

Committee on Gas

NARUC  Summer
Policy Summit

Committee on Gas and Committee on Consumer Affairs

Rural and Underserved Areas:
Natural Gas Access and Expansion
Initiative



NARUC Summer Policy Summit

Natural Gas Access & Expansion Initiatives



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.

Modernizing our Infrastructure

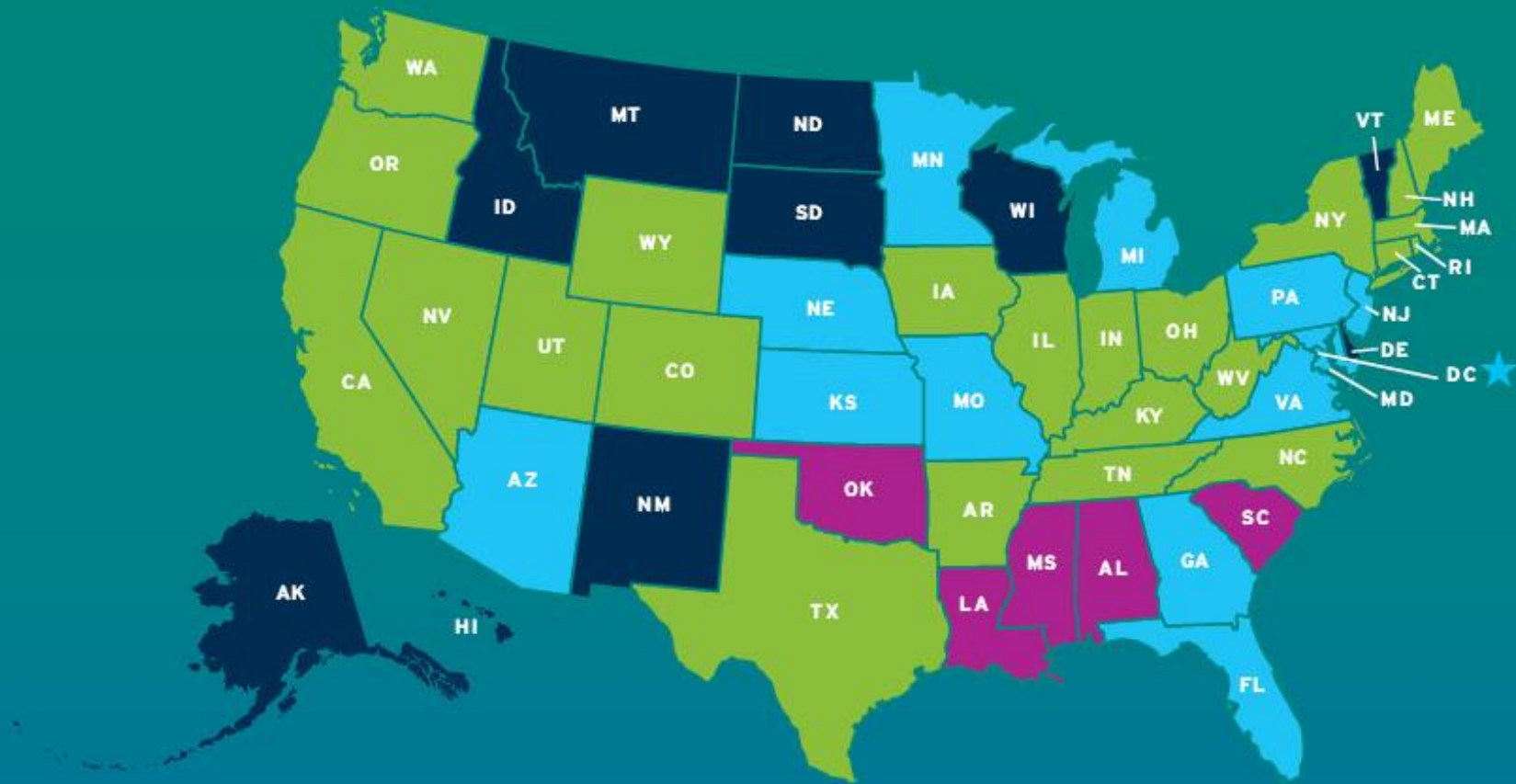
All natural gas utilities upgrade and modernize their infrastructure through enhanced risk-based integrity management programs.

