

# BUILDING A WORLD OF DIFFERENCE

23 August 2016

## REGULATORY AND RATEMAKING RESPONSES TO A CHANGING GAS UTILITY INDUSTRY

MISSOURI SENATE INTERIM COMMITTEE ON UTILITY REGULATION  
AND INFRASTRUCTURE INVESTMENT

AUGUST 23-24, 2016 | JEFFERSON CITY, MISSOURI

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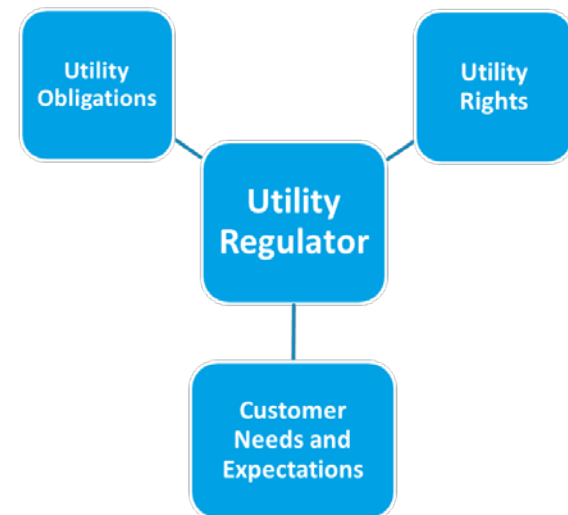
# TODAY'S DISCUSSION

- The changing gas industry environment has created a number of key business challenges faced by gas utilities over the past several years
- The changes that are needed to past utility ratemaking practices and the resulting ratemaking mechanisms implemented by gas utilities
- The progression and status of regulatory and ratemaking reform in the U.S. for gas utilities

*Appendix – detailed background information*

# KEY REGULATORY AND RATEMAKING OBJECTIVES FOR TODAY'S NATURAL GAS UTILITY INDUSTRY

- To find the right balance necessary in the **regulatory compact** to provide returns for utility investors consistent with the financial marketplace and to protect the interests of customers from excessive rates **requires a careful balancing of interests.**
- **Each gas utility will face its own combination of factors** that drive the fundamental requirements embodied in the regulatory compact, and these factors must be recognized.
- In each case, the fundamentals of just, reasonable and non-discriminatory rates must be satisfied by the regulator and that judgment must be safeguarded in a rapidly changing cost environment to **ensure the regulatory compact functions as required.**



# GAS UTILITIES' BUSINESS CHALLENGES AND THE RESULTING IMPACTS

## *Gas Industry Macro Trends*

- Rising and volatile gas prices, then more available gas supplies and lower prices from new sources
- Weather variability and warming temperatures
- Increased focus on energy efficiency, environmental issues and integrity management
- Changing demand sources (e.g., power generation/DER, CHP, NGVs)
- Escalating operating costs for labor and materials
- Significant infrastructure investment required to address integrity management and environmental matters
- Stagnant economic conditions and artificially low interest rates
- Increasing first cost of gas appliances

## *Business Challenges for Gas Utilities*

- Declining use per customer
- Increasing regulatory requirements - safety issues and maintenance and improvement of aging infrastructure and system reliability
- Considerable and recurring variability, unpredictability and uncontrollability related to a gas utility's costs of delivery service and gas usage factors
- Inadequate approaches to growth, expansion and economic development
- Customers' ability to pay, lack of customer growth, and demographic changes with variability in the economy
- Obligation to serve requirements (service continuity issues)
- Policy objectives of stakeholders pertaining to utility ratemaking have changed causing more difficulty in reaching balanced regulatory decisions

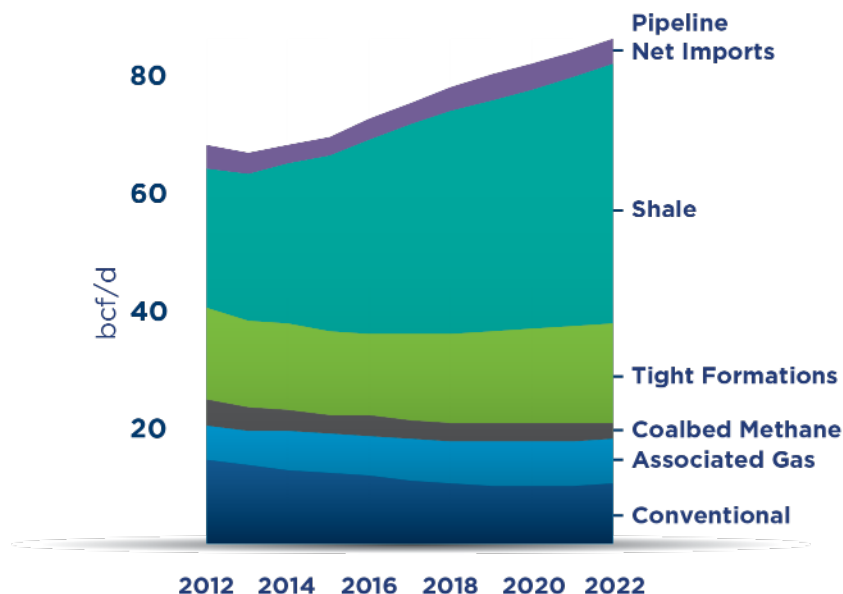
## *Resulting Impacts*

- Increased regulatory lag and earnings attrition
- New stress and challenges for regulators - more frequent, complex, and larger rate cases
- Increases and volatility in customers' gas bills as a result of gas prices (less so in recent times)
- Inability of gas utilities to fully recover their approved revenue requirements
- Chronic under earning by gas utilities (i.e., below average return on equity)
- Customers paying more or less than expected for gas service due to fluctuations in weather from "normal" conditions
- Customers paying more or less than reasonable relative to the utility's actual cost to serve

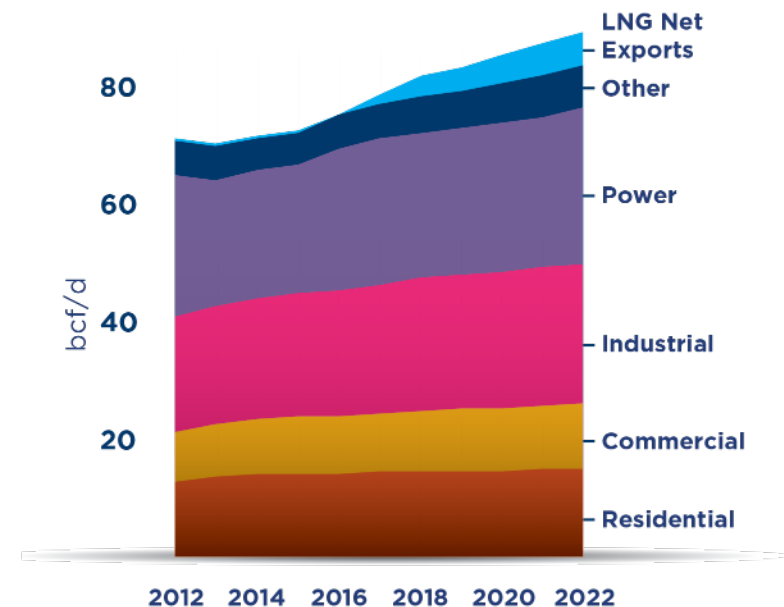
# SIGNIFICANT CHANGES IN SUPPLY AND DEMAND

For the next decade and beyond, domestic natural gas supplies are expected to be sufficiently robust to meet growth in demand across all sectors.

## Natural Gas Supply

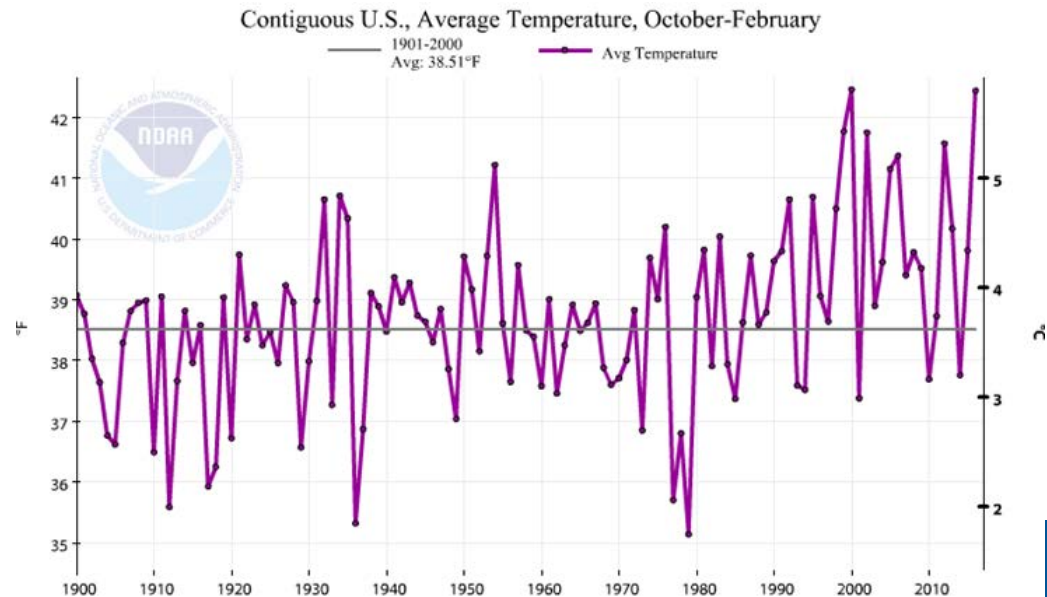
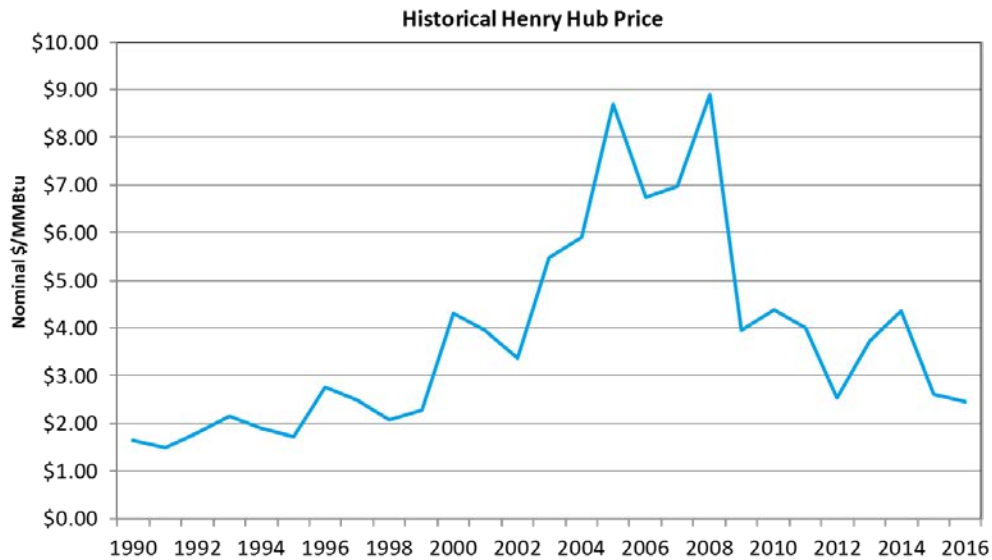


