



PIPELINE LEAK DETECTION, LEAK REPAIR, AND METHANE EMISSIONS PUBLIC MEETING

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SAFETY

Prioritizing public safety first and foremost

- Traditional leak classification and leak repair timeframes are based exclusively on their risk and potential impact to public safety.
- Grade 1 and Grade 2 leaks have explicit repair timeframes.
- Responding promptly to emergency and integrity work is critical

SAFETY

Prioritizing public safety first and foremost

- AGA supports moving beyond public safety to a focus on protecting the environment:
 - 1) Reduce “immediate” sources of methane emissions;
 - 2) Address repair timeframe for larger leaks which are non-hazardous to the public; and
 - 3) Supplemental leak surveys focused on larger leaks which are non-hazardous to public safety.

PROVEN STRATEGIES #1: PIPELINE REPLACEMENT

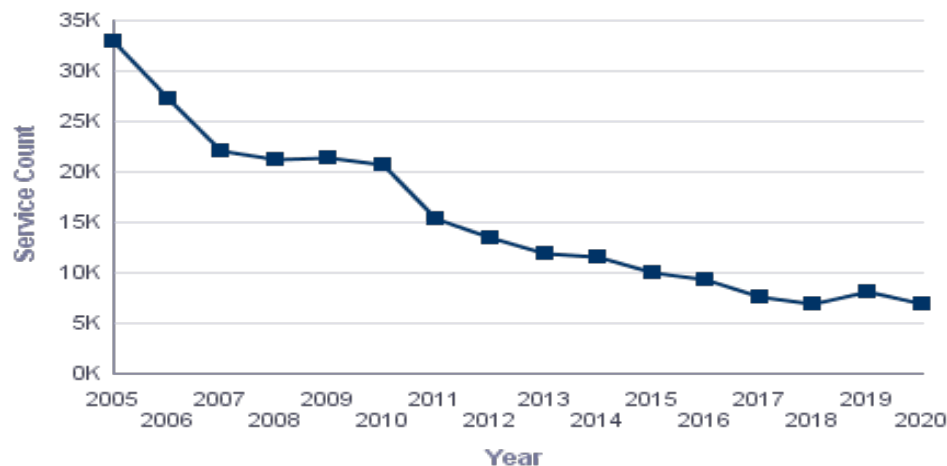
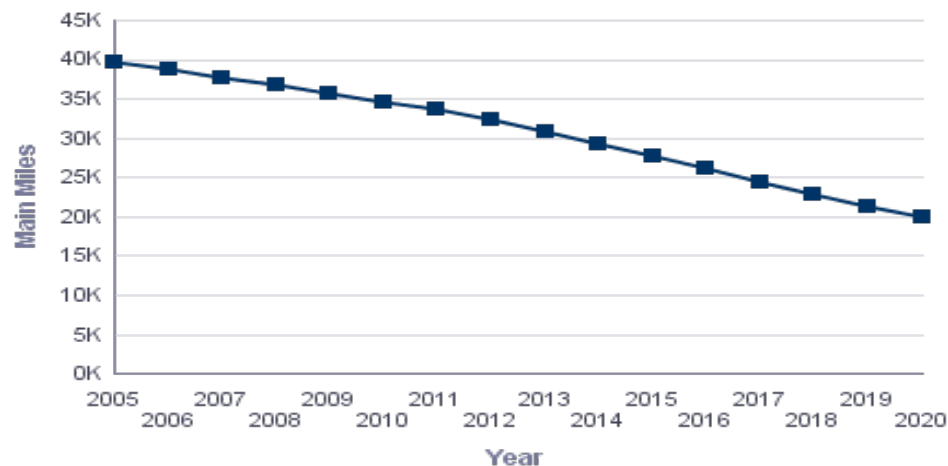
Investing in pipeline modernization enhances the safe and reliable delivery of natural gas to 180 million customers. It also reduces emissions.

