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Google Leverages Natural Gas Infrastructure for "Clean Firm" Power

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RECENT DEVELOPMENT

[Google has signed a new type of Power Purchase Agreement \(PPA\) with Broadwing Energy](#) for electricity generated by a natural gas plant equipped with Carbon Capture and Sequestration (CCS). The proposed 400-megawatt facility in Decatur, Illinois, is designed to capture approximately 90% of its carbon emissions using technology from Mitsubishi Heavy Industries, with captured CO₂ stored permanently in deep underground wells operated by Archer Daniels Midland (ADM).

Google has agreed to purchase the majority of the facility's power, effectively sponsoring a new baseload infrastructure. To track the environmental impacts, the partners are utilizing a newly developed CCS-specific Energy Attribute Certificate (EAC) which verifies the "clean" nature of fossil-fuel energy when carbon is successfully sequestered. The World Business Council for Sustainable Development and World Resources Institute's Greenhouse Gas (GHG) Protocol commonly recognizes EACs for electricity consumption, and the new CCS-EACs follow standards that account for the carbon removal aspect of capture technology.

ANALYST COMMENT

With AI and high-performance computing creating load profiles difficult for renewables to match, natural gas offers crucial stability. For the US specifically, this approach leverages a distinct infrastructure advantage: while the electrical transmission grid faces bottlenecks that can often delay renewable projects for years, the US possesses a robust natural gas pipeline network. Utilizing gas with CCS allows developers to bypass transmission congestion and generate "clean firm" power closer to consumption centers, offering a faster route to reliability compared with a massive grid overhaul.

The implications for the HPC/AI market could be substantial. If this technology becomes economically viable (CCS currently adds 40-60% to power costs even with tax credits), it could unlock new capacity for developers constrained by renewable intermittency. Compute-heavy facilities may be sited near favorable geological storage zones rather than just renewable-rich areas. While Google's willingness to pioneer a market for CCS-specific EACs is promising, success relies heavily on pipeline proximity and geological storage, making replication dependent on a complex mix of geology and regulation.

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