

Enhancing and Maintaining Energy System Resilience: American Gas Foundation Study



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The American Gas Foundation (“Foundation”) issued a November 2022 document titled:

Enhancing and Maintaining Gas and Energy System Resiliency – Areas of Focus and Change (“Study”)

The *Study* was prepared by Guidehouse.

The Foundation states that the *Study* was conducted to:

... investigate the resilience of the US gas system and the necessary changes required to the regulatory framework to support gas resilience investments.

The Foundation and Guidehouse previously issued a report in January 2021 titled:

Building a Resilient Energy Future: How the Gas System Contributes to US Energy System Resilience

The questions the *Study* intended to address include:

- What characteristics of the current regulatory framework enable or disable gas resilience?
- How can resilience be valued and measured to better qualify gas infrastructure investments?
- What recommended changes are needed to fully enable gas system resilience?
- Through what modified regulatory frameworks can the recommended changes be implemented?

Recommendations identified in the *Study* that Guidehouse contends should be considered to achieve enhanced energy system resiliency include:

- State Commission Analysis into Value of Gas Infrastructure
- Emphasize Safety and Renewable Integration When Seeking Approval
- Focus on Enabling Mechanisms Emphasizing Resiliency and a Low-Carbon Future

Key downstream investment recommendations include:

- Increase investments in the weatherization of pipelines and storage distribution infrastructure.
- Continue improving downstream of city gate pipeline interconnections.
- Develop additional storage facilities on the gas distribution system to enhance the resilience of the overall pipeline distribution system.
- Introduce and expand the integration of alternative fuels (e.g., hydrogen or RNG) or LNG produced and stored behind the city gate.
- Continue to modernize infrastructure, including distribution pipelines to help enhance safety, reliability, resiliency, and affordability while in turn driving down emissions and delivering ever more low-carbon gas supply solutions over time.

Key upstream investment recommendations include:

- Increase investments in the weatherization of well-heads, gathering, and processing systems, gas transmission networks, and storage facilities to ensure they are prepared for extreme weather events and potential duration changes.
- Continue to modernize aging pipelines and interconnections with long lived assets that support broader energy system resilience.
- Design systems to accommodate low-carbon fuels such that future system operations can continue to provide resilience benefits while supporting mid-century decarbonization emission reduction goals.

Federal and State Recommendations:

- Federal and state intervention and approval to implement resilience measures
- Implement resilience regulatory requirements
- Enable federal and state funding support for resilience investments for all energy sources.
- Improve the interdependencies and coordination between the electric and natural gas industries

A copy of the *Study* can be downloaded [here](#).