

# Uncovering the US Natural Gas Commercial Sector

Energy Analysis & Standards  
American Gas Association



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## Commercial Sector Facts

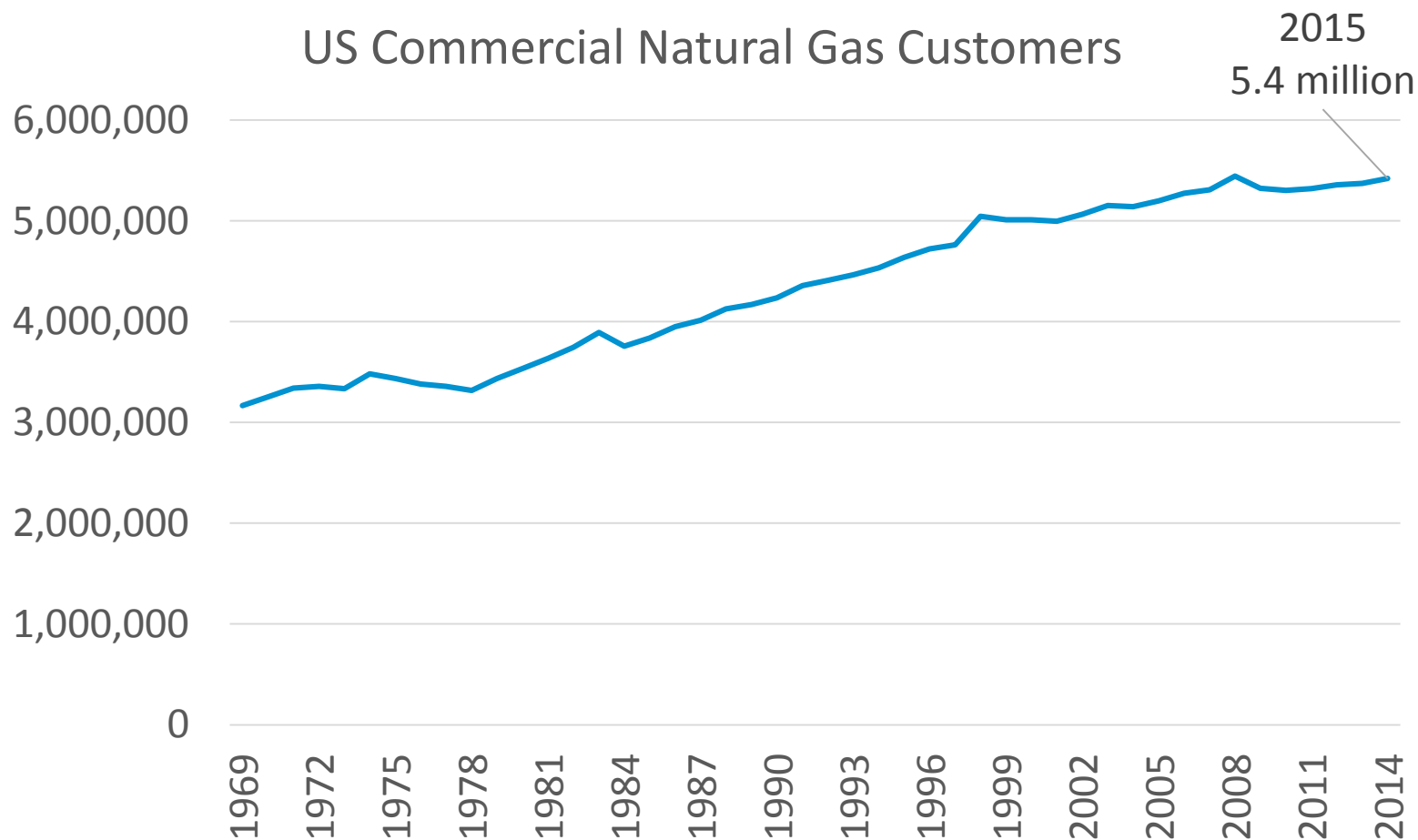
- Natural gas is 18% of commercial energy consumption
- Gas utilities serve 99 percent of volumes delivered

# What is the commercial sector?

(Almost everything we're doing when we're not at home.)