- Working with governors, legislators and state regulators utilities have developed **innovative models** for making these types of capital investments possible
- This work is being facilitated by legislative and regulatory policies which establish **innovative rate mechanisms** which allow for the accelerated replacement and modernization of pipelines no longer fit for service
- States address the issue differently
- The overall trend is positive
- The basis for these decisions is always centered on ensuring safety and reliability at **just and reasonable rates** for consumers

42
States

42 states including the District of Columbia have specific rate mechanisms that foster accelerated replacement of pipelines no longer fit for service.

States with Innovative Infrastructure Cost Recovery Mechanisms



● Cost Recovery Tracker (23) ● Surcharge (13) ● Rate Stabilization Mechanism (5)
● Limited to No Cast Iron or Bare Steel Inventory (10)

* As of December 2016

Pipeline Expansion

The background is a solid teal color. On the left side, there are several blue arrows of varying lengths and directions, some pointing right and some pointing up or down. On the right side, there is a white geometric pattern consisting of a series of interconnected triangles and diamonds, creating a sense of depth and movement.

Potential Gas Committee (PGC) Biennial Assessment

Key highlights:

- Undiscovered technically resource assessment of 2,817 Tcf is a record and exceeds the year-end 2014 metric by 12 percent.
- Total future supply of natural gas now exceeds 3,100 Tcf (resources and domestic proved reserves combined) and is also a record.
- PGC has been doing resource assessments for 52 years.
- The eastern US is now the largest resource area.
- Shale gas now accounts for 64 percent (nearly two-thirds) of entire PGC resource assessment.

Smart Modernization

The concept that infrastructure replacement programs, if designed and coupled properly, provide opportunity to put new technology in the ground which could provide for greater capacity and pressure in a given area. With greater capacity, utilities are better positioned to expand to serve more customers.



Extending the Benefits of Natural Gas



40 states have adopted or considered innovative expansion proposals, and that number continues to grow. (AGA Infrastructure Expansion Compendium)

Natural gas delivers cost savings and environmental benefits across the nation.

Many states are now looking at ways to expand natural gas infrastructure to more citizens and businesses

Many States Are Now Looking at Ways to Expand Natural Gas Infrastructure



Mississippi

Mississippi has a Supplemental Growth Rider for Atmos Energy Corp. and CenterPoint Energy to support economic development and job creation by providing the incentive to extend gas service to projects previously viewed as economically infeasible.



Pennsylvania

Pennsylvania's Growth Extension Tariff (GET Gas) program allows UGI, PECO Energy Co., Columbia Gas of Pennsylvania and Peoples Gas to have innovative programs to manage the costs of extending natural gas service to new customers in the state.



Connecticut

Connecticut Natural Gas, Southern Connecticut Gas and Eversource Energy have a cost recovery mechanism to finance the tens of millions of dollars they have proposed to spend to connect 280,000 customers to natural gas pipelines over the course of the next 10 years.

Pipelines Bring Opportunity

- Pockets of this country do not have access to natural gas
- Homes, businesses, factories and electric generators have the capacity to efficiently utilize more natural gas
- Gas utilities are working with energy planners, regulators and policymakers to bring the comfort and savings of natural gas to these new customers.



3 Years

*An interstate natural gas pipeline construction or expansion project takes an average of about **three years** from the time it is first announced until the new pipe is placed in service.*



Economic Implications & Development Opportunities

Natural gas utility commercial customers have benefited from a reliable lower cost of service. In 2015, commercial customers' utility bills reached a new low of \$405 on average, the lowest since AGA began collecting data in 2003.

In the near term, 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 comply with broader economic or environmental policy goals.

