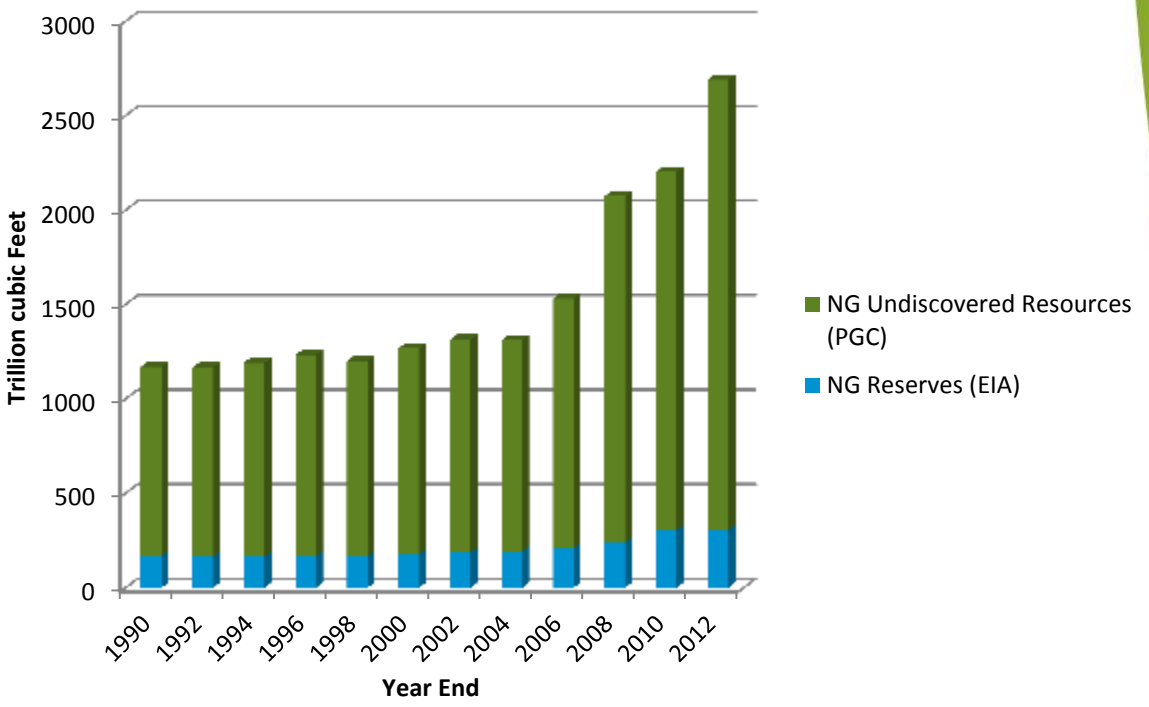
Natural Gas Infrastructure Replacement and Expansion Efforts

National Association of State Energy Officials
2014 Energy Outlook Conference
February 5, 2014
Washington, D.C.

AGA American Gas Association

The American Gas Association (AGA), founded in 1918, represents more than 200 local natural gas utilities that deliver natural gas to 177 million Americans nationwide. In addition, AGA's broader membership includes natural gas pipelines, Canadian local distribution companies, natural gas gatherers, marketers and storage companies and more than 350 associate members who provide critical products and services to the natural gas industry.

Future Supply of Natural Gas in the United States (1990-2012)



And then there was abundance…

The U.S. estimated future supply of natural gas (reserves plus resources) stood at 2,689 trillion cubic feet (Tcf) at year end 2012 — enough natural gas to meet America's diverse energy needs for decades.