## Natural Gas Use



Source: American Gas Association

# PRICE AND WEATHER VOLATILITY



# 2013 NARUC 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.***





# GAS UTILITIES' BUSINESS CHALLENGES AND THE RESULTING IMPACTS

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# SIGNIFICANT INFRASTRUCTURE INVESTMENT



Natural gas utilities spend **\$22 billion annually** to help enhance the safety of natural gas distribution and transmission systems.

## Infrastructure

*Since 1990, natural gas utilities added more than 600,000 miles of distribution and services to serve more than 17 million new customers.*

**+600,000 miles** 



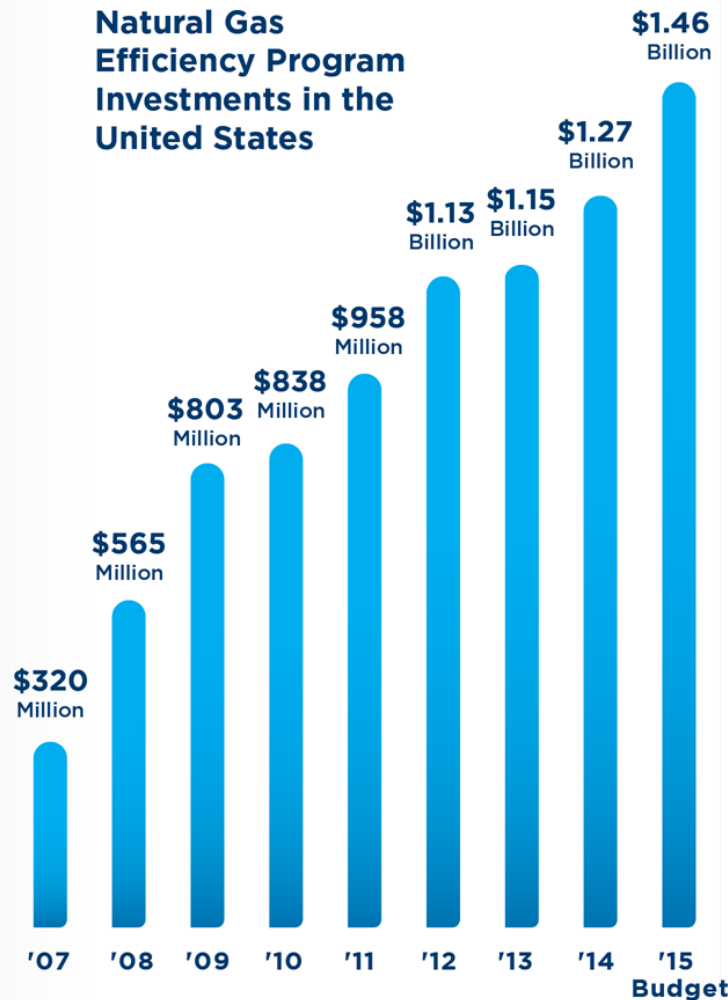
The dedicated efforts of natural gas utilities over the past three decades have led to an approximately 40% decline in pipeline incidents over the past 10 years.



## Peer Review Program

AGA's national Peer Review Program, launched in 2015, helps further increase safety.

# FOCUS ON ENERGY EFFICIENCY



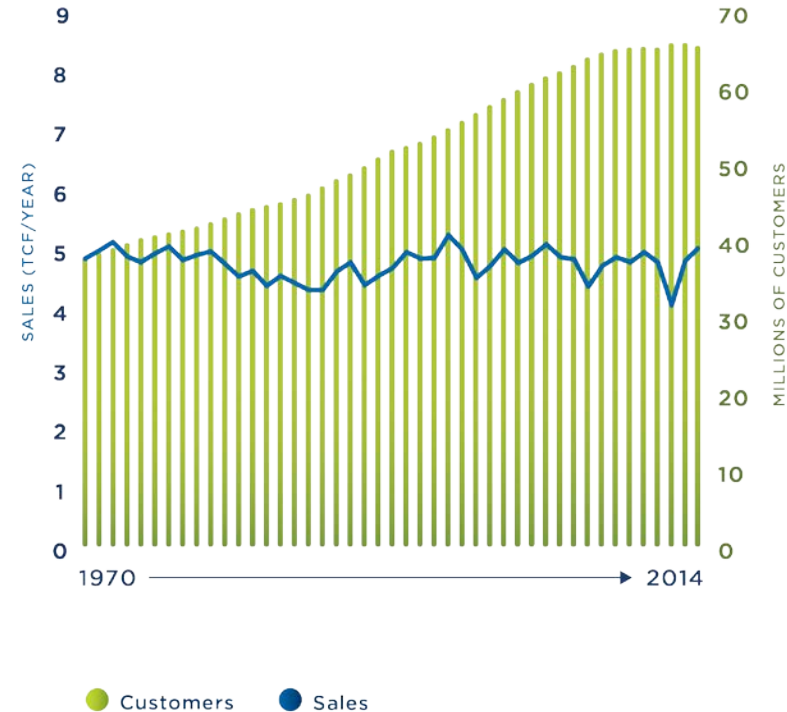
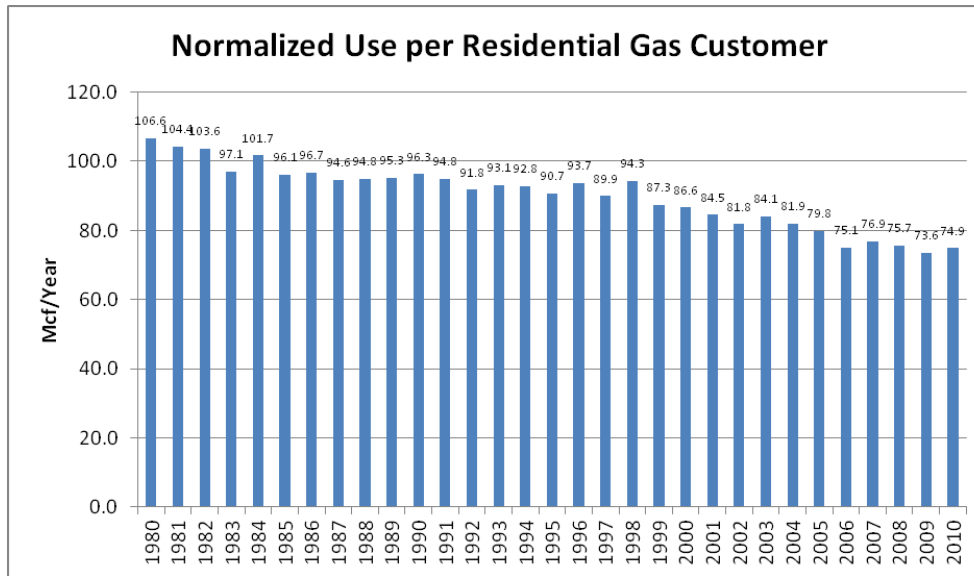
## Site-Specific Efficiency of Natural Gas Appliances

Appliance Type	1972	2006
Gas Furnace	65%	84%
Condensing Gas Furnace	-	96%
Gas Water Heater	50%	67%
Tankless Gas Water Heater	-	80%

Source: Lawrence Berkeley National Laboratory, July 2007.

Notes: Shipment weighted averages; rating by Average Fuel Use (AFUE)

# DECLINING AND VARIABLE GAS USAGE

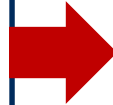


- Energy efficiency programs are having a positive impact for customers.
- Total number of **natural gas homes up nearly 50%** since 1980.
- Average **consumer is using 30% less natural gas** compared to 1980.
- **Significant customer and utility costs** related to growth and energy efficiency programs.

# GAS UTILITIES' BUSINESS CHALLENGES AND THE RESULTING IMPACTS

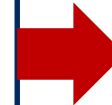
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# THE RESULTING UTILITY ENVIRONMENT

- Significant change with **escalating costs and declining gas usage** – incompatible with the slower moving, historically cost-based traditional regulatory structure and ratemaking process.
- A growing recognition that the ratemaking approaches of the past may not be working as intended as evidenced by **stakeholder impacts and original rate design objectives not being satisfied**.
- This environment has made it much more difficult for gas utilities and their regulators to **maintain the balance and integrity of the regulatory compact**.
  - Inability to achieve just and reasonable rates using the ratemaking methods of the past.
  - Creation of new financial stresses for gas utilities.
- As a result, the alternative regulatory mechanisms required by these industry changes (which I will discuss) attempt to **protect and balance the regulatory compact** in this new environment.

