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Reliable Energy: Delivering on the Promise of Gas-Electric Coordination

The National Petroleum Council (NPC) examined the growing misalignment between the natural gas and electric power markets at the request of Energy Secretary Wright earlier this year. The report finds that as the electric grid becomes more dependent on natural gas for dispatchable generation, and gas infrastructure relies on electricity for operations, the two systems have become deeply interdependent—yet remain governed by divergent regulatory, commercial, and operational frameworks. This structural mismatch now poses an escalating threat to U.S. energy reliability, affordability, and security

NPC analyzed rising natural gas and electricity demand, evaluated the reliability risks these strains pose, and recommended actionable strategies to reduce misalignment and strengthen the resilience of both systems.

The Misalignment Problem

The natural gas and electric sectors in the United States have evolved under distinct regulatory and commercial frameworks that continue to shape their interactions today.



REGULATORY FOUNDATIONS

Natural gas has evolved to Federal regulation of pipelines and market-based pricing for production, while electricity has a mix of regulated and deregulated markets with varying approaches to reliability and resource adequacy.



CONTRASTING INCENTIVES

Natural gas infrastructure depends on long-term firm contracts and price signals, while electric markets operate on short-term, real-time dispatch signals.



LIMITED COORDINATION

Fragmented jurisdiction—split among FERC, NERC, state regulators, ISOs, and pipelines—creates accountability gaps.



INADEQUATE FLEXIBILITY

Pipelines were built for steady loads, not the variable intraday flows required to support intermittent renewables and variable electricity usage patterns.

The Key Findings

NPC identifies four interrelated categories of challenges that define the reliability gap between gas and power systems:



OPERATIONAL INEFFICIENCIES AND MISALIGNMENTS

Out-of-sync schedules, limited intraday gas flexibility, and fragmented outage coordination persist, despite recent progress.



MARKET DESIGN AND FUEL ASSURANCE GAPS

Power markets undervalue firm fuel commitments, offering little incentive for generators to secure reliable gas supply.



COMMERCIAL AND CONTRACTING BARRIERS

Pipelines and storage services were designed for predictable loads, not rapid, variable power generation needs.



FRAGMENTED GOVERNANCE AND ACCOUNTABILITY

No single authority oversees gas-electric reliability, leaving critical reforms unenforced and inconsistently applied.



NPC RECOMMENDATIONS:

Ten Actions for System Reliability

The report outlines ten recommendations for policymakers, regulators, and industry leaders to achieve a durable, coordinated energy framework:

01

EMBRACE COMPREHENSIVE LONG-TERM PLANNING

Require RTOs/ISOs to integrate fuel assurance and resource adequacy into 10-year regional planning processes.

02

REFORM PERMITTING

Streamline federal and state permitting to accelerate fit-for-purpose energy infrastructure.

03

CONSTRUCT NEW FIT-FOR-PURPOSE INFRASTRUCTURE

Build tailored pipelines, storage, and flexible capacity to meet shifting load patterns and demand peaks.

04

ENHANCE AND EXPAND EXISTING INFRASTRUCTURE

Upgrade current infrastructure (compression, looping, storage) to relieve near-term constraints.

05

REFORM MARKET COMPENSATION MODELS

Adjust pricing to reward generators for fuel assurance and readiness during stress periods.

06

IMPLEMENT AN ACCOUNTABILITY FRAMEWORK

Require generators to maintain operational plans or base gas supply contracts to ensure performance.

07

EXPAND PIPELINE SERVICE OFFERINGS

Develop flexible, hourly, or nonratable gas products aligned with power generation needs.

08

CLEARLY IDENTIFY ROLES AND RESPONSIBILITIES

Publish a transparent framework for state and federal jurisdiction over reliability, resource adequacy, and fuel assurance.

09

UTILIZE EXISTING ENTITIES TO IMPROVE LEADING PRACTICES

Use NARUC's Natural Gas Readiness Forum to compile best practices across sectors.

10

REFORM PERFORMANCE METRICS

Expand FERC's Common Metrics reports to include state-level fuel assurance and resource adequacy indicators.



The Path Forward

The NPC concludes that gas-electric coordination is now a national reliability issue requiring immediate, concurrent action on the recommendations. The study urges regulators and market participants to move beyond incremental reforms toward structural alignment that balances reliability, market efficiency, and consumer affordability. Coordinated planning, modernized infrastructure, and shared accountability are essential to safeguard America's energy future.

A reliable, affordable, and resilient U.S. energy system depends on aligning gas and electric markets—ensuring both sectors can operate with shared awareness, synchronized incentives, and durable infrastructure.

Request a Briefing

To learn more about the NPC's analysis, please contact the NPC at outreach@npc.org.