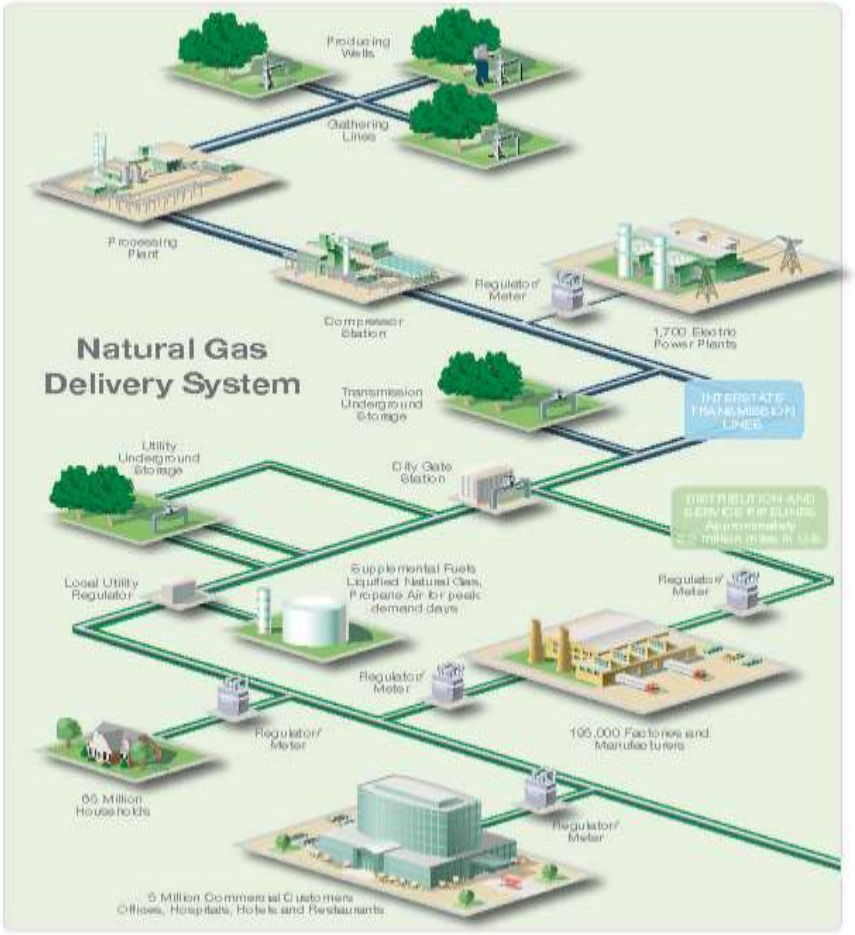
Fueling the Future with Natural Gas:
Bringing it Home

- *"For many decades natural gas regulation was based on assumptions of resource scarcity. An **opportunity** now exists to redefine regulatory policies, financial outreach and technology innovation from a position of strong supply and expectations of long-term price stability."*
- *"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."*

2014 American Gas Foundation- IHS Cera Report; www.fuelingthefuture.org

Pipeline Safety

Natural Gas Distribution System



- *Safe, reliable natural gas delivery is a top priority and core value*
- *AGA Board of Directors has designated pipeline safety as AGA's number one priority*
- *Repair, Replacement, Reconditioning*

Pipeline Safety Regulations

- **DOT Pipeline Safety & Hazardous Materials Administration (PHMSA)**

  Regulates gas utilities under 49 C.F.R. Part 192

- **Significant number of new requirements on the way**

  More than 80 mandates from Congress and recommendations from NTSB, GAO, and the OIG

PHMSA's Other Initiatives:

- *Transmission Integrity Management Program (TRIMP)*
- *Distribution Integrity Management Program (DIMP)*
- *Control Room Management*
- *Damage Prevention*
- *Land Use Planning*
- *Public Awareness*
- *Emergency Preparedness*

PHMSA Rulemaking Procedures

Rulemaking	Next Action	Estimated Date of Next Action
Miscellaneous Rule on Construction Inspections, Leak Surveys, etc.	Publication of Final Rule	December 6, 2013
Part 190 Enforcement and Regulatory Procedures Update	Publication of Final Rule	Sept. 25, 2013 (issued)
Enforcement of State Excavation Damage Laws	Publication of Final Rule	January 16, 2014
Standards for Conducting Condition Assessments of In-Service Pipelines	Publication of NPRM	March, 2013
Safety of On-Shore Hazardous Liquid Pipelines	Publication of NPRM	January 14, 2014
Excess Flow Valves	Publication of NPRM	January 22, 2014
Changes to NPMS Data Collection and Standards	Publication of NPRM	October 18, 2013
Miscellaneous Rule on Special Permit Renewals, Cost Recovery for Design Reviews, and Incident Reporting	Publication of NPRM	January, 2014
Periodic Updates of Regulatory References to Technical Standards and Miscellaneous Amendments	Publication of NPRM	August 16, 2013 (issued)
Safety of Gas Transmission Pipelines	Publication of NPRM	February 17, 2014
Issues related to Use of Plastic Pipe in the Gas Pipeline Industry	Publication of NPRM	April 2014