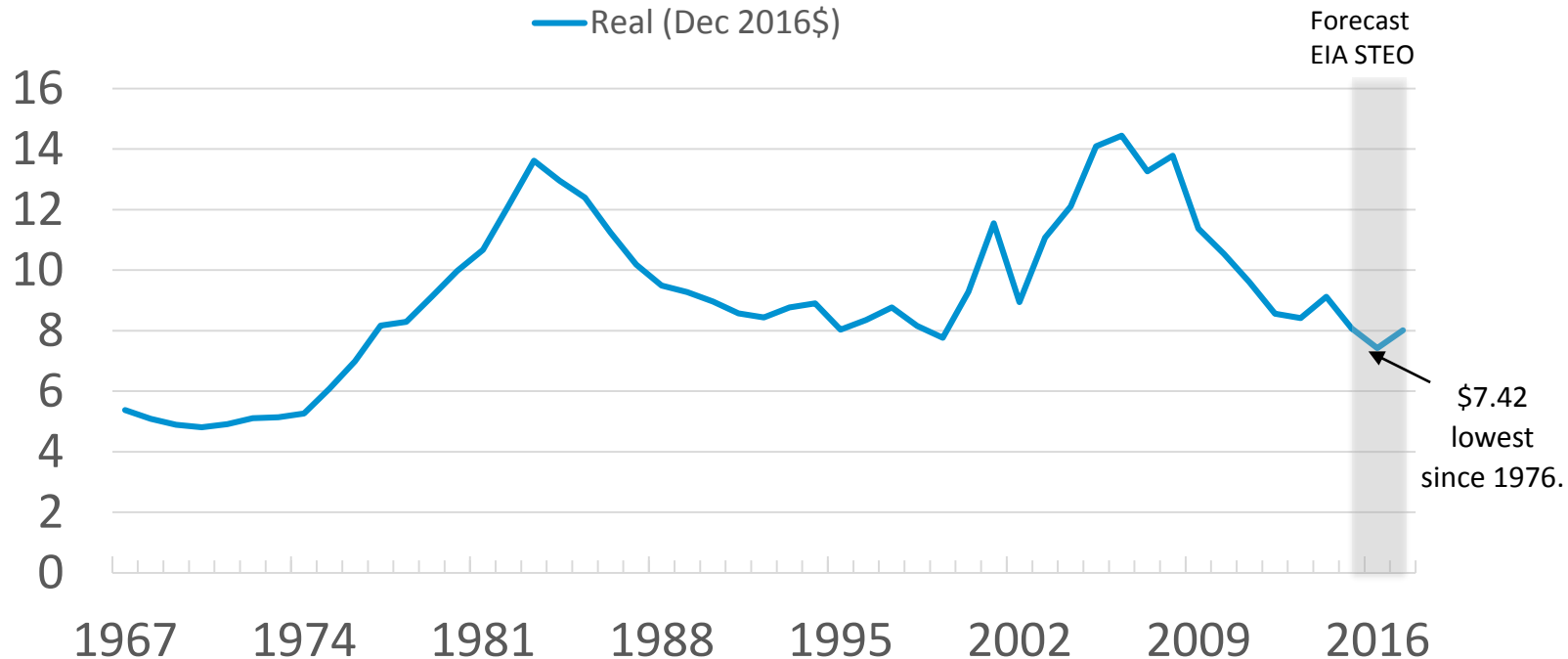
<b>Education</b>	<b>Nonrefrigerated warehouse</b>	<b>Public order and safety</b>
College/university	Distribution/shipping center	Fire station/police station
Elementary/middle school	Non-refrigerated warehouse	Other public order and safety
High school	Self-storage	Courthouse/probation office
Preschool/daycare	<b>Nursing</b>	<b>Refrigerated warehouse</b>
Other classroom education	Nursing home/assisted living	<b>Religious worship</b>
<b>Enclosed mall</b>	<b>Office</b>	Religious worship
<b>Food service</b>	Administrative/professional office	<b>Retail other than mall</b>
Fast food	Bank/other financial	Vehicle dealership/showroom
Restaurant/cafeteria	Government office	Retail store
Other food service	Medical office (non-diagnostic)	Other retail
Bar/pub/lounge	Mixed-use office	<b>Service</b>
<b>Food sales</b>	Other office	Post office/postal center
Convenience store	<b>Other</b>	Repair shop
Convenience store w/ gas station	<b>Outpatient Health Care</b>	Vehicle service/repair shop
Grocery store/food market	Medical office (diagnostic)	Vehicle storage/maintenance
Other food sales	Clinic/other outpatient health	Other service
<b>Inpatient health care</b>	<b>Public assembly</b>	<b>Strip shopping mall</b>
Hospital/inpatient health	Entertainment/culture	
<b>Laboratory</b>	Library	
<b>Lodging</b>	Recreation	
Dormitory/fraternity/sorority	Social/meeting	
Hotel	Other public assembly	
Model or inn		
Other lodging		

# More than 5.4 million natural gas commercial customers.



# Inflation-adjusted Prices to Commercial Customers the *Lowest* since the Ford Administration

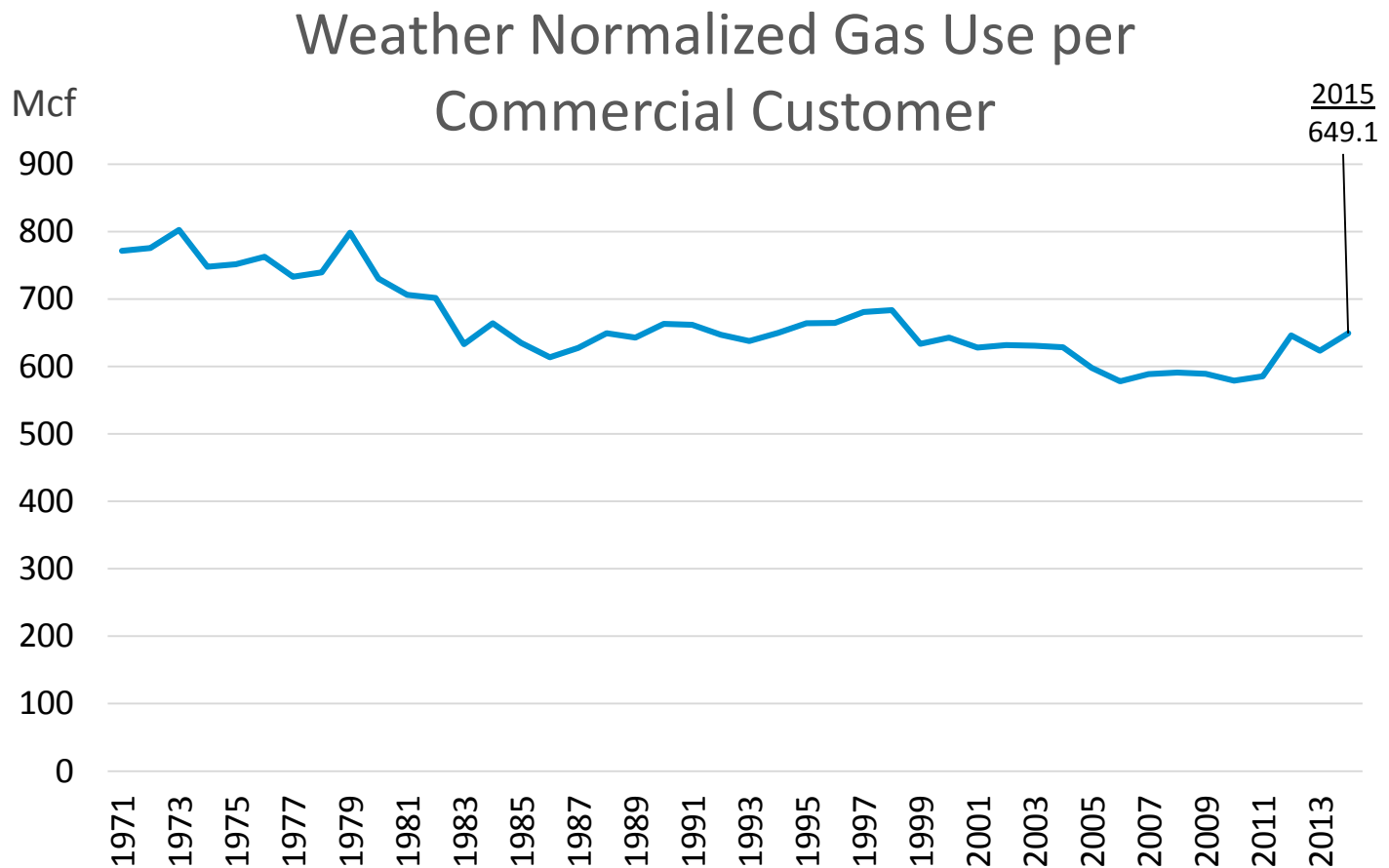
## Natural Gas Prices to Commercial Customers



