

# Natural Gas: Clean, Abundant, Efficient, Domestic



# American Gas Association

- A national, nonprofit, member association serving 200 investor-owned and municipal natural gas utilities
- Advocates for natural gas utilities and their customers before Congress, state legislatures, and federal and state regulatory bodies
- Delivers programs and services that enhance utility operations
- Publishes comprehensive statistical records of the natural gas industry

# The US Natural Gas Industry At A Glance (2010)

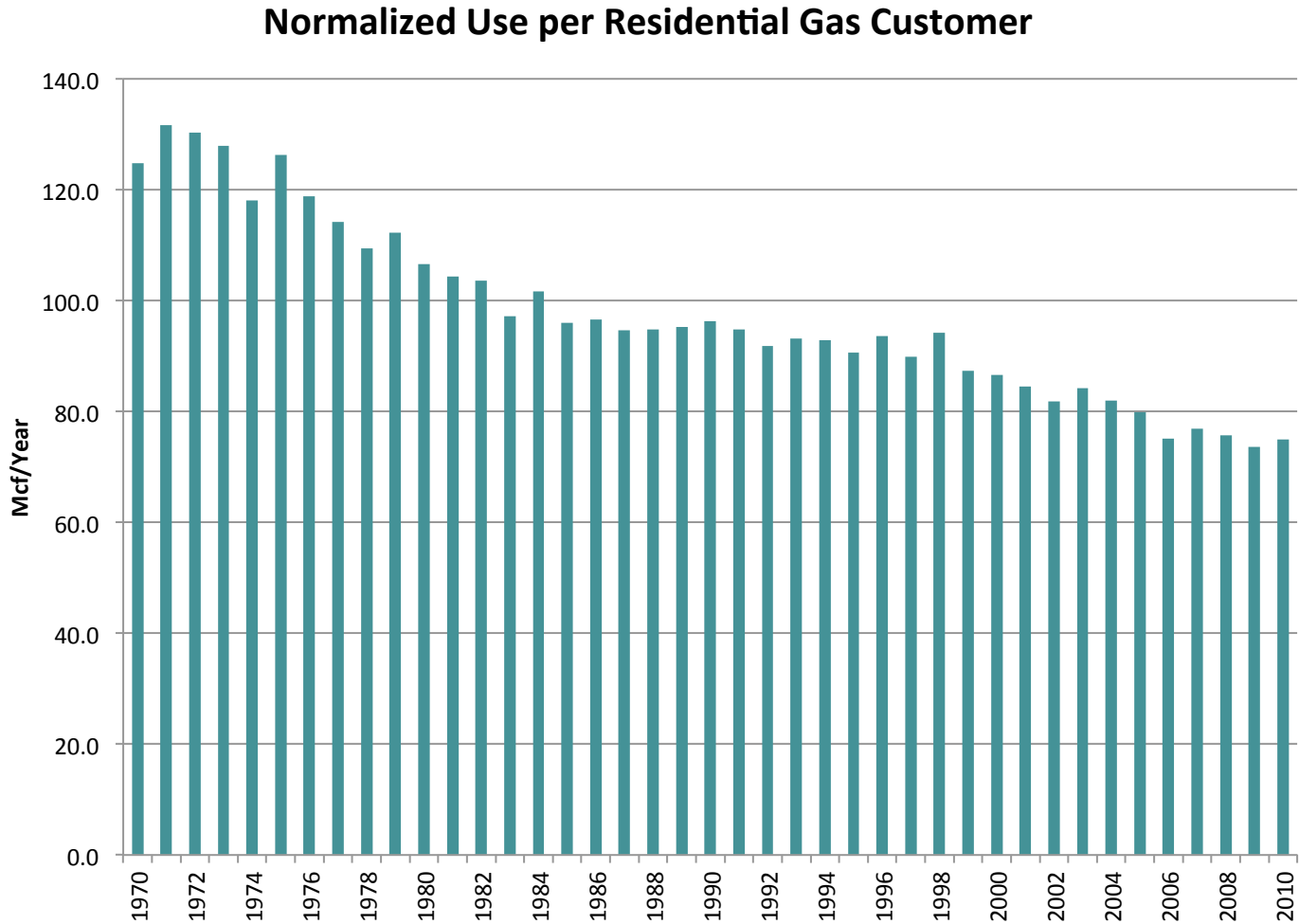
	<u>Participants</u>	<u>Miles of Pipe</u>	<u>Regulatory Regime</u>
<b>Producers</b>	5,000 Independents 21 Majors	0	Phased price deregulation began 1979; completed 1989
<b>Pipelines</b>	210	300,000	Federal Energy Regulatory Commission (FERC)
<b>Gas Marketers</b>	250	0	Unregulated
<b>Local Utilities</b>			
<b>IOU</b>	260	894,000	State Utility Commissions
<b>Municipal</b>	930	320,000	Local Governments
		<u>Consumption</u>	
<b>End Users</b>	Residential 65 million Commercial 5 million Industrial 200,000 Electric Utilities 500	5 Tcf 3 Tcf 7 Tcf 7 Tcf	Unregulated  Interstate - FERC Intrastate - State Commissions