# NEEDED CHANGES TO PAST UTILITY RATEMAKING PRACTICES

- A fundamental **rebalancing of the regulatory compact**
- The traditional volumetric structure of a utility's base rates does not allow for the full recovery of a utility's non-gas cost of service approved by its utility regulator whenever a decline is experienced in the level of its billing determinants (i.e., customers' gas consumption levels) used to establish base rates.
  - **Focus on ratemaking methods that enable the recovery of a gas utility's fixed costs through the fixed components of the rate structure.**
- The static nature of how a utility's revenue requirement is determined precludes the recognition and timely recovery of additional costs incurred by the utility in providing delivery service that is necessitated by unpredictable or uncontrollable business conditions that the utility has to accommodate.
  - **Test period determination for setting rates that reflects a better matching of a utility's revenues and costs.**
  - **Balanced rate base and expense adjustments in rate cases.**

# NEEDED CHANGES TO PAST UTILITY RATEMAKING PRACTICES (CONT.)

- **Different ratemaking treatment of volatile cost elements** that are not subject to meaningful control by the utility and that cannot reasonably be matched with corresponding revenues when rates are set only through a traditional rate case process.
- Different ratemaking treatment of unpredictable, uncertain, recurring, and material cost elements included in the utility's revenue requirement.
  - **Implementation of ratemaking methods that enable a better tracking of such costs on a timely basis that are not administratively costly or burdensome to manage and review.**
- The bottom line – the gas utility industry requires ratemaking and regulatory solutions that address both **revenue stability** and **revenue sufficiency**.



# RATEMAKING SOLUTIONS BEING PURSUED

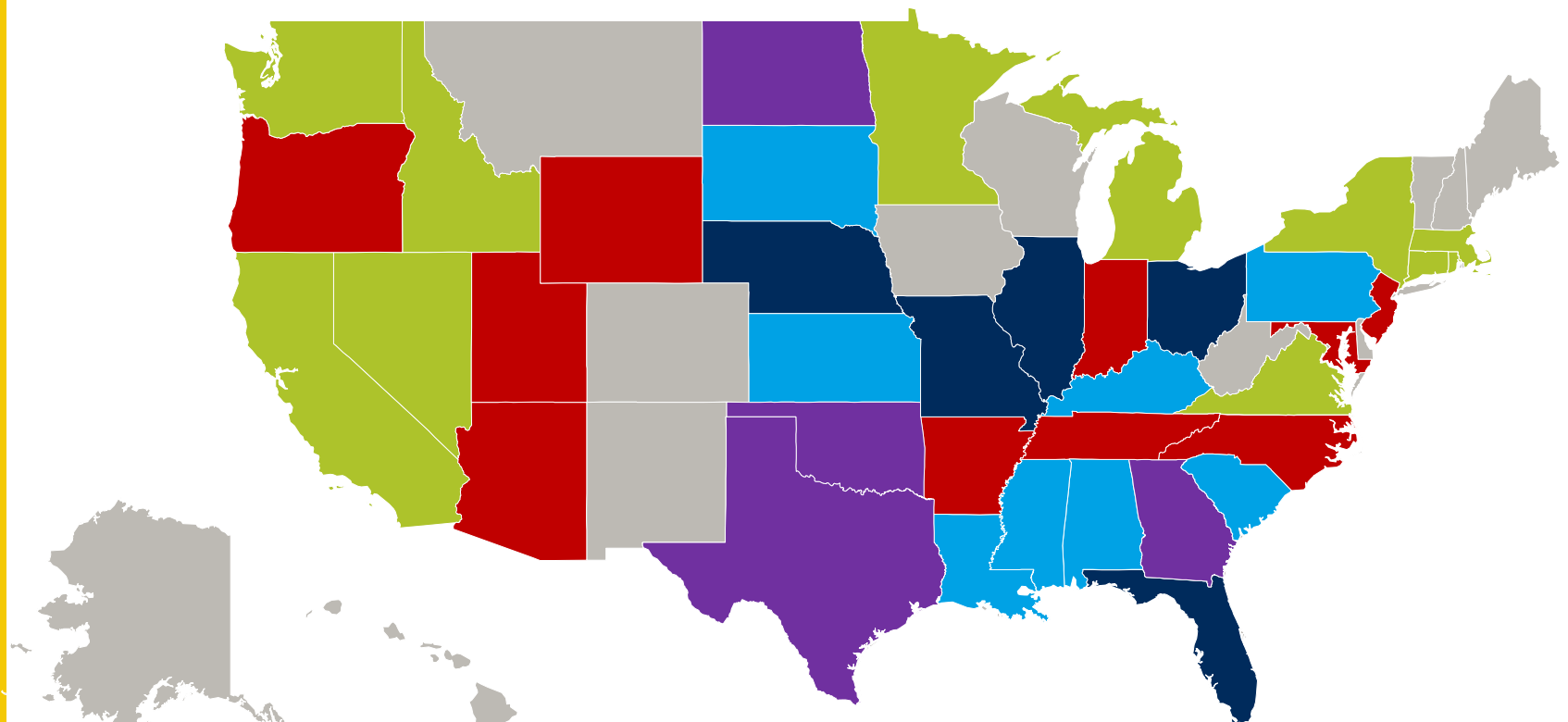
*Individual Ratemaking Solutions for specific uncontrollable, variable, material and recurring costs:*

- **Purchased Gas Adjustment Mechanisms** address changes in supply costs.
- Addressing of revenue stability challenges
  - **Rate Design** – customer charges that more fully reflect fixed costs of providing delivery service, including Straight Fixed-Variable (SFV) rate design
  - **Weather Normalization Adjustment (WNA) Mechanisms**
  - **Revenue Decoupling Mechanisms**
- **Rate Adjustment Mechanisms** that address particular costs elements (e.g., energy efficiency program costs, environmental compliance costs, bad debt, pension expense) are in place in many states.
- **Infrastructure Cost Recovery Mechanisms** for pipeline replacement and distribution system modernization in place in most states
- Innovative rates and mechanisms in early stages for **serving unserved and underserved communities with natural gas**.

*Comprehensive Ratemaking Solutions that address all relevant factors:*

- Adoption of a **Future Test Year**, or step adjustments in **Multi-year Rate Plans** by a number of jurisdictions
- **Rate Stabilization Mechanisms** have been successful at balancing customer and utility interests in a number of states.

# REVENUE STABILITY RATEMAKING SOLUTIONS<sup>(1)</sup>

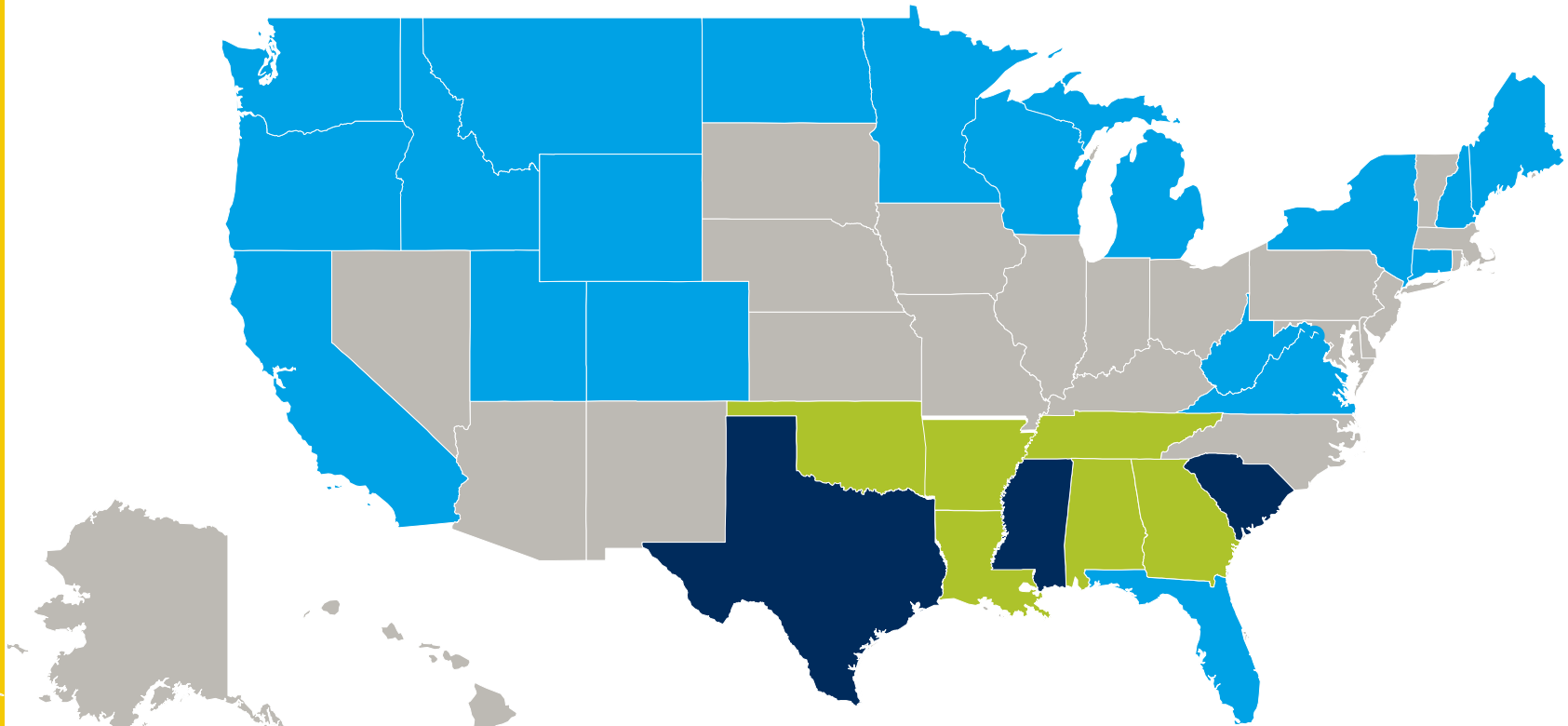


<sup>(1)</sup> As of August 2016

- Weather Normalization Mechanisms (WNAs)
- Revenue Decoupling Mechanisms (RD)
- Straight Fixed-Variable (SFV) Rate Design
- WNA and RD
- WNA and SFV



# COMPREHENSIVE RATEMAKING SOLUTIONS <sup>(1)</sup>



<sup>(1)</sup> As of August 2016

-  Multi-Year Rate Plans (MYP)
-  Rate Stabilization Mechanisms (RSM)
-  MYP and RSM

# CONCLUSION: ENHANCEMENTS NEEDED TO MODERNIZE THE REGULATORY PROCESS

More modern, comprehensive, timely and efficient solutions are available and should be assessed to meet today's gas utility regulatory challenges.