- PHMSA data shows cast iron and bare steel pipelines are prone to leak.
Replacement supports:
 - Pipeline Safety
 - Reliability and
 - Reduction in emissions
- Statistics: Just **21%** of distribution operators have CI &/or bare steel BUT these operator account for -
 - **95%** of corrosion leaks on mains
 - **92%** of natural force leaks on mains
 - **91%** of pipe/weld/joint failure leaks
 - **97%** "other cause" leaks on mains
 - **76% of ALL KNOWN LEAKS**

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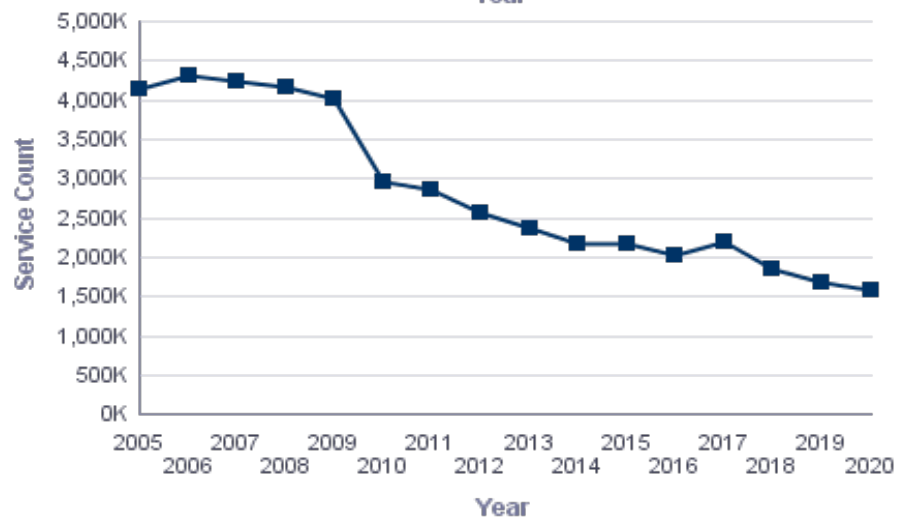
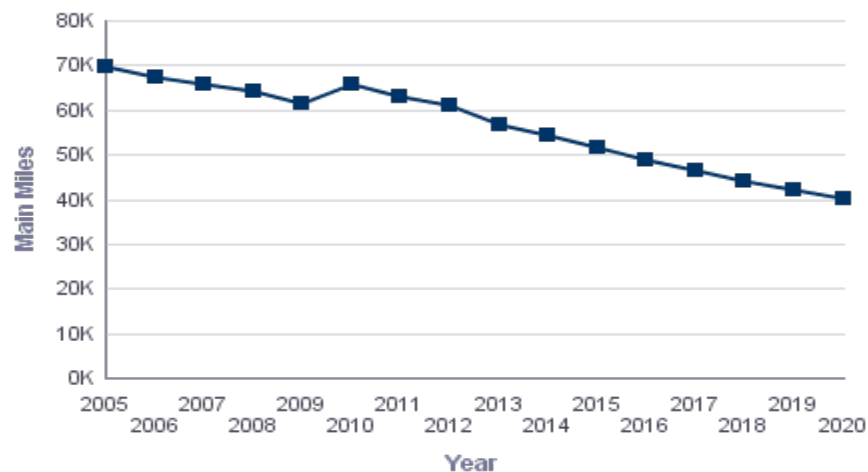
- Cast iron distribution pipe: Since 2005
 - Miles of main cut in half
 - Number services down nearly 80%



PROVEN STRATEGIES #1: PIPELINE REPLACEMENT

Investing in pipeline modernization enhances the safe and reliable delivery of natural gas to 180 million customers. It also reduces emissions.

- Bare steel distribution pipe: Since 2005
 - Miles of main down 42%
 - Number of services down 62%



**PROVEN
STRATEGIES
#2:
REDUCE
EXCAVATION
DAMAGES**

- Excavation damages continue to be a leading cause of pipeline incidents.
- 2020: Excavation damage was -
 - 29% of serious distribution incidents
 - 36% of significant distribution incidents
 - 46% of all hazardous leaks on D mains
 - Released ~245,000 mcf of gas
245k mcf = 34 MM miles driven, 15 MM lbs. coal burned, or enough electricity to power over 2400 homes for year
- Operators need help from state authorities to actively enforce One Call Laws on excavators who fail to notify 811 or fail to follow safe excavation practices, such as hand-digging around underground utilities.