Source: Energy Information Administration, Short-Term Energy Outlook (Dec. 2016)

# Efficiency is core to the US natural gas commercial market.

Gas consumed by the average commercial customer declined significantly and steadily during past four decades.



Technology / Market Application Summary Chart										
Market Segment										
Technology	Colleges & Universities	Elder Care	Food Service	Health Care	Lodging	Multi-Family	Niche Buildings	Office Buildings	Retail	Schools K-12
Boilers	●	●	●	●	●	●	●	●	●	●
PTAC's	●	●			●	●		●		●
Make Up Air		●	●	●	●		●	●	●	●
Infrared Heaters			●		●				●	
In-Suite Systems		●			●	●		●		
Water Heaters	●	●	●	●	●	●	●	●	●	●
Booster Heaters	●	●	●	●	●					●
Snow Melt Systems	●	●	●	●	●	●	●	●	●	●
Cooking Equipment	●	●	●	●	●	●				●
Absorption Cooling	●	●	●	●	●	●	●	●	●	●
Engine Drive Equipment	●	●	●	●	●	●	●	●	●	●
Thermal Storage	●			●	●			●		●
Desiccants	●	●	●	●	●	●	●	●	●	●
Humidification	●	●	●	●	●	●	●	●	●	●
Emergency Generators	●	●	●	●	●	●	●	●	●	●
CHP	●	●	●	●	●	●	●	●	●	●
CSST		●	●		●	●			●	●
Outdoor Grills			●			●		●		
Patio Heaters			●		●	●		●		
Fireplace Log Sets			●		●	●		●		
Gas Lights / Torches			●		●	●		●		
Pool Heaters						●	●			
Laundry Equipment					●	●	●			
Thermal Fluid Heaters							●			

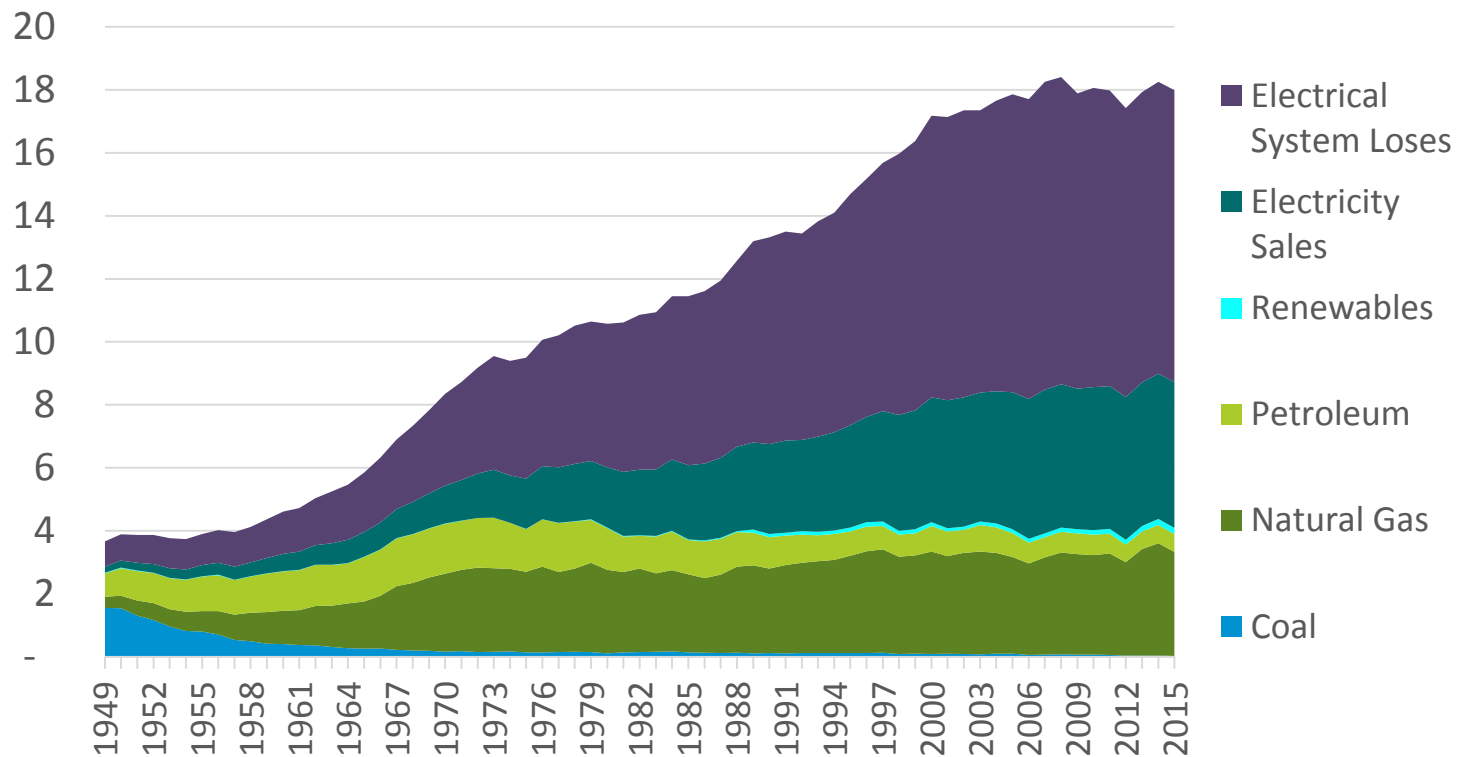
There are many different technologies for use in a variety of market applications within the commercial sector. Different segments have specific requirements.