- A recognition by all parties that the regulatory process has become much more complex than in the past, especially with addition of one-off mechanisms necessary to address significant short-falls of traditional ratemaking.
  - Maintaining processes with all the significant changes and complexities has also led to a longer, more administratively burdensome regulatory process.
- Better paths forward exist that provide the proper level of regulatory scrutiny and accountability with benefits for both customers and utilities.
- Ability of the regulator, utility, and its stakeholders to operate within the regulatory process to address and resolve the utility's various ratemaking and regulatory issues in an efficient and cost-effective manner.
  - Can be thought of as a “modernizing” of the existing regulatory process in order to lower costs to consumers and to ensure the financing and construction of the gas utility's necessary infrastructure investments.

# QUESTIONS?

# APPENDIX – DETAILED BACKGROUND MATERIAL

# THE PROGRESSION AND STATUS OF REGULATORY AND RATEMAKING REFORM IN THE U.S. FOR GAS UTILITIES



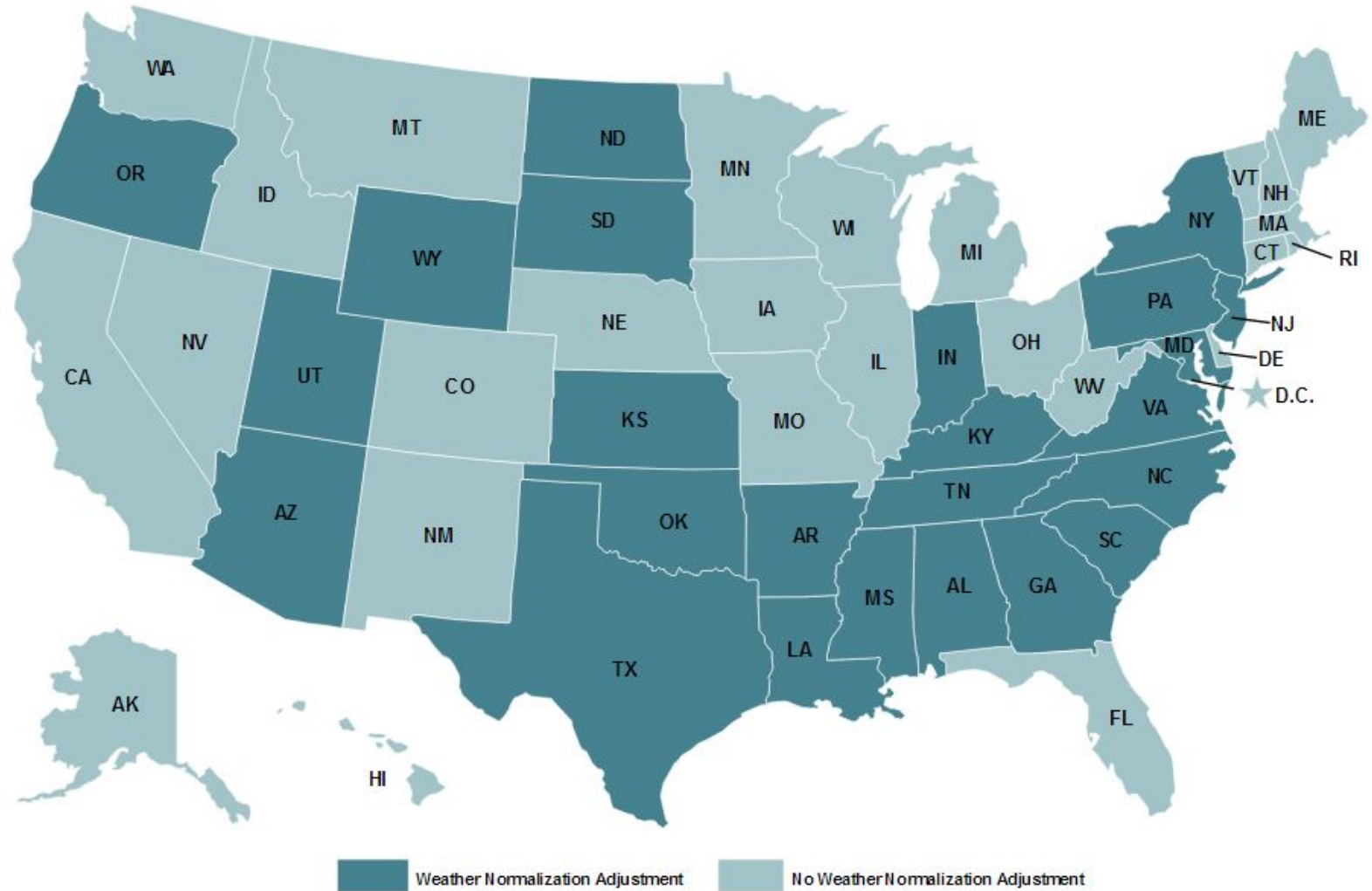
# THE PROGRESSION OF REGULATORY AND RATEMAKING REFORM ACROSS THE U.S.

- **Non-volumetric ratemaking methods** have either been adopted by utility regulators, or are pending, for gas utilities **in 36 states**, including the District of Columbia – *in use in Missouri*.
- **WNA mechanisms** have been adopted by utility regulators for gas utilities **in 23 states**. WNA mechanisms have been around since the early 1980s – *not in use in Missouri*.
- **Revenue decoupling mechanisms** have been adopted by utility regulators, or are pending, for gas utilities **in 23 states** and the District of Columbia. Revenue decoupling mechanisms first came on the scene in 1998 in Maryland, then in 2002 in Oregon and California, and between 2005 and 2012 in an additional 20 states – *not in use in Missouri*.
- **Rate stabilization mechanisms** have been adopted by utility regulators, or are pending, for gas utilities **in 9 states**. Alabama first approved this ratemaking method in 1983, Mississippi in 1998, an additional 6 states between 2000 and 2014, and it is currently pending in Arkansas in a gas utility rate case – *not in use in Missouri*.

# THE PROGRESSION OF REGULATORY AND RATEMAKING REFORM ACROSS THE U.S.

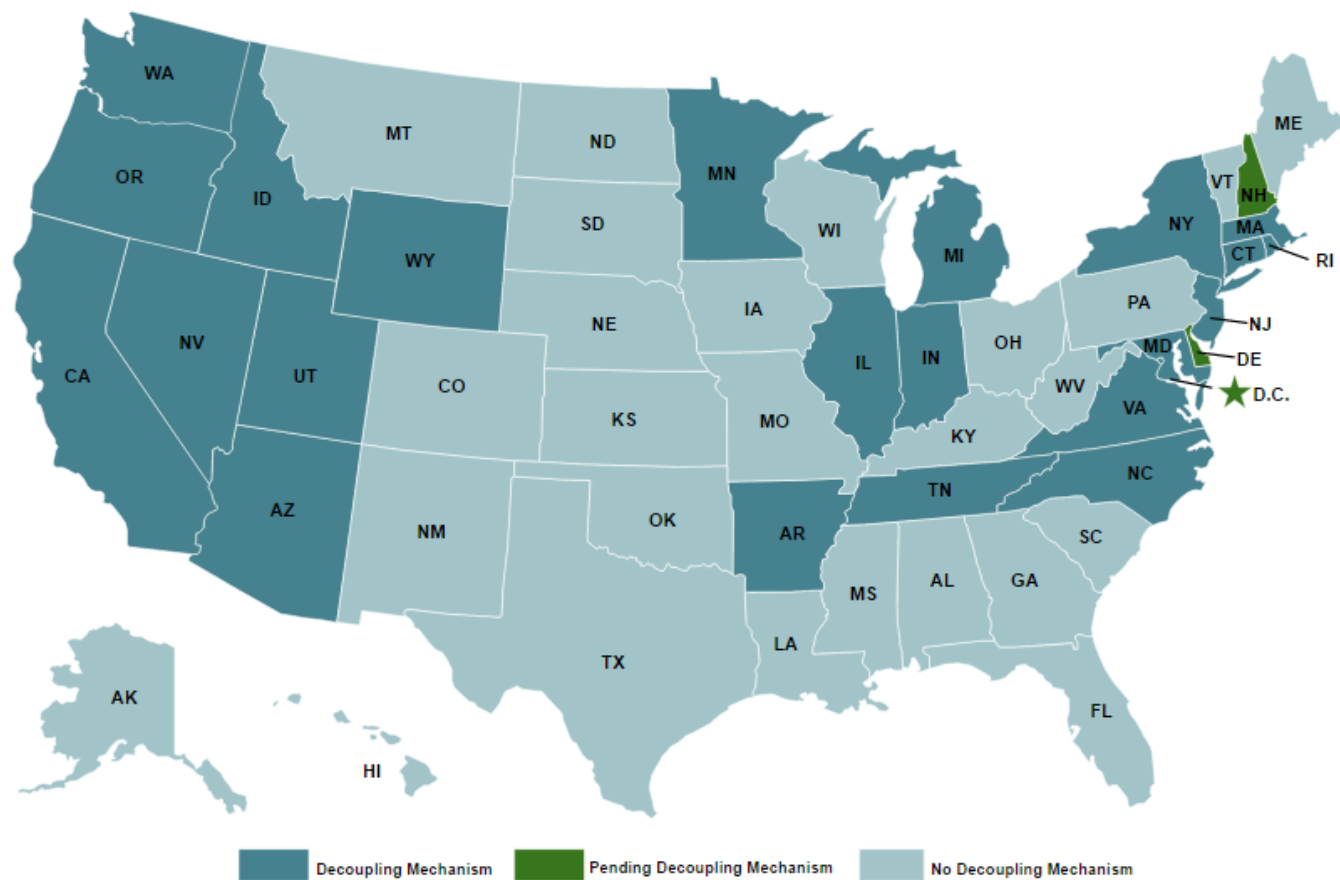
- **Infrastructure cost recovery mechanisms** (or through other expedited means such as rate stabilization mechanisms) have been adopted by utility regulators for gas utilities **in 41 states** (including the District of Columbia). The first mechanism was approved in 1988 in Arkansas, with other states approving these mechanisms starting in 1998 in Georgia through 2012 in Arizona – *in use in Missouri*.
- **An unintended outcome** – multiple ratemaking mechanisms in some states may have created their own challenges
  - Potential for complications between the various ratemaking mechanisms.
  - Increased administrative activities for the utility and regulator.
  - The goal of streamlining, simplifying and creating a responsive process may not be best achieved with multiple ratemaking solutions.