LEVERAGE TECHNOLOGY

80% of leaks come
from 10%-20% of
sources

As move from public safety to environment:

- Effectively use resources by focusing repairs on larger leaks that could be hazardous to the environment
(based on flow rate not leak grade)
- Understand technology constraints
 - Location (metropolitan; concrete/dirt)
 - Weather (wet weather conditions)
 - Size of leak
- Beware if false positives! Not all “leaks” are truly a leak

LEVERAGE TECHNOLOGY

Technology is not a
one-size-fits-all
solution

For non-hazardous grade 3 leaks, actions to focus on environment could include:

1. Perform supplemental surveys to identify leak flow rate
2. Repair or mitigate larger leaks

Stay flexible:

- Many strategies/technologies to minimize leaks that may be hazardous to the environment
- Strategies and technologies change over time – regulations must adapt.
- **DO NOT DETRACT FROM CURRENT REPLACEMENT PROGRAMS**

MEASURING EMISSIONS

- Leak detection technologies only provide the indication of a leak.
- Emission factors (EF), expected rate of leakage per component, vary in accuracy based on research done to create the EF.
- EF may not show where repair or mitigative is needed since does not consider age or repair/replacement
 - Ex: If operator replaces meters, reported emission is same ($EF \times \#$ meters). Doesn't account for meter being replaced.
 - Ex: If operator adds new pipelines, will show an increase in emissions even if emissions decreased.

CONTINUED COMMITMENT

- AGA members continue to support efforts to reduce emissions:
 - EPA Natural Gas STAR: 37 Members
 - EPA Methane Challenge: 48 Members
- AGA and members have participated in scientific studies to improve the accuracy of methane detection, measurement, and/or emission factors.
 - WSU-EDF Lamb Gas Distribution Methane Study
 - CSU-NOAA-DOE Basin Methane Top-Down/Bottom-Up Reconciliation Study
 - NYSEARCH-EDF Study of Methane Detection Technologies
 - GTI-DOE Study of Plastic and HDPE Pipe
 - GTI-DOE Studies of Residential, Industrial & Commercial Customer Meters

NATURAL GAS UTILITY COMMITMENTS

As businesses, policymakers, and stakeholders develop and implement strategies to pursue a significantly lower-carbon energy economy, natural gas utilities are committed to doing their part. AGA and the nation's natural gas utilities are committed to delivering natural gas cleanly and more efficiently and to utilizing our infrastructure to distribute the energy sources of the future.

Specifically, AGA and its member natural gas utilities collectively commit to:

1. Further reduce methane emissions from natural gas utility systems
2. Encourage and support energy efficiency
3. Increase efficiencies in operating facilities
4. Scale-up and deploy advanced natural gas applications
5. Invest in research, development, and deployment of new emissions mitigation, delivery, and end-use technologies
6. Support renewable natural gas development and use and assess the potential of renewable power to gas
7. Modernize pipeline and other natural gas utility infrastructure
8. Encourage and support third-party damage prevention programs
9. Utilize recognized best practices to reduce methane and transparently report emissions data
10. Encourage and increase collaboration with natural gas producers and pipeline operators to help ensure that natural gas resources are developed and transported sustainably and responsibly

AGA Actively Tracks Member Company Emissions Goals

April 2020

- **16** AGA member companies have a net-zero, carbon neutral, or 100% clean energy goal
- **45 percent** of AGA member companies' gas throughput comes from a utility with a carbon-neutral, net-zero commitment or clean energy goal



April 2021

- **26** AGA member companies have a net-zero, carbon neutral, or 100% clean energy goal
- **64 percent** of AGA member companies' gas throughput comes from a utility with a carbon-neutral, net-zero commitment or clean energy goal



TrueBlueNaturalGas.org

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The American Gas Association, founded in 1918, represents more than 200 local energy companies that deliver clean natural gas throughout the United States. There are more than 74 million residential, commercial and industrial natural gas customers in the U.S., of which 95 percent — more than 71 million customers — receive their gas from AGA members. Today, natural gas meets more than one-fourth of the United States' energy needs.

www.aga.org