia Projects: Domestic ammonia for fertilizers and hydrogen markets.
- Coal-to-Power Projects: Dispatchable, low-carbon power for AI and Data Centers.

## Executive Quotes

"After nearly five months of due diligence, the PSG MFG gasifier was selected as the most technically advanced and commercially robust platform for our projects," Terrence Manning, the Managing Partner of CapStone said, and he added "Selecting an American-developed gasifier underscores our commitment to US energy independence in concert with conscientious deliberation toward the rapidly evolving energy transition landscape, which includes AI and Data Center power demands, and a focus on sustainability interwoven with our commitment to environmental stewardship."

## About Capstone Sustainable Carbon Solution

CapStone is dedicated to repurposing traditional energy assets in a responsible manner. Through the involvement of affiliates, CapStone is developing hydrogen/ammonia production, carbon-capture, carbon storage, CO2 pipeline, dispatchable electricity generation, and related energy transition projects. CapStone contributors have worked together in Wyoming since 2019 and collectively possess many decades of industry experience. CapStone brings unmatched knowledge and unique perspectives on the current energy transition landscape, including engineering, operational, commercial, policy, and financial expertise. CapStone was formed in 2024 by professionals as a dedicated project development and consulting platform.

## About Powerscape Global

Powerscape Global is an energy technology solutions company specializing in licensing world class gasification technology offerings with a variety of outputs including power, chemicals, hydrogen, dry ash, and CO2 for utilization or sequestration. Backed by 30 years of experience in research, development, and deployment of advanced coal gasification, Powerscape Global offers a variety of services surrounding the implementation of new coal and natural gas-based technologies. Powerscape Global is a limited liability company based in the Commonwealth of Virginia.

Katya Moore  
Powerscape Global  
kmoore@powerscape.org

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