# WEATHER NORMALIZATION MECHANISMS



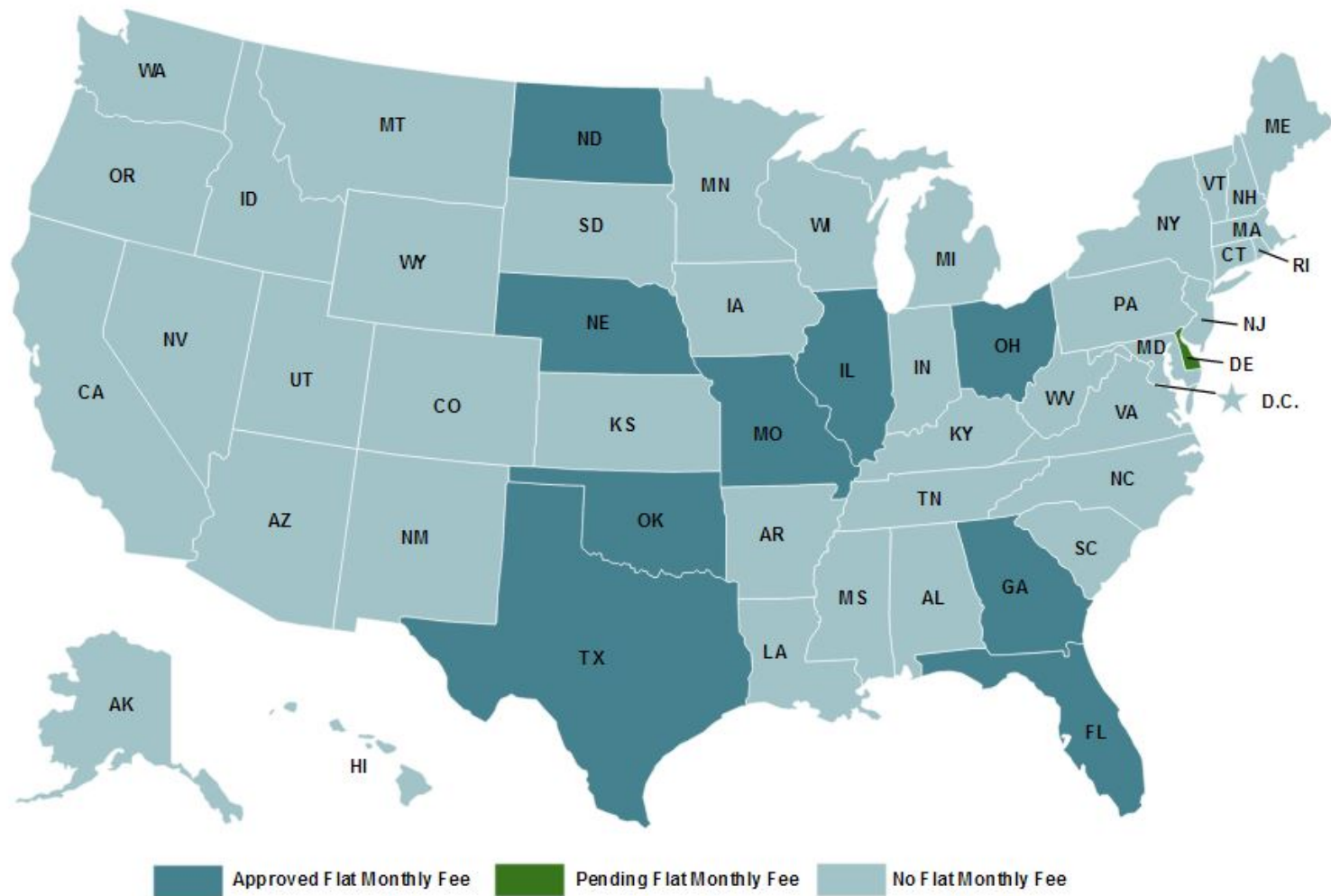
Source: American Gas Association  
(As of August 2016)

# REVENUE DECOUPLING MECHANISMS



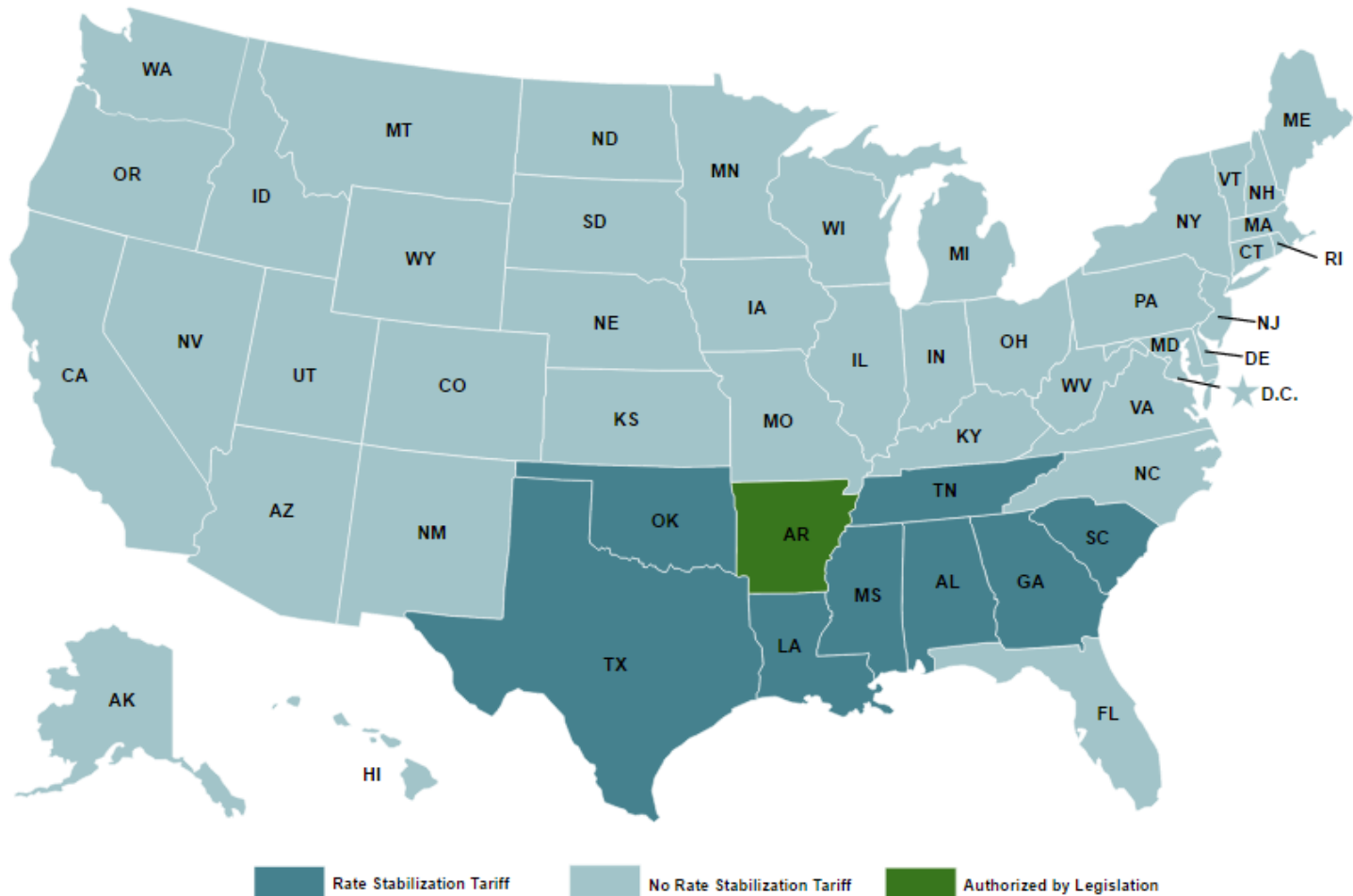
Source: American Gas Association  
(As of August 2016)