Courtesy of the Energy Solutions Center

# Electrical system losses account for more than half of primary energy consumption in commercial sector.

## Commercial Sector Energy Consumption

Quadrillion BTU



Source: Energy Information Administration



# Commercial building numbers & space grew during the past decade, with some exceptions.

**Commercial Building Square Footage by Type (Million Sq. Ft.)**

	2003	2012	Change	
<b>Grand Total</b>	<b>71,658</b>	<b>88,175</b>	<b>16,517</b>	<b>23%</b>
Office	12,208	16,115	3,907	32%
Nonrefrigerated warehouse	9,552	12,689	3,137	33%
Education	9,874	12,407	2,533	26%
Public assembly	3,939	5,531	1,592	40%
Retail other than mall	4,317	5,437	1,121	26%
Strip shopping mall	4,864	5,085	222	5%
Religious worship	3,754	4,760	1,005	27%
Service	4,050	4,743	692	17%
Lodging	4,113	4,447	334	8%
Vacant	2,567	3,257	690	27%
Inpatient health care	1,905	2,352	448	23%
Food service	1,654	1,927	274	17%
Outpatient Health Care	1,258	1,780	523	42%
Other	1,085	1,543	459	42%
Public order and safety	1,090	1,535	445	41%
Nursing	983	1,275	292	30%
Food sales	1,255	1,252	-4	0%
Enclosed mall	2,011	869	-1,143	-57%
Laboratory	654	729	76	12%
Refrigerated warehouse	526	441	-85	-16%

Source: US Energy Information Administration, Commercial Energy Buildings Consumption Survey

The share of buildings that use natural gas has remained relatively constant across the entire commercial building fleet. This suggests commercial natural gas growth has reflected an expansion of the entire market.

#### Commercial Floorspace, Natural Gas Share by Type

	Share of Buildings		Change (% Points)	
	2003	2012		
<b>Grand Total</b>	<b>68%</b>	<b>68%</b>		<b>0%</b>
Enclosed mall	78%	92%		14%
Inpatient health care	95%	89%		-6%
Strip shopping mall	71%	86%		16%
Lodging	81%	84%		3%
Nursing	92%	83%		-9%
Education	71%	78%		7%
Food service	84%	78%		-6%
Public order and safety	58%	72%		14%
Public assembly	69%	70%		1%
Food sales	60%	68%		8%
Religious worship	70%	68%		-2%
Outpatient Health Care	59%	66%		7%
Office	67%	65%		-3%
Other	76%	63%		-13%
Service	62%	62%		0%
Retail other than mall	66%	62%		-4%
Refrigerated warehouse	76%	59%		-17%
Laboratory	65%	56%		-9%
Nonrefrigerated warehouse	53%	54%		0%
Vacant	46%	27%		-19%

