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Smart Modernization Pipeline Safety & Natural Gas Infrastructure Expansion Update

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Shale Gas Resources



U.S. Natural Gas Supply

Natural Gas More than 100 years supply here at home



Natural Gas Price Outlook



Source: *Rethinking Natural Gas, A Future for Natural Gas in the U.S. Economy*, p.6, American Gas Association, ©2012, Citing Source: Wood MacKenzie Spring 2012. See paper for outlook limitations.

Pipeline Safety

Commitment to Safety



Safest

Energy Delivery System in America

The natural gas industry has a long-standing record of providing natural gas service safely and effectively to more than 177 million Americans and is dedicated to the continued enhancement of pipeline safety.

Safely transported Across the Country

- Natural gas pipelines are an essential part of the nation's infrastructure.
- Natural gas utilities spend more than \$19 billion annually to help enhance the safety of natural gas distribution and transmission systems.





DOT Pipeline Safety Action Plan

- Raises the bar on pipeline safety
- Accelerates rehabilitation, repair and replacement programs for high risk pipelines
- Focuses on cast iron, bare steel, older plastic

In Section 7 of the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, Congress directed the Secretary of Transportation to develop a report on the national cast iron inventory

- Reports to the Nation on Pipeline Safety
- AGA Supports the Action Plan and "Smart Modernization" of infrastructure that is no longer fit for service

NARUC 2013 Resolution

RESOLVED, That the Board of Directors of the National Association of Regulatory Utility Commissioners... encourages regulators and industry to consider sensible programs aimed at replacing the most vulnerable pipelines as quickly as possible along with the adoption of rate recovery mechanisms that reflect the financial realities of the particular utility in question; and be it further;

RESOLVED, That State commissions should explore, examine, and consider adopting alternative rate recovery mechanisms as necessary to accelerate the modernization, replacement and expansion of the nation's natural gas pipeline systems.

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States with Accelerated Infrastructure Replacement Programs



The overall trend is positive

- Nine states moved to adopt programs in 2013, alone
- NJ, MA, PA & DC have adopted pipeline safety measures in 2014
- States address this issue differently
- The basis for these decisions is always just and reasonable rates for consumers

Recently Authorized Accelerated Replacement Activity

- Arkansas
- California
- Connecticut
- District of Columbia
- Illinois

- Indiana
- Maryland
- New Jersey
- •New York
- Pennsylvania

Overall Cast Iron Makes Up Less than 3% of the Distribution Mileage, and is Decreasing Annually



Infrastructure Expansion

"Smart Modernization"

- Infrastructure replacement programs, if designed and coupled properly, provide the opportunity to put new technology in the ground which could allow for greater pipeline capacity and pressure in a given area.
- With greater capacity, utilities are better positioned to expand to serve more customers.

Drivers for Expansion

- Economic development
- Reductions in consumer energy prices
- Environmental quality (GHG reduction, efficiency)
- Energy security

The low price of natural gas has attracted investment by utilities.

Where natural gas is available, a builder will put it in 84 percent of the time.

Natural gas will have 80 - 90 percent of the market where lines reach, but there is a significant amount of construction and/or area beyond reach of utility lines.

The Traditional Expansion Model

- Under traditional models, utilities utilize tests to determine whether or not an expansion project is economical.
- Should the project not satisfy the utility's preferred test(s), the company would have to decide whether to invest in a new line at a projected loss or invest under the condition that new customers compensate them for any revenue shortfall. This compensatory fee is known as Contribution in Aid of Construction (CIAC).
- CIAC fees can result in new customers having to shoulder a large, up-front payment to the utility.
- Utilities have traditionally built new lines only after a sufficient number of customers in a project area have committed to take gas service.

Impediments to Expansion

• Economic viability

- Main line costs vary depending on topological and environmental factors
- The average cost is approximately \$1 million per mile
- A utility must determine whether increased throughput from expansion will be sufficient to cover the costs of expanding a line
- Under traditional rate constructs, it is often not economical

• Other issues

- Permit streamlining
- Land access
- Workforce coordination

Role of State & Local Governments

- Authorize PUCs to allow system expansion costs to be recovered through general tariffs
- Provide subsidies for expansion of gas networks to unserved areas that meet established density criteria (via economic development grants or state-backed bonds)
- Promote fuel conversion through information dissemination
- Adopt policies that move beyond a site-based approach to energy efficiency and move toward the use of the full fuel cycle
- Consider including natural gas expansion in comprehensive state energy planning

Working Together With Utilities

- Secure commitments from large anchor customers
- Mitigate initial customer charges
- Amortize consumer conversion costs
- Educate potential customers
- Gather bundled customer commitments

States with Infrastructure Expansion Programs



23 states presently have or are considering an innovative infrastructure expansion program or policy

Recent Infrastructure Expansion Activity

- Connecticut
- Indiana
- Maine
- Michigan
- Mississippi

- New York
- Pennsylvania
- Washington
- Wyoming

New technologies are also driving increased demand for natural gas.

Combined Heat and Power Technologies

The use of natural gas, the preferred fuel choice for CHP applications, allows for new electricity generation to meet current and future demand at costs up to 50% less than traditional forms of delivered new baseload electricity.



Natural gas vs conventional gasoline



Picking up Speed

Number of CNG Stations Nationwide



80% growth in our national CNG refueling infrastructure since 2009



 "The new outlook for natural gas cost and availability is contributing jobs and revenues to the economy at the national, state and local levels. It has also created new possibilities for making progress toward national goals of energy efficiency, cost efficiency, environmental protection and energy security."

> - Fueling the Future with Natural Gas: Bringing It Home, IHS CERA, 2014

2008: \$8.86 2013: \$3.73

Henry Hub Annual Average Price

Jobs, Jobs, Jobs

The natural gas industry employs millions **today.**



Source: America's Natural Gas Alliance; U.S. Department of Labor, Bureau of Labor Statistics

622,000

jobs are directly involved in exploring for, producing, transporting and distributing natural gas (direct employment).

723,000

additional jobs are created in industries such as agriculture and manufacturing that support and supply goods and services to the natural gas industry (indirect employment).

1.5 million

jobs are supported when direct and indirect natural gas employees introduce their income back into the economy (induced employment).

The Long-Term Trend for Emissions from Natural Gas Systems is Declining

 Distribution system emissions have dropped 22% since 1990, even as the industry added more than 600,000 miles of distribution and services to serve 17 million more customers.





Natural Gas Distribution *Shrinking Emissions by the Numbers*

- 65,100 miles of cast iron & bare steel pipe replaced with PE plastic pipe
- **300,000** added miles of distribution mains
- 17 million number of new customers served (30% increase)
- 22% emissions shrinkage since 1990
- 0.24% EPA estimated emissions of produced natural gas from distribution systems in 2012

Conclusion

- Safe, reliable gas delivery is core to our business.
- Smart modernization initiatives (pipeline replacement and expansion) are increasing safety and driving down natural gas emissions.

Find Us Online



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