# FLAT MONTHLY FEE RATE DESIGN (SFV)



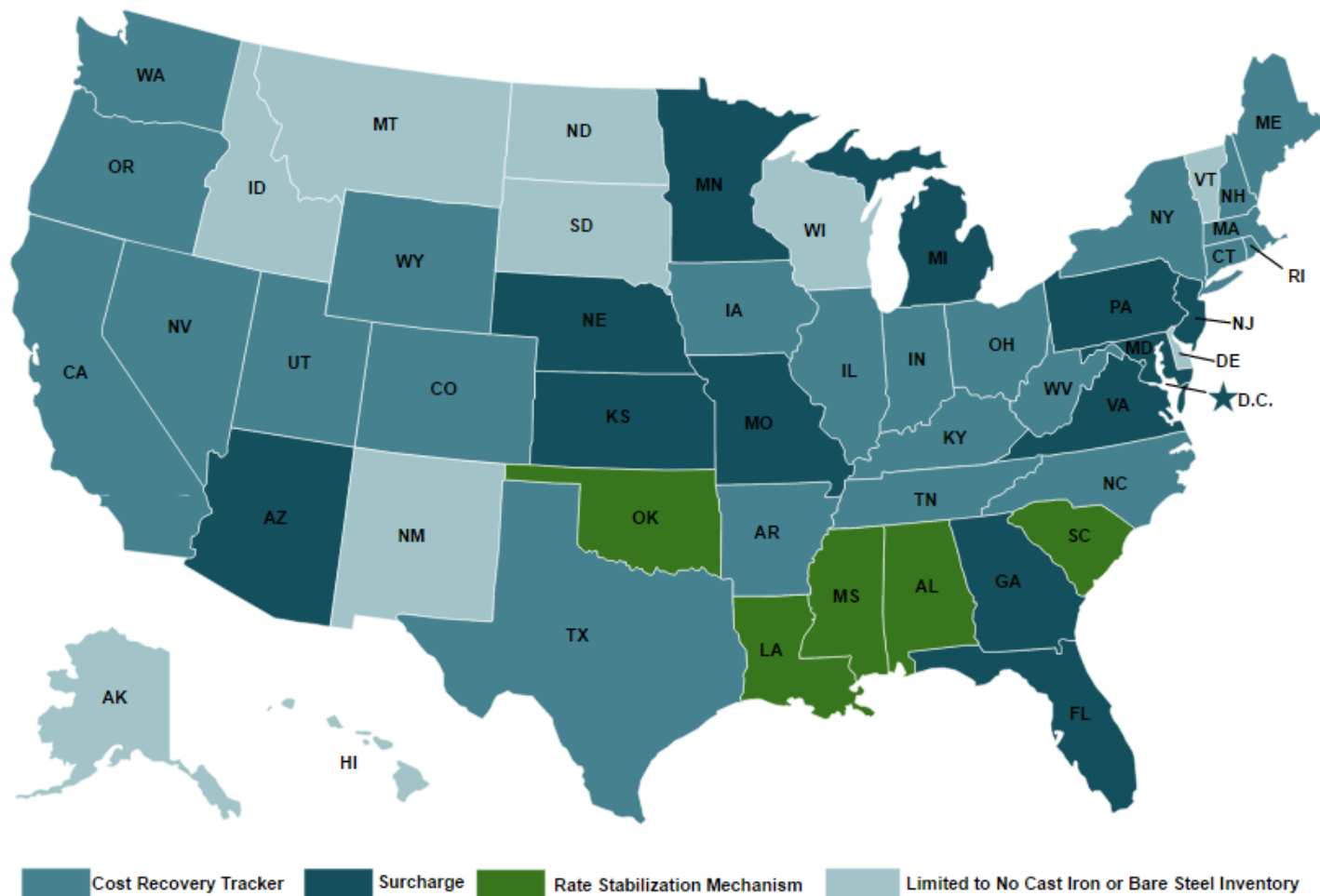
Source: American Gas Association  
(As of August 2016)

## RATE STABILIZATION MECHANISMS



**Source: American Gas Association  
(As of August 2016)**

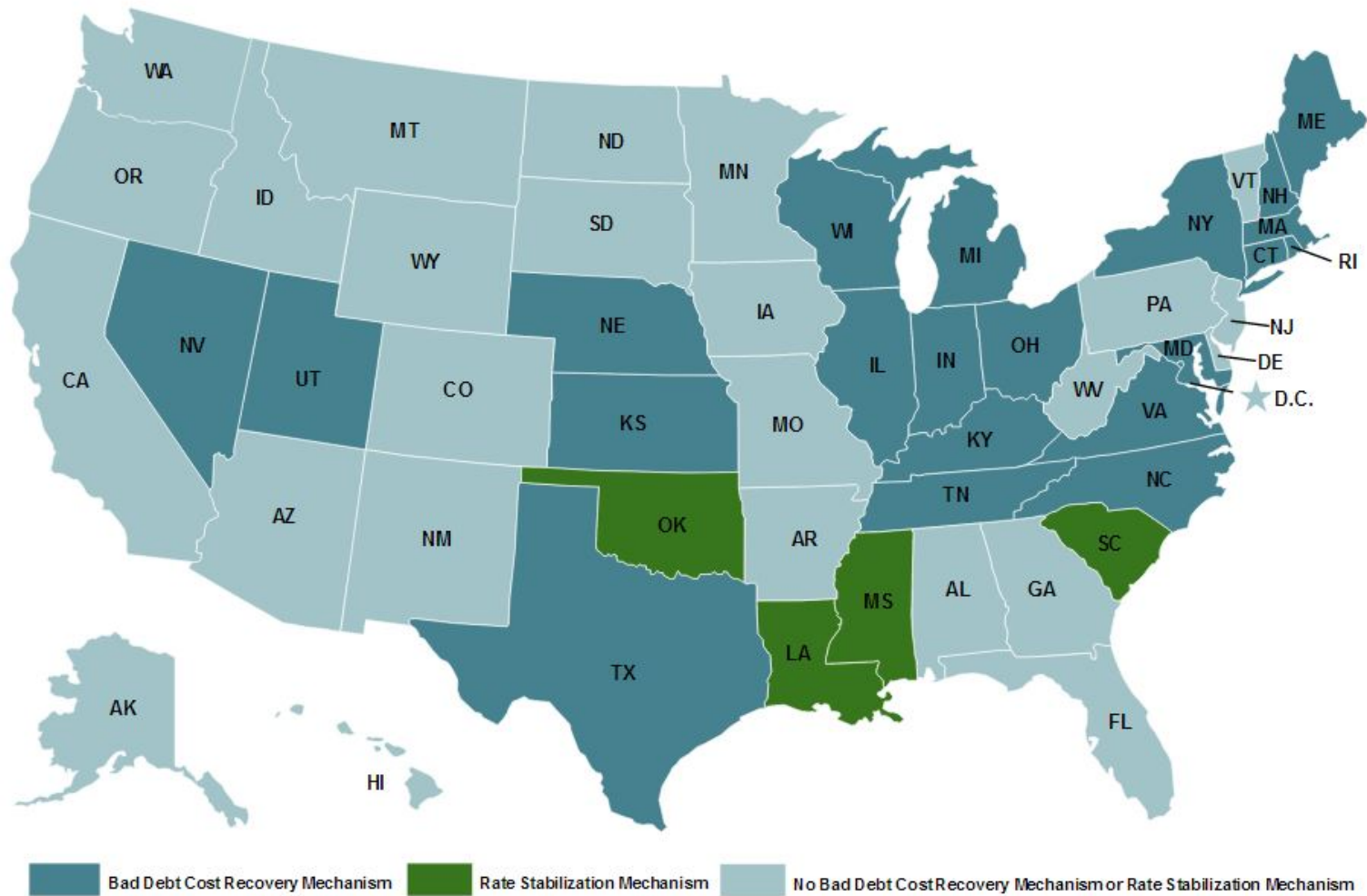
# INFRASTRUCTURE COST RECOVERY MECHANISMS



Source: American Gas Association  
(As of August 2016)

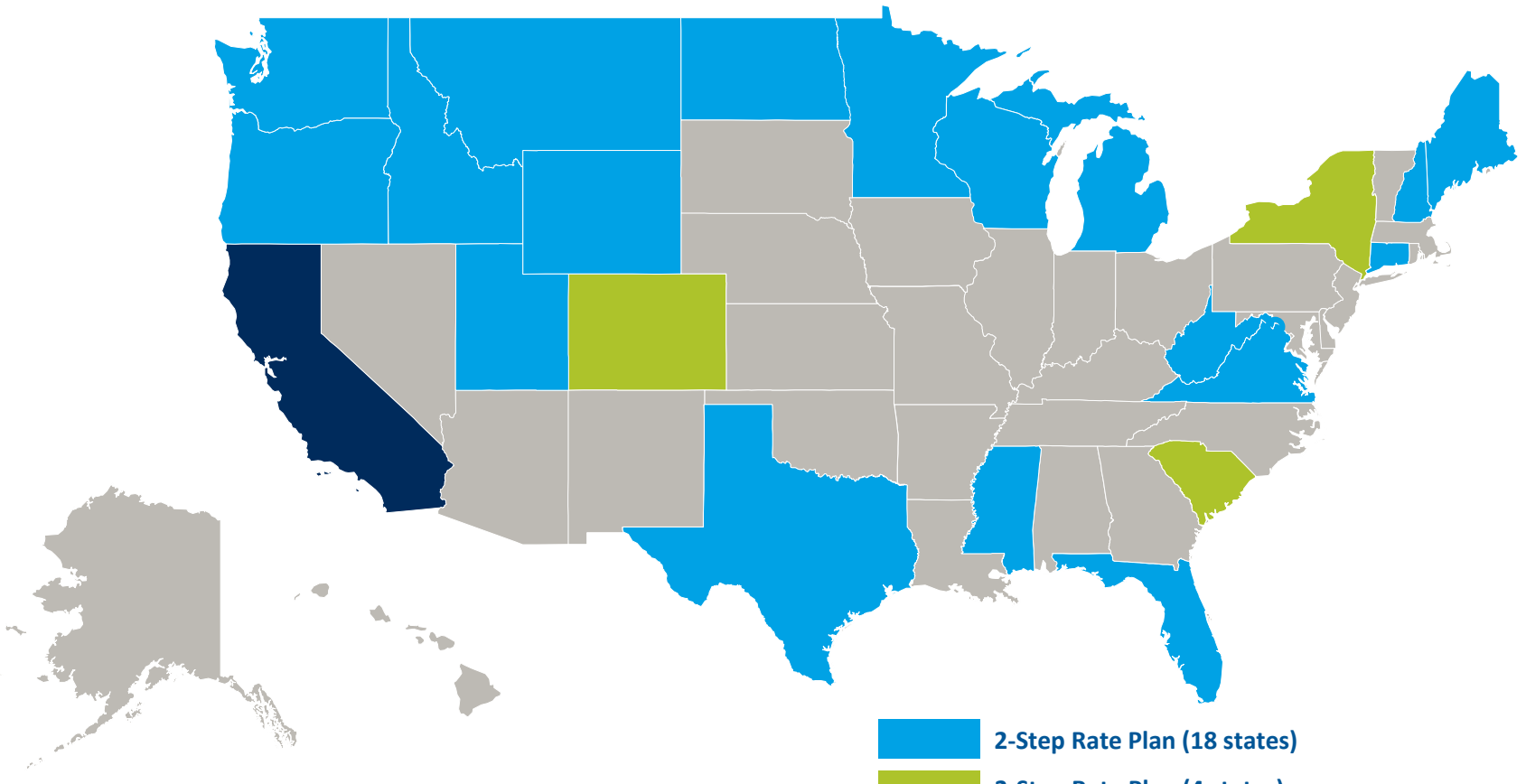


# BAD DEBT RECOVERY MECHANISMS



Source: American Gas Association  
(As of August 2016)