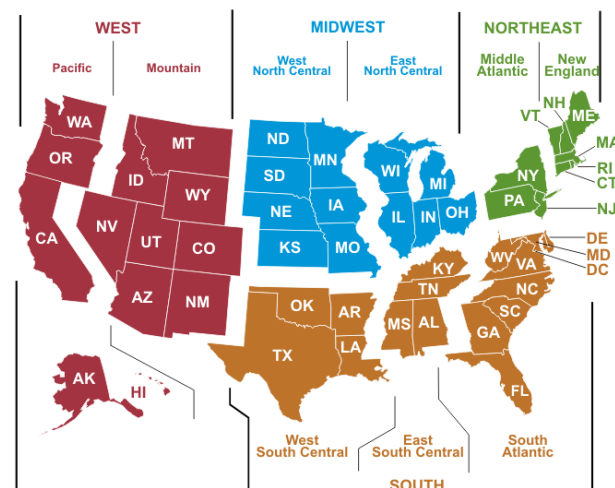
Source: US Energy Information Administration, Commercial Energy Buildings Consumption Survey

# There are more commercial buildings in the South, but Midwest retains the highest natural gas share.

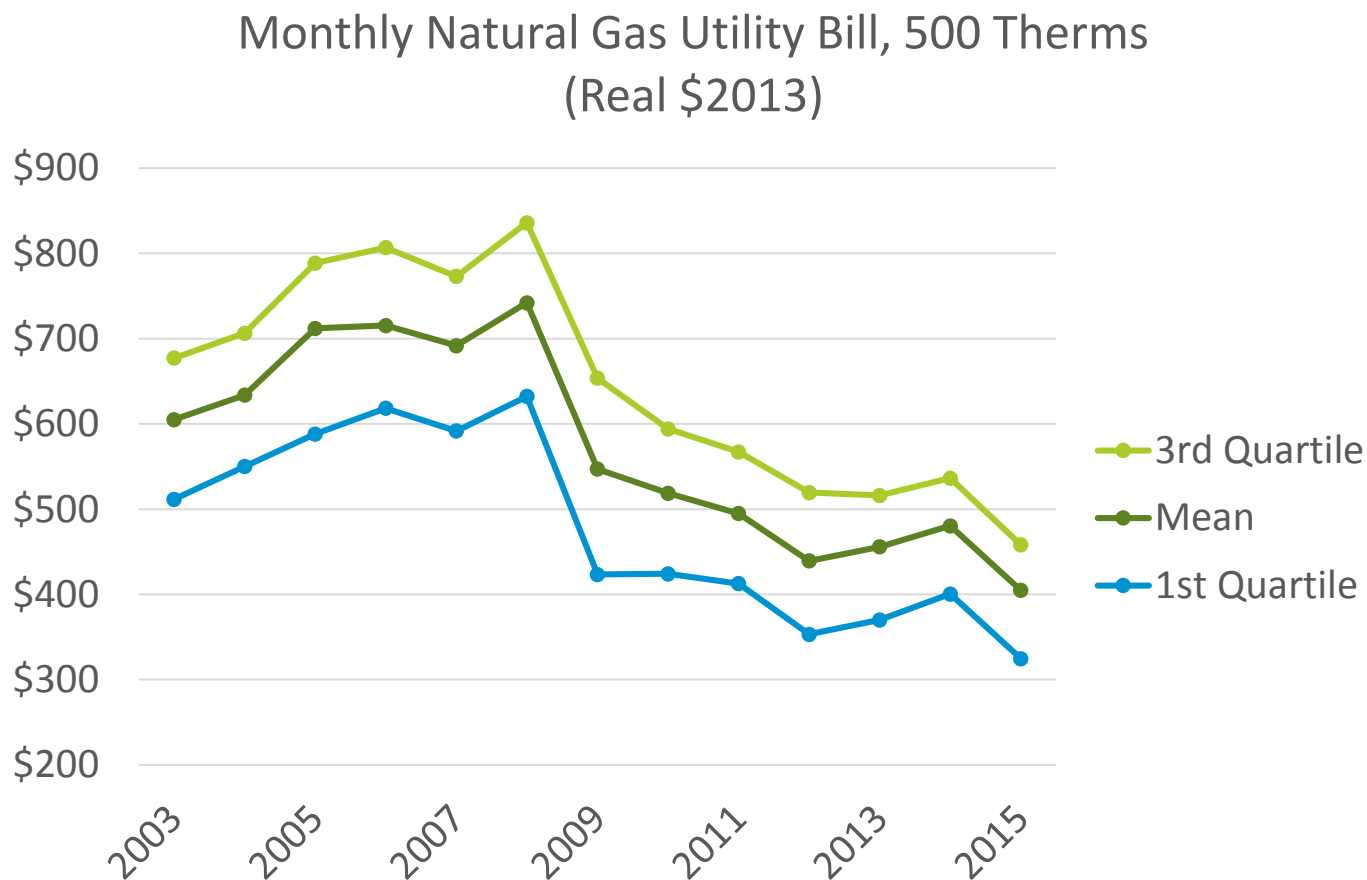
US Commercial Sector All Buildings & Floorspace, Natural Gas Share, by Region