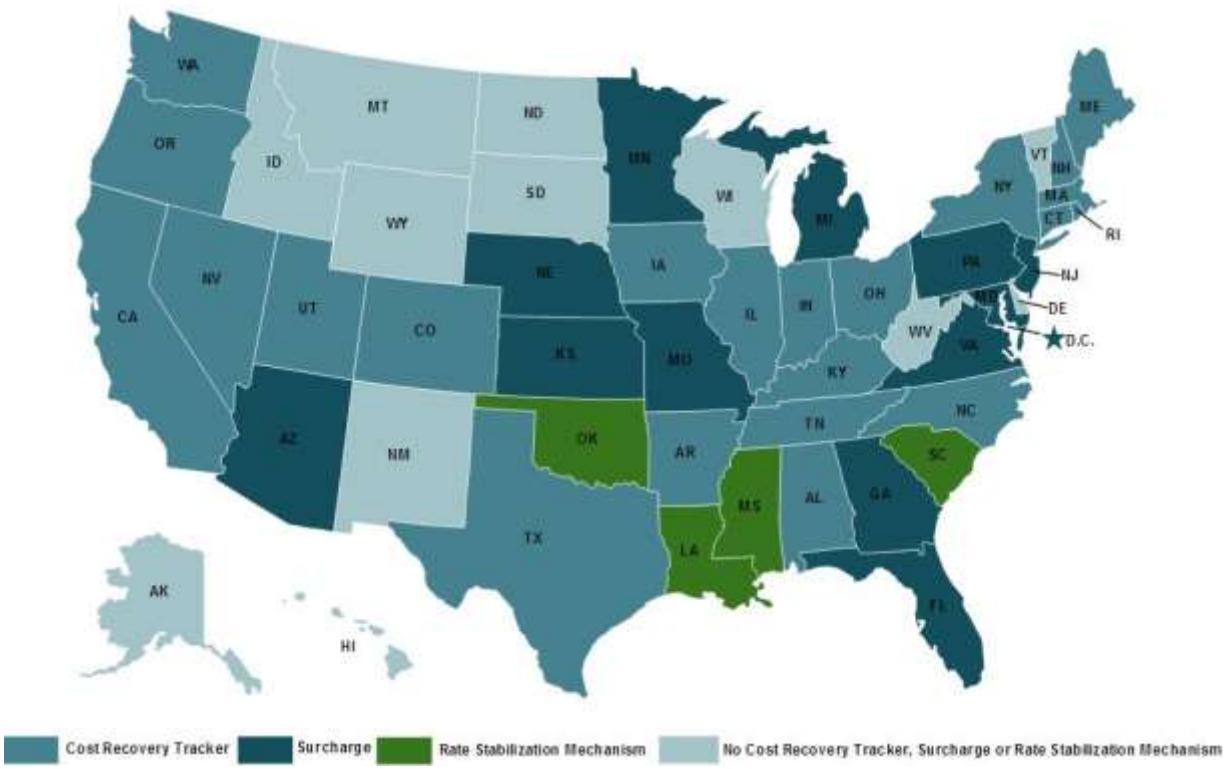
Source: VanNess Feldman's Pipeline Safety Update Issue No. 64 – September 27, 2013

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*

States with Accelerated Infrastructure Replacement Programs



- *The overall trend is positive*
- *Nine states moved to adopt programs in 2013, alone*
- *States address this issue differently*
- *The basis for these decisions is always just and reasonable rates for consumers*

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.***

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.

Pipeline Expansion

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.