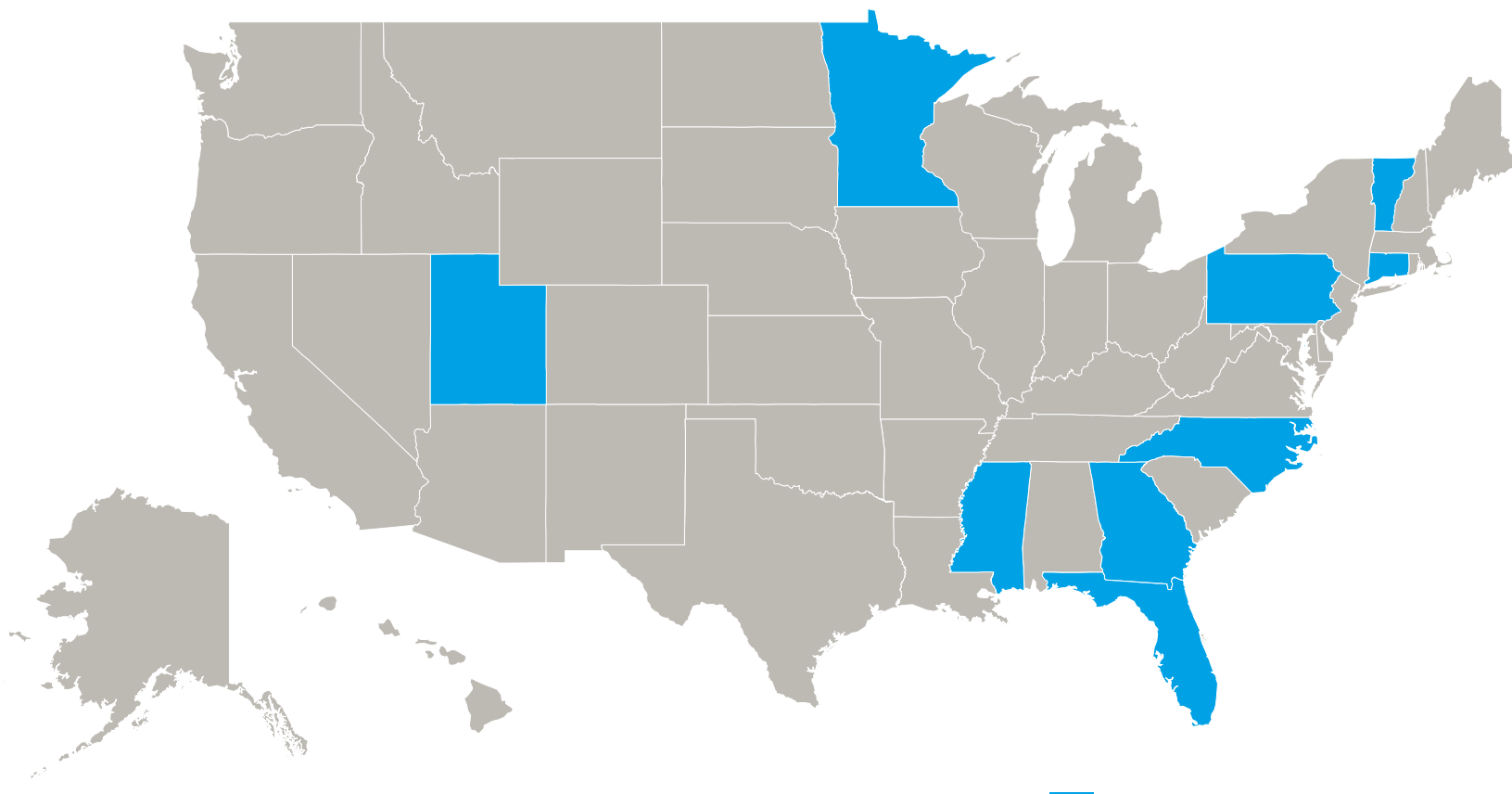
# THE STRUCTURE OF MULTI-YEAR RATE PLANS<sup>(1)</sup>



<sup>(1)</sup> As of January 2016

- 2-Step Rate Plan (18 states)
- 3-Step Rate Plan (4 states)
- Over 3-Step Rate Plan (1 state)

# INNOVATIVE APPROACHES TO THE EXPANSION OF NATURAL GAS SERVICE



■ Approved

# THE TYPES OF RATE ADJUSTMENT MECHANISMS

Purchased Gas
Environmental Costs
Contributions in Aid of Construction (CIAC)
Infrastructure Costs
Smart Grid/AMI Costs
Stranded Restructuring Costs
Bad Debt/Uncollectible Expense
Pension/OPEB Expense
Energy Efficiency/DSM Costs

- ***Uncontrollable***
- ***Variable/Unpredictable***
- ***Material and Recurring***

# REGULATORY LAG AND COST RECOVERY ISSUES

# REGULATORY LAG DETRACTS FROM AN EFFECTIVE REGULATORY PROCESS

- **Definition**

- The delay between the time a utility incurs costs and when it later recovers those costs through rates

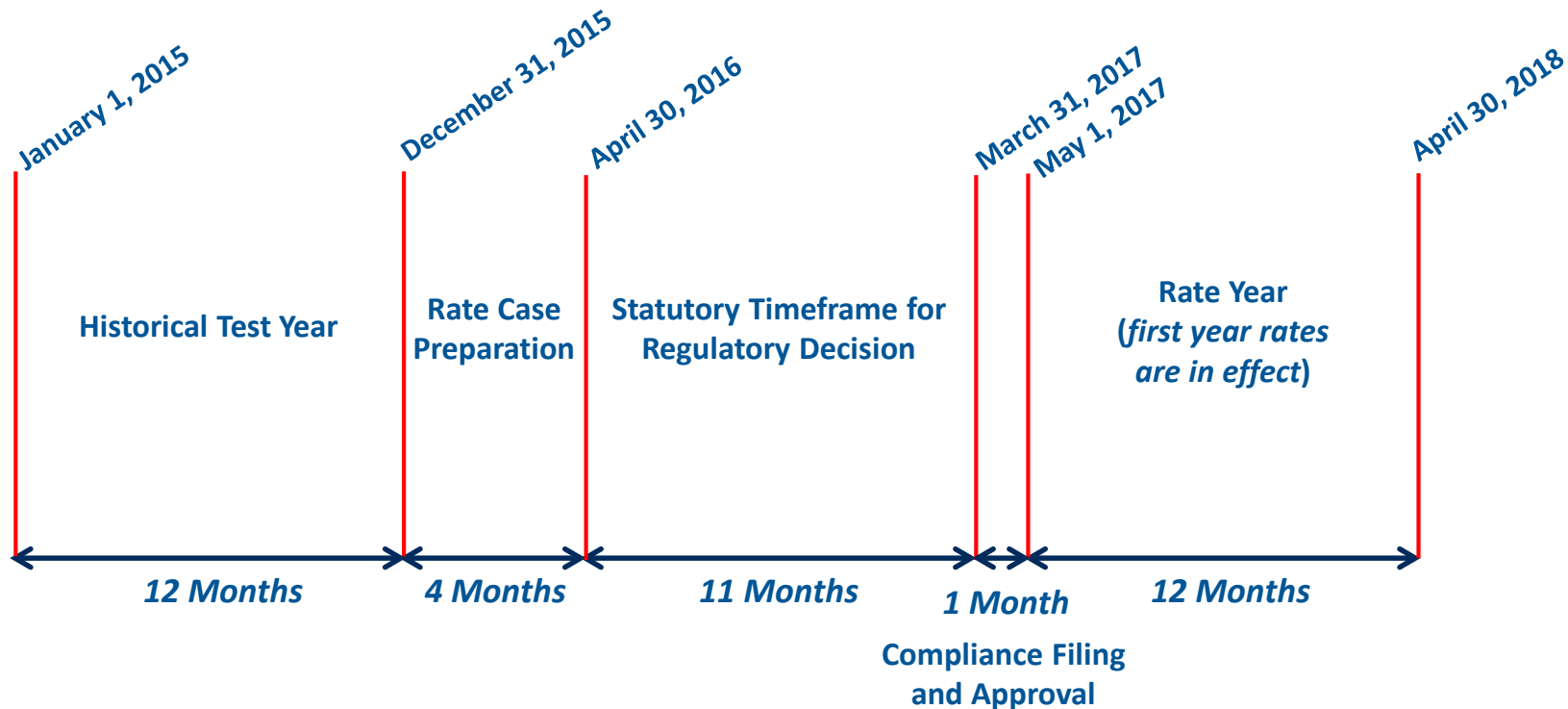
- **Causes**

- Timing of regulatory decisions in rate cases
- How the Test Year is defined in the utility's rate case

- **Outcomes**

- Today, there is a greater likelihood that a utility's costs tend to grow more rapidly than the delivery volumes and numbers of customers that cause revenue growth
- Creates chronic financial stress for gas utilities; more frequent rate cases
- At best, regulatory lag may serve as a blunt tool to incent utility management to control costs, but this assumes the real world approximates the regulatory assumptions used to establish the utility's total revenue requirements in its rate case – which never is the case.