Source: Dept. of Energy, Energy Information Administration, AGA

# U.S. Natural Gas Customer Usage and Investment (Distribution Sector)

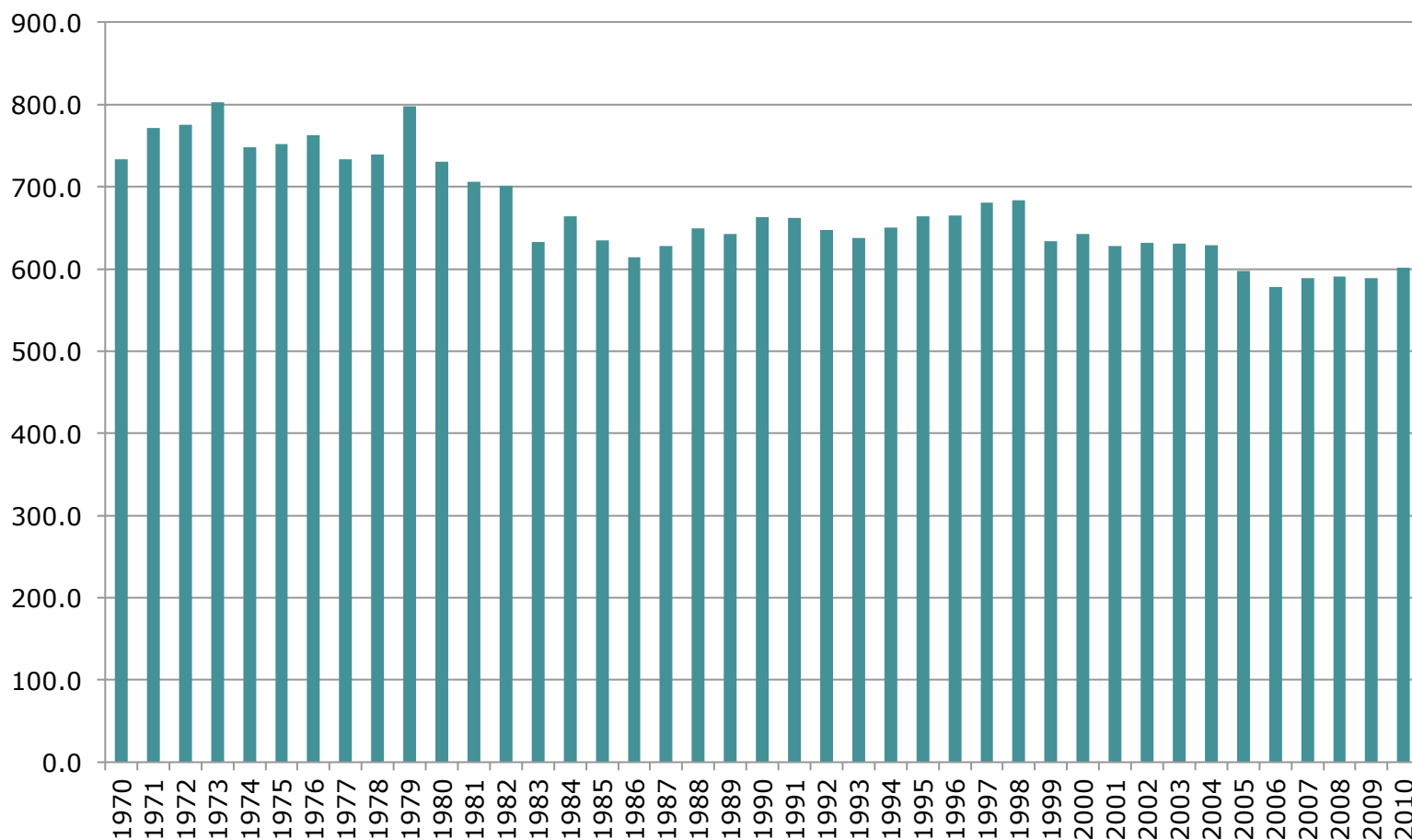
- 16 million new residential customers from 1980 to 2010
- \$124 billion in new construction from 1980 to 2010
- 1980 total residential consumption = 4.7 Tcf
- 2010 total residential consumption = 4.9 Tcf

# Declining Use per Residential Customer



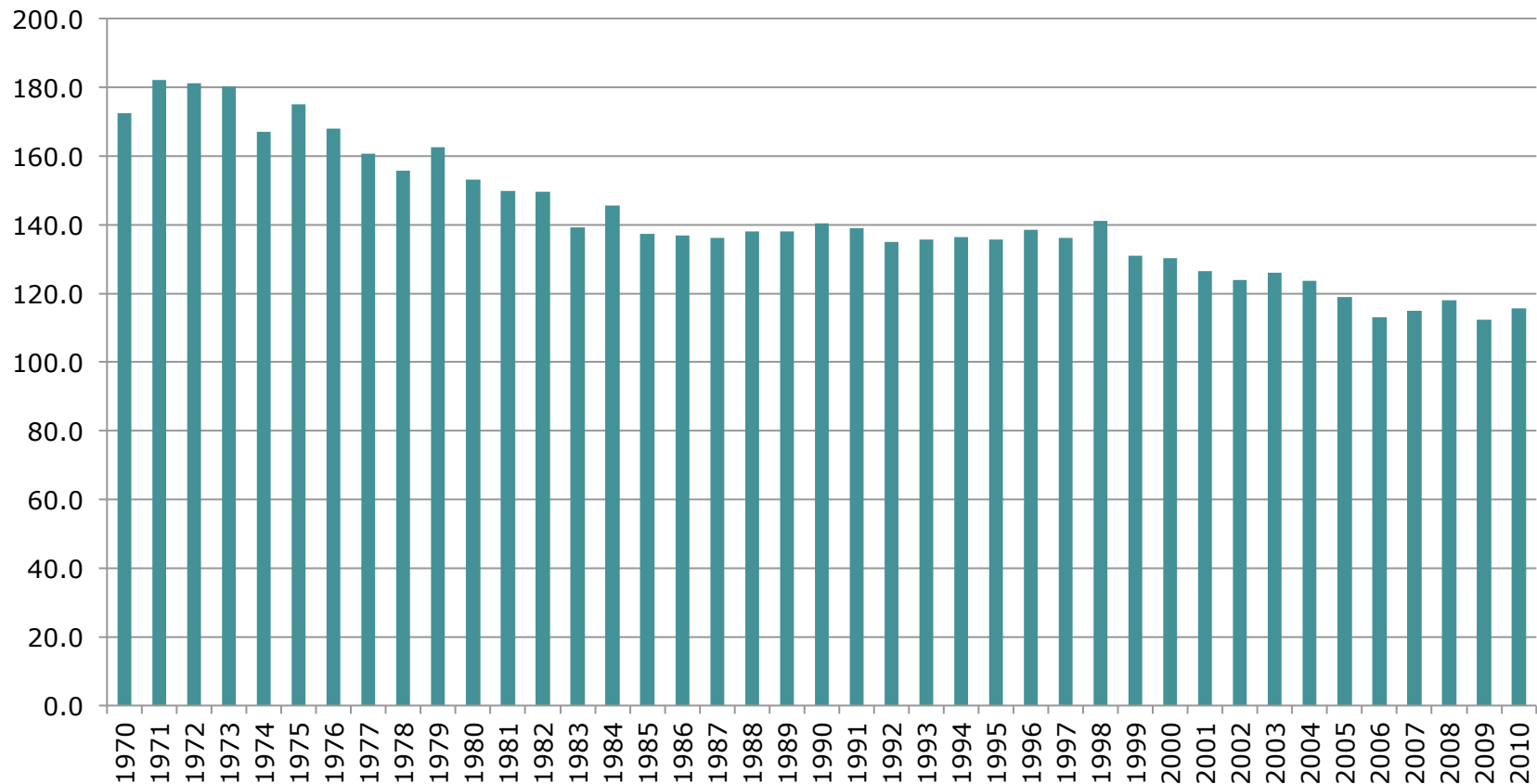
# Declining Use Per Commercial Customer

## Normalized Use Per Commercial Gas Customer



# Declining Use Per Residential and Commercial Customer

## Normalized Use Per Residential and Commercial Gas Customer



# Forecasting Needs of Natural Gas Utilities

- Forecasting is used to manage risk
- Gas load forecasting essential to setting rates
  - Short term – operations and matching supplies to load
  - Mid term – ratemaking, finance, construction
  - Long term – long range gas supply and construction
- Disaggregate res/comm into heating and basic loads
- Use per customer critical
- Greatly dependent on weather
  - Small change has major impact on forecast load
  - Adjust use/customer to normal weather
- For different climate zones or extensive territory, may use multiple weather adjustments



# The Use of HDDs in Natural Gas Ratemaking

- Virtually all utilities use heating degree day data in the ratemaking process
- Recent weather has been warmer than normal in all areas and has caused utilities expected sales volumes to be overstated in the rates
- Recent weather has been MUCH warmer in the warmer than normal years, and only SLIGHTLY colder in the few years that it has been colder than normal
- The normal distribution of 30 year HDDs no longer is a horizontal line, but an downwardly sloping line.

# Traditional Volumetric Rate Design

- Volumetric – each unit of **gas** is assigned a pro-rata share of **distribution** costs
- Implies **distribution** revenue recovery only if customers use forecasted gas volumes
  - Increasing gas commodity sales is a major objective
  - Contains a financial disincentive for aggressively promoting energy efficiency and commodity conservation

# Natural Gas Ratemaking Calculation

## Representative Example – Average Usage

**\$300,000,000 Annual Cost of Service**  
**1,000,000 Residential Customers**  
**3000 HDDs per customer per year**  
**100 Mcf per customer per year**

### Volumetric

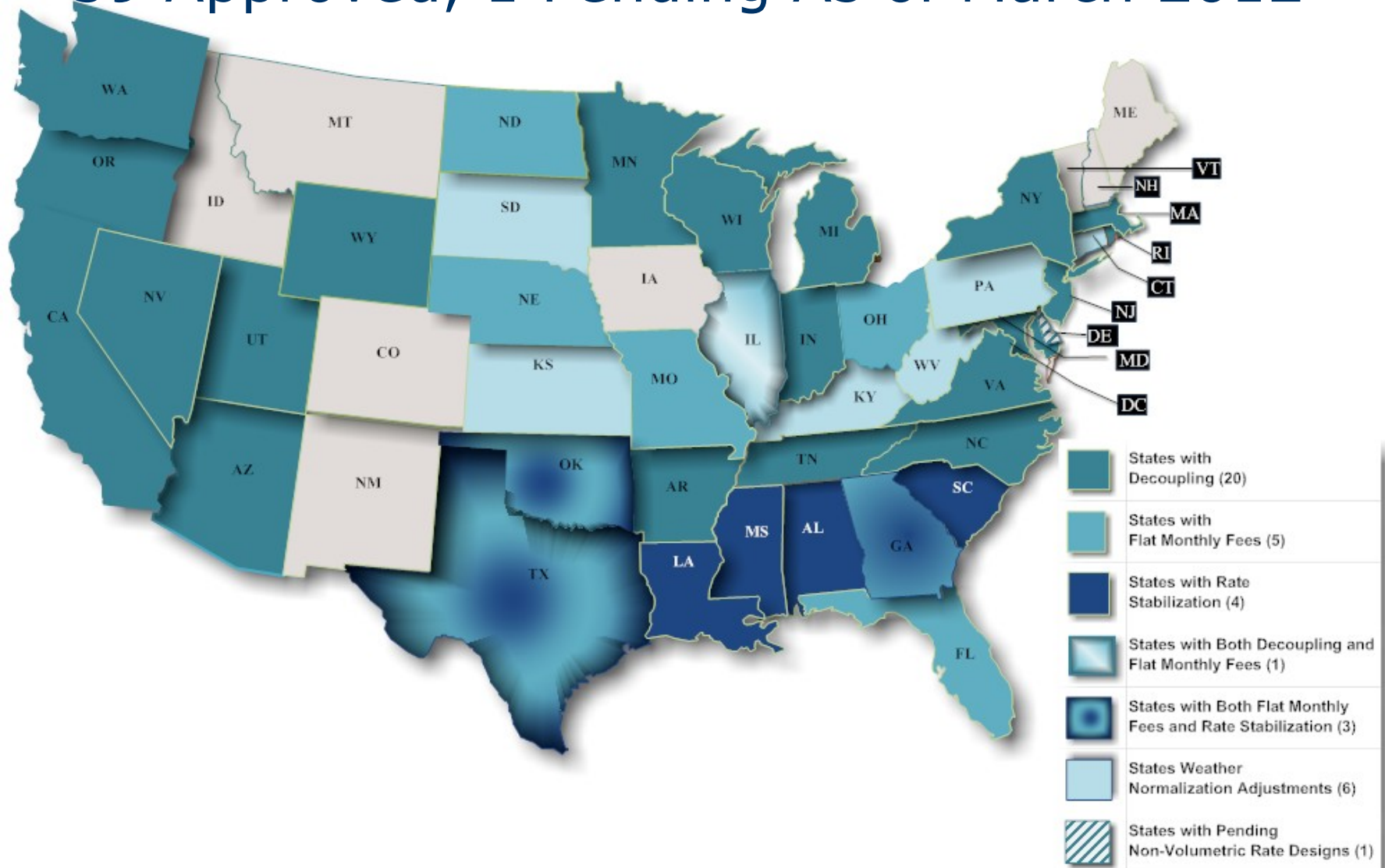
- 100,000,000 Mcf/yr - Total System Throughput
- \$3 Distribution Charge/Mcf

### Non-volumetric

- 1,000,000 Residential Customers
- \$300 Distribution Charge/customer

# States with Non-Volumetric Rates and WNA

## 39 Approved, 1 Pending As of March 2012



# Non-Volumetric and WNA Rates Remove Most Weather Impacts

## Total

- 112 utilities in 39 states serving 50 million customers

## Weather Normalization (partial decoupling)

- 55 utilities (49 in 2007) in 25 states and Canada serving 16 million US customers

## Revenue Decoupling

- 48 utilities (19 in 2007) in 21 states serving 30 million customers

## Rate Stabilization Tariffs

- 14 utilities (11 in 2007) in 7 states serving 6 million customers

## Flat Monthly Fee and Variants

- 15 utilities (4 in 2007) in 9 states serving 9 million customers

# Use of NOAA 30-Year Normals by Utilities

- Nearly all use NOAA data
  - Hourly, daily, or monthly
- Very few use NOAA 30-year normal
- 2012 AGA survey
  - 25 utilities, 18 states, 1 Canadian province
  - Only one utility using unadjusted 30-year normals
  - Some use own data from own data stations
  - Many use 10 year, or 15, or 20 years of data
  - Many use a rolling time period
- Utilities using expert witnesses in rate cases to show that NOAA 30-year normal is not predictive of future HDDs

# Modernization of NOAA Climate Normals

- All users need data that is timely, accurate, and consistent
- All utilities want data that provides the best indicator of near-term future weather conditions
- The natural gas industry, regulators, and customers would all benefit from normals that are more representative of current climate
  - Shorter period normals, i.e., 20, 15, and 10-year periods
  - Rolling time periods
  - Annual updates of climate normals
  - Dynamic normals

# Items to Consider in the Calculation of NOAA Climate Normals

- First order weather stations vs. remote locations and weather differences across a service territory
- Wet bulb versus dry bulb measurements
- Use of 24-hour data vs. max-min data
- Current HDD calculation methodology cannot be updated
- Rounding Error





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