	Total Buildings (Thousands)	Natural Gas Used, Share of Total Buildings	Total Floorspace (Billion Sq. Ft.)	Natural Gas Used, Share of Floorspace
New England	302	32%	4.4	53%
Middle Atlantic	504	67%	11.7	78%
East North Central	735	78%	13.0	85%
West North Central	502	53%	6.4	70%
South Atlantic	1,091	35%	18.0	55%
East South Central	370	52%	4.9	70%
West South Central	786	47%	11.5	57%
Mountain	338	64%	4.9	75%
Pacific	929	53%	13.5	67%
<b>Grand Total</b>	<b>5,557</b>	<b>53%</b>	<b>88.2</b>	<b>68%</b>

Source: US Energy Information Administration, Commercial Energy Buildings Consumption Survey

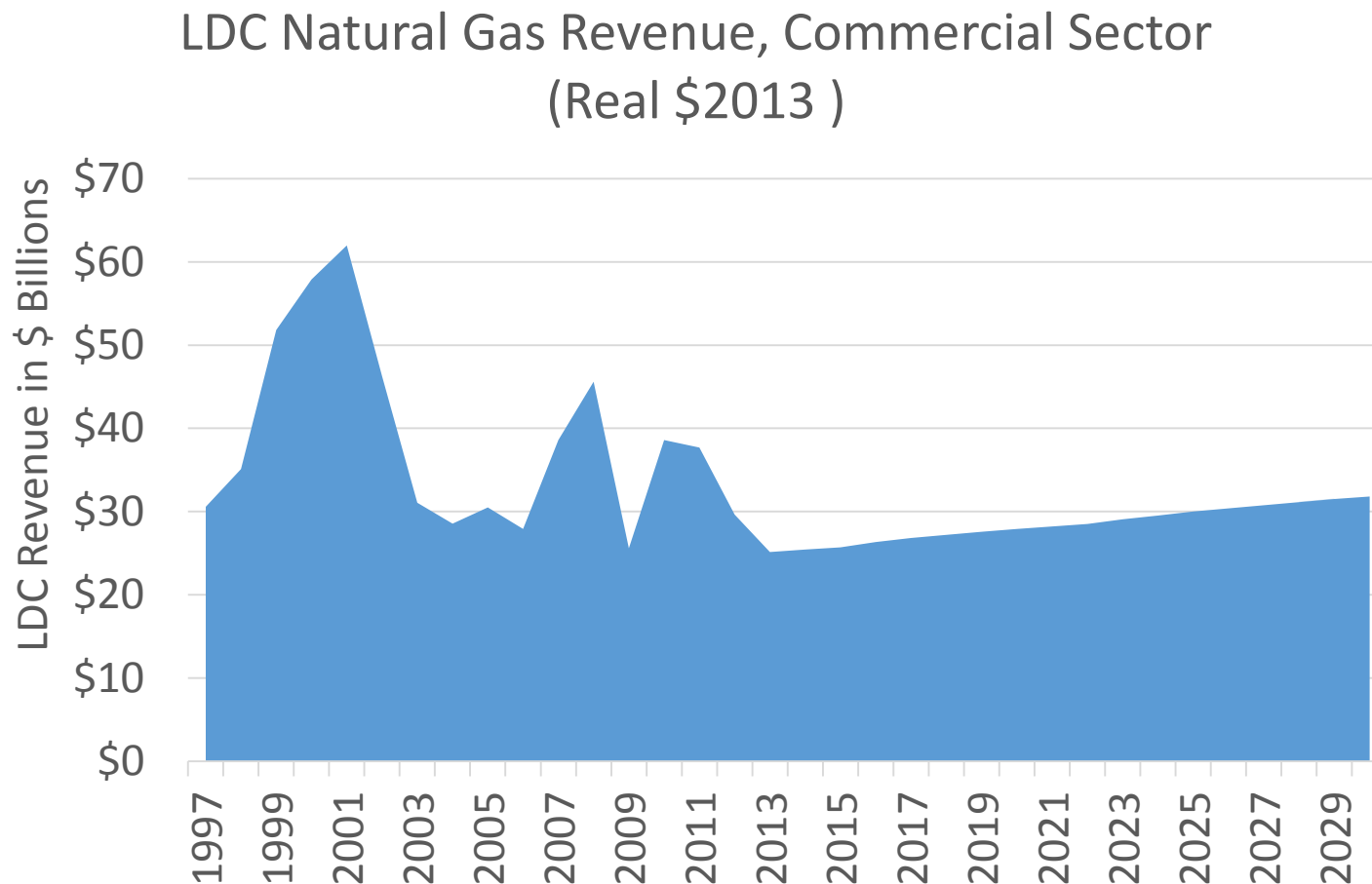


# Commercial gas utility bills arrived at a new low in 2015.



Source: AGA Quarterly Bill Comparison Report; Q1 2003 through Q4 2015