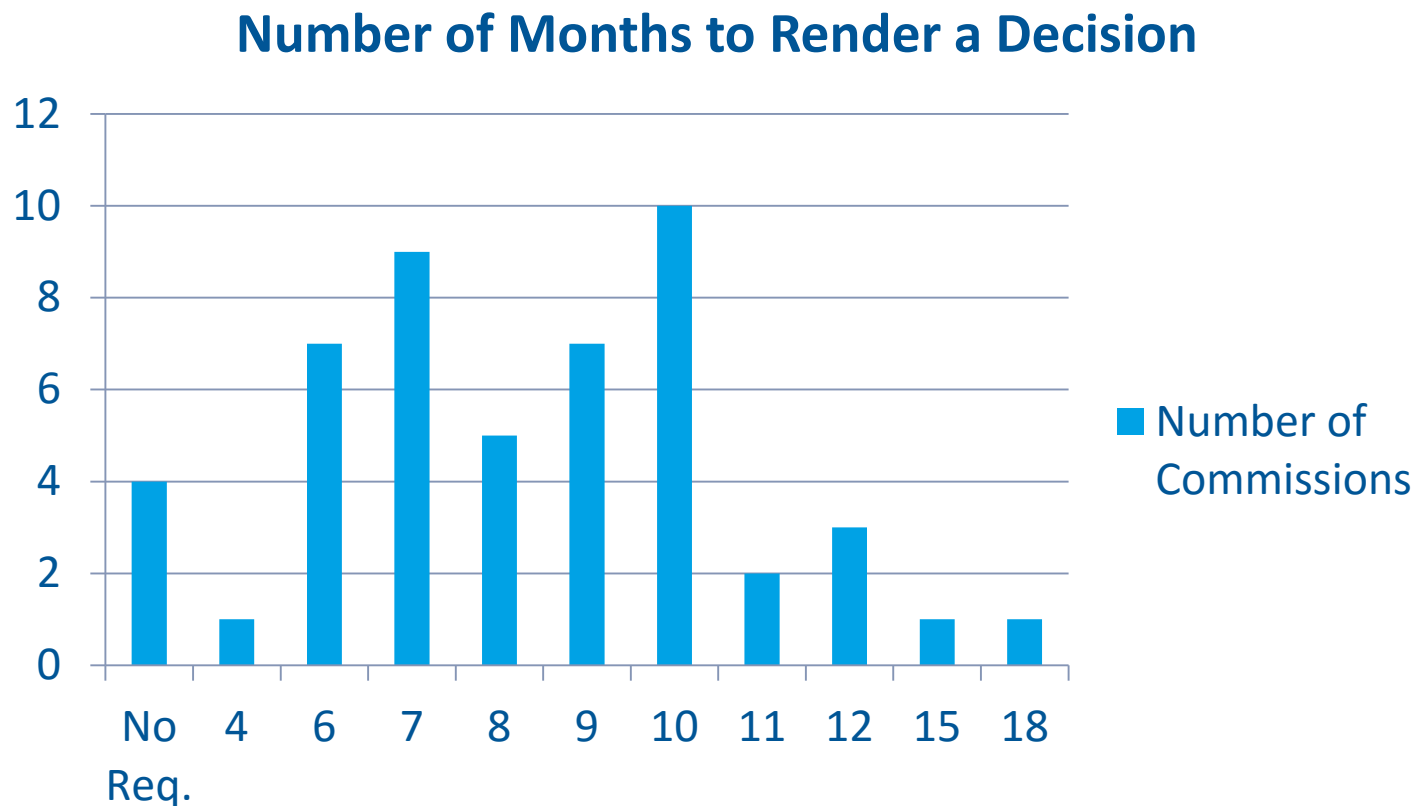
# AN ILLUSTRATIVE EXAMPLE OF REGULATORY TIMING LAG



***This process results in an average time lag of 28 months in the rate recovery of historical expenses***



# TIMING OF REGULATORY DECISIONS IN RATE CASES – STATUTORY REQUIREMENTS



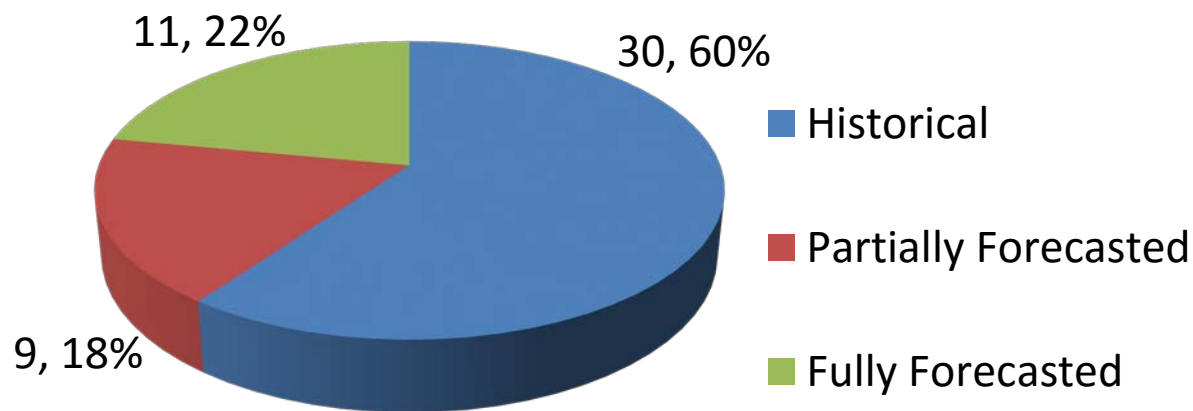
***The Missouri Public Service Commission can take up to 11 months***

Source: SNL Energy

# REGULATORY LAG IS ALSO IMPACTED BY HOW THE TEST YEAR IS DEFINED

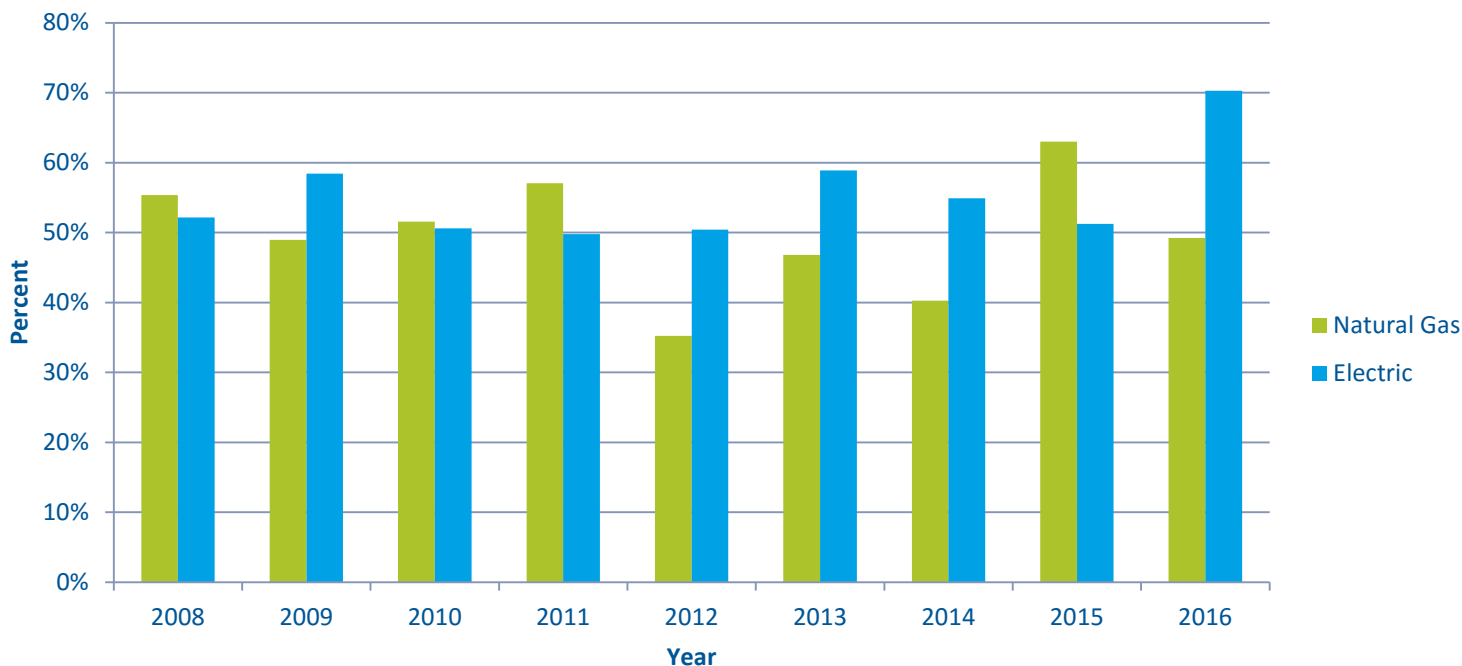
- **Fundamental tenet of utility ratemaking** - *the purpose of using a test year is to create or construct a **reasonably expected level** of earnings, expenses, and investment during the **future** period in which rates will be effective.*

Test Years Used by State Regulatory Commissions



# RATE CASE DECISIONS CAN ALSO IMPACT THE ABILITY OF A UTILITY TO RECOVER ITS ACTUAL COST OF SERVICE IN FUTURE YEARS

Authorized Percentage of Requested Revenue Increase  
Average Per Utility  
2008-2016



Source: SNL Financial and Black & Veatch  
Excludes "limited issue rider" regulatory proceedings

# EARNINGS ATTRITION

- Earnings attrition is when a utility's earnings systematically falls below authorized levels which are established based on the required cost of capital.
- The revenue/cost relationship that the traditional rate case and regulatory process has assumed in the past is that growth in plant investment, operating expenses, capital costs, or a combination of those costs, would, at least for a reasonable period of time after rates are set, be offset by revenue growth.

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