[*AGA Report: *Uncovering the U.S. Natural Gas Commercial Sector—January 2017*](#)



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National Association of Regulatory Utility Commissioners

Rural and Underserved Areas – Natural Gas Access and Expansion Initiatives

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Gas Midstream Technical Practice Group Lead

AECOM

July 2017

AECOM

Rural and Underserved Areas – Natural Gas Access and Expansion Initiatives

Why is this Important?

Energy Security – Natural gas is domestically produced and expansion can cut our dependency on imported hydrocarbons such as oil imports. US LNG exports can provide a strategic contribution to global energy markets that we influence.

Economic Development – Long term natural gas supply at competitive prices is a key factor in the siting of most all industrial development clusters including advanced manufacturing, petrochemical processing plants requiring gas as a feedstock and other energy intensive and advanced manufacturing industries that create jobs.

Community Development and Sustainability – Natural gas is a preferred choice for primary residential and commercial energy needs including water heating, space heating, and cooking which can account for 60% or more of annual consumer utility bills. Natural gas is a sustainable product produced from the earth with no EPA pollutant emissions.

Transportation – Natural gas fueled fleets are economical, efficient, and provide environmental benefits

Environmental – Emissions from natural gas fired turbines and boilers in the power generation and industrial sector now compete with coal and fuel oils in terms of efficiency, cost, and supply as well as offer additional environmental emission reduction benefits

Why is this Important?

WASHINGTON, D.C., June 27, 2017

API RELEASES 50-STATE ANALYSIS OF NATURAL GAS BENEFITS

Key findings in the report include: Consumer Savings

By 2040, consumers across the country will save an estimated \$100 billion, or \$655 per household, from the increased use of natural gas throughout our economy – from manufacturing to generating affordable electricity. Natural Gas Value Chain (NGVC) Basis

<http://www.api.org/news-policy-and-issues/news/2017/06/27/api-releases-50-state-analysis-of-natural-gas-benefits>

Why is this Important?

NATURAL GAS – “THE PRINCE OF HYDROCARBONS” HAS A GREAT STORY TO TELL:

- **Economic benefits**

- Lower prices to consumers and businesses

- Creation of domestic energy jobs

- New technologies are improving efficiency in all of the NGVC (from production to the burner tips)

- **Environmental Benefits**

- Natural Gas is a Clean burning fuel, the stoichiometric combustion by products are:



- Lower emissions for electricity generation and industrial processes help these sectors to achieve air emissions standards and permit requirements

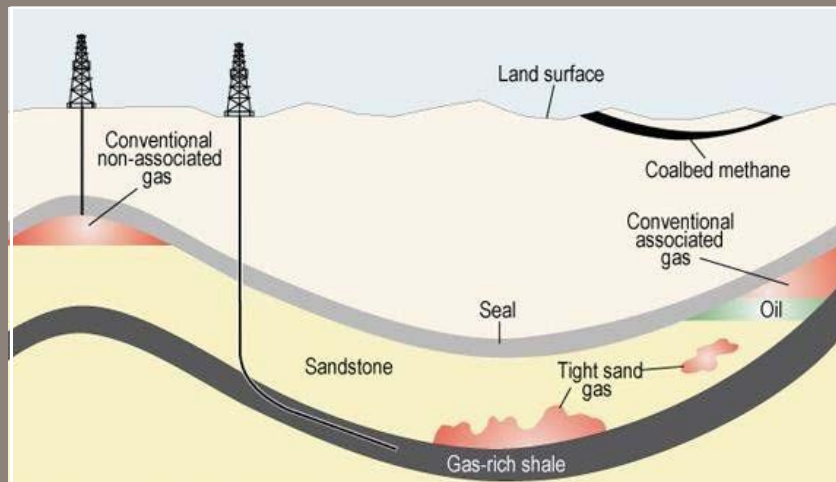
Why is this happening now? Technology Advances

Technology Advances Continue in Gas Production:

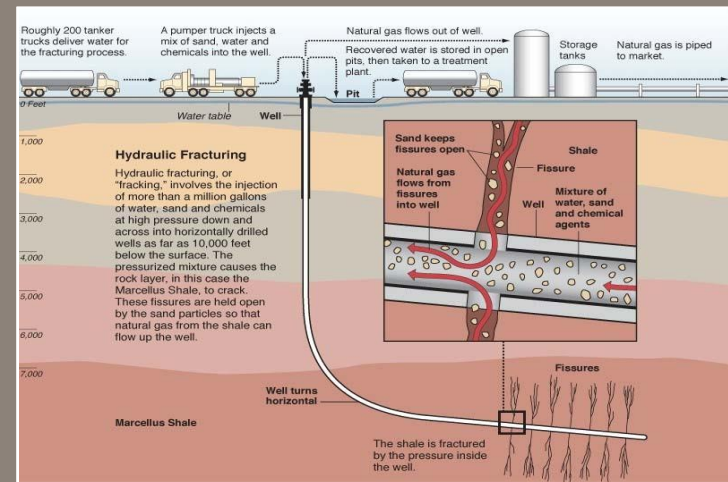
1. Horizontal drilling
2. Hydraulic fracturing

These two technologies have allowed drillers access to large volumes of shale gas that were previously considered uneconomical to produce.