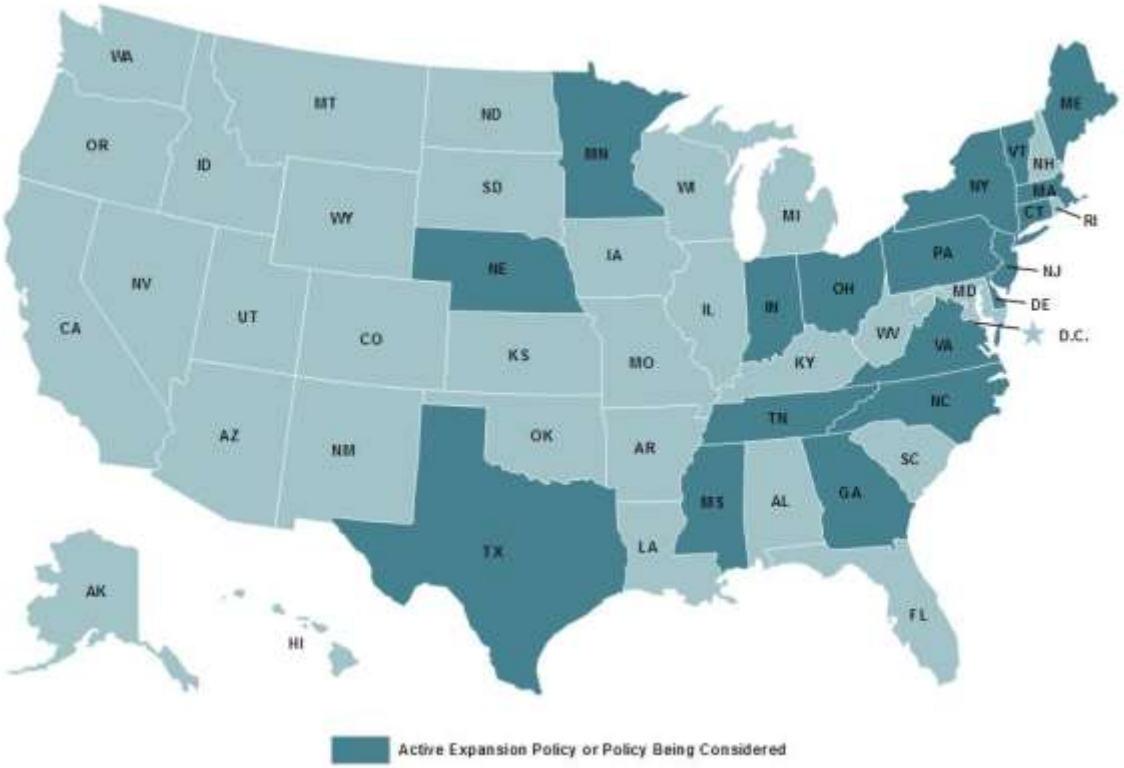
Where natural gas is available, a builder will put it in 84 percent of the time.

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.

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

States with Infrastructure Expansion Programs



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

Recent Examples:

Washington

Georgia

Mississippi

Connecticut

Nebraska

Pennsylvania

Economic Impact:
Pacific Northwest Example

- **Washington HB 2177**
- **Utilizing the Regional Economic Models, Inc. (REMI) tool to provide analysis, if passed, the resulting economic impact of the legislation would be:**
  - A long term boost in net employment creating approximately 400 permanent jobs for the region through 2040
  - Over $1.6 billion in cumulative GDP gains over the following 30 years with a sustained $75 million positive annual gains thereafter
  - $123 million in cumulative revenue gains for state and local governments over the following 30 years with a sustained $5 million positive annual gains thereafter

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

If not now, when?

- Low price of natural gas has attracted investment by utilities
- In the past decade, natural gas utilities have added 300,000 miles of distribution mains to serve 17 million customers, a 30% increase overall
- Yet there are still unserved areas interested in switching to or obtaining natural gas service

*The goal should be to craft policy that allows for **smart modernization** and growth and to provide access to the myriad of benefits that natural gas offers.*

Natural Gas Distribution

Shrinking Emissions by the Numbers

- **1000s** – 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**)
- **16%** - emissions shrinkage since 1990
- **0.3% -** EPA estimated emissions of produced natural gas from distribution systems in 2011

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.**

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