## Past revenue to LDC largely determined by price. Projections anticipate steady increase.

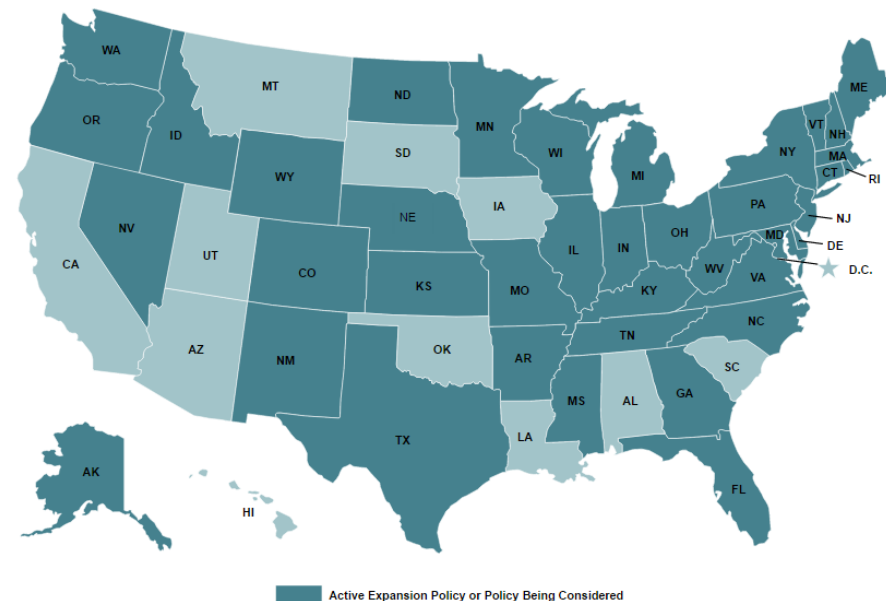


Source: Regional Economic Modeling Incorporated, AGA

# There are clear opportunities to expand natural gas service to commercial customers

- Leverage natural gas as a tool for economic growth.
- Promote new technologies to improve energy services, lower costs, and reduce emissions.
- Replace heating oil with natural gas, especially in the northeastern US.
- Leverage existing efficiency programs to meet broader economic or environmental policy goals.

Thirty-nine states have an active expansion program or policy being considered





[www.aga.org/commercialsector](http://www.aga.org/commercialsector)