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DIGITAL CONTENT

Infrastructure constraints threaten natural gas industry's growth potential

The U.S. has enough natural gas to support years of expanding demand but transporting that gas to market, however, presents a more complicated challenge for the industry. With LNG exports accelerating and electricity consumption climbing, the infrastructure connecting producing regions to consumers is facing mounting pressure.

During the latest LDC Gas Forum in New Orleans, energy executives warned that pipeline development may struggle to keep pace with demand, particularly along the Gulf Coast, where LNG expansion is reshaping traditional supply relationships.

The challenge stems partly from changing producer behavior. Derek Gillespie, with Williams, touched on the fact that consolidation and stronger balance sheets have fundamentally altered how natural gas companies approach infrastructure investment. Producers once committed substantial capital to pipeline projects to secure outlets for expanding production. Today, financial discipline carries greater weight than production growth.

"There isn't there's less of a need now to go out and do 10-to-15-year transactions," Gillespie said.

That shift in behavior has led to a slowdown in infrastructure development. Producers prefer to preserve marketing flexibility rather than assume long-term transportation obligations. The move leaves utilities and other large consumers looking further upstream to secure reliable access to natural gas.

Andrew Dornier with Entergy Services, spotlighted how growing electricity demand is influencing utility infrastructure planning. AI data centers have accelerated the need for additional generating capacity, but uncertainty surrounding power plant operations makes long-term fuel commitments difficult, compounding supplies issues across the industry.

With limited resources and a power intensive industry looking to grow, pressure within the LNG market is mounting and, in the eyes of the panelists, converging along the Gulf Coast.

Imperfect solutions

The industry has pivoted to meet the moment such as the technological improvements that have expanded the economic potential of the Haynesville Shale; opening areas previously considered too expensive to develop. Gillespie expects continued drilling activity to lower production costs, strengthening the basin's position as a major supplier to Gulf Coast markets.

Yet additional production alone cannot resolve transportation constraints. New pipelines must connect those resources with expanding demand, while existing systems face increasing competition for capacity.

Another problem arises once production can meet demand: storage. Storing LNG represents another vulnerability, particularly as U.S. natural gas markets become more closely tied to international consumption.

"There isn't enough storage," Gillespie said.

The panel pointed specifically to the need for more high-cycle salt storage, which allows operators to respond quickly when supply conditions change. Such flexibility could become increasingly valuable as global market disruptions influence domestic gas flows.

Building that capacity presents its own financial obstacles. Dornier explained that utilities cannot always recover storage expenses directly through electricity market offers, making investments difficult to justify despite their operational value. Permitting uncertainty adds another complication to this process as lengthy approval processes can delay projects even when market demand supports construction. Dean Ellis with bp, suggested that growing concerns over energy affordability could encourage bipartisan cooperation on permitting reform.

For power generators, the implications extend beyond project economics. Natural gas needs to reach generating facilities when electricity demand requires it, regardless of whether new infrastructure remains under development. The panel's solutions to infrastructure constraints will take years to implement. Despite the challenges facing the industry, all on the panel expressed confidence in the nation's ability to produce sufficient natural gas.

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