Productivity and Efficiency Gains Continue to Improve Exponentially



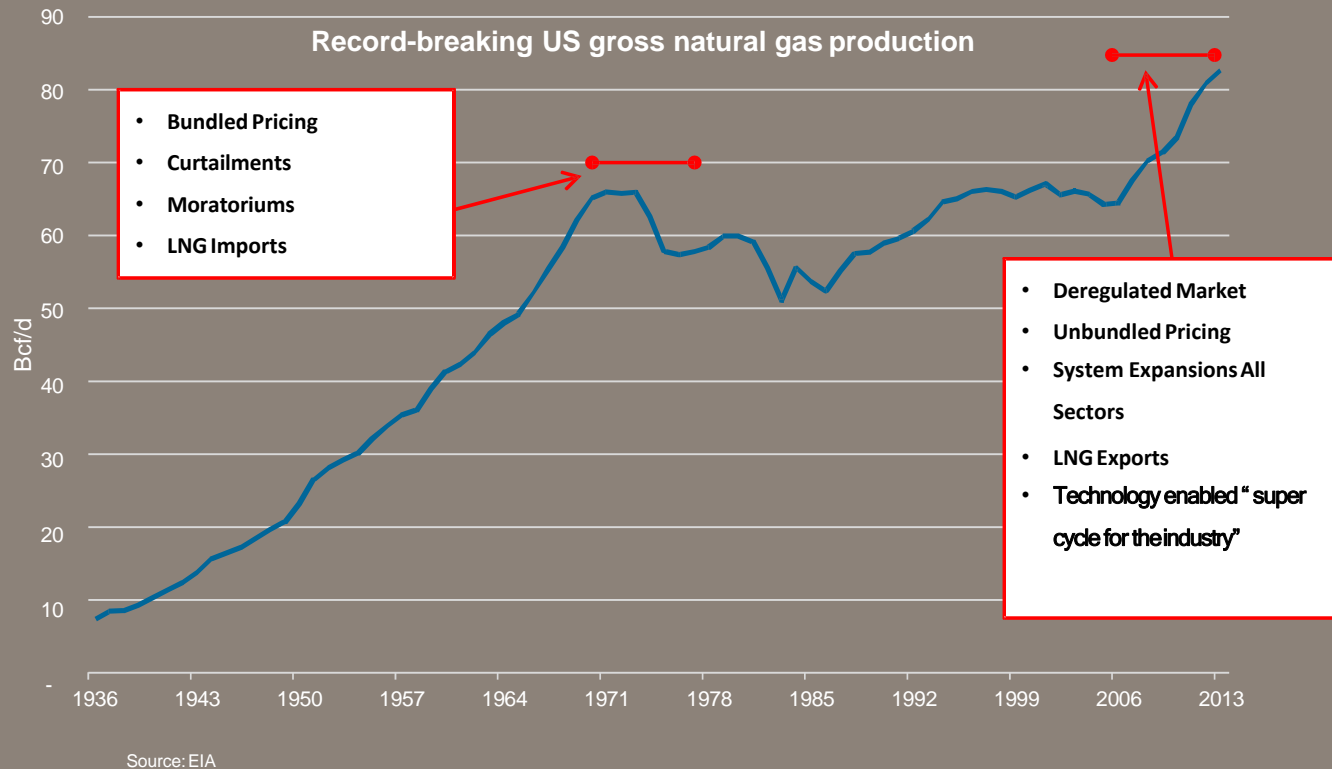
Source: EIA



Source: www.Propublica.org

AECOM

Historic Look: United States gas production is at all-time highs



Why is this happening now?

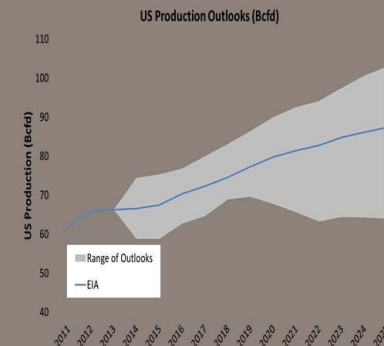
Three Drivers

- Price
- Supply
- Demand

Competitive Prices are forecasted for all market sectors

Proven Long Term Supply Exists

Source: Energy Information Administration – Annual Energy Outlook



Why is this happening now?

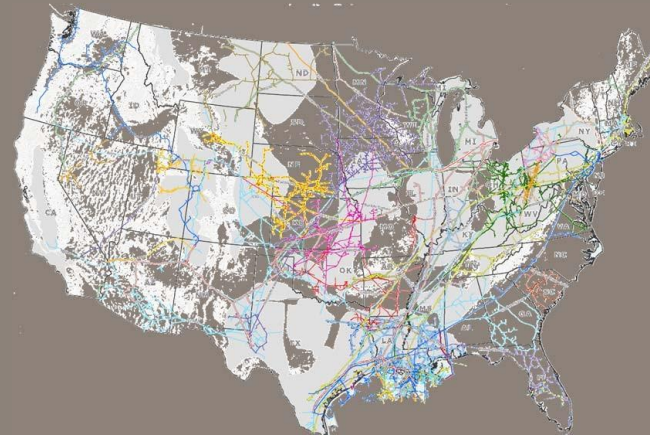
Demand

Natural gas infrastructure provides a platform for expansion and new jobs in rural and underserved areas

Demand Driven by:

- Stable Gas Supply and Low-cost gas
- Air Emissions Improvement Projects for Power and Industrial Sectors
- New Power Generation Projects
- On shoring of industrial plants dependent on natural gas as a feedstock
- LNG exports
- Economic Growth

**US Pipelines Provide
A Robust and Secure Domestic Delivery
Infrastructure**



- **Safety** The Gas Industry Has a Proven Track Record for safe and efficient product delivery and is investing in integrity of the infrastructure



A proven record of planning, design, and building natural gas infrastructure in all market segments

CAPEX - 2016 study commissioned by the Interstate Natural Gas Association of America (INGAA) Foundation Projects \$26 billion/year, or \$546 billion to 2035, to build new infrastructure.

OPEX - It is estimated that an additional \$12-15 billion /year will be required to address op-ex programs to include asset integrity management, asset maintenance and regulatory requirements.

Issues Facing Gas System Expansion Into Rural and Underserved Areas

Midstream and Transmission – The ability to plan, permit and construct cross country pipelines is being challenged at the federal, local and state level. Opposition and tactics have dramatically increased by NGO's. This affects the longer term planning and permitting phases of a project.

Distribution and LDC – For gas main extensions return on investment from investor owned utilities is the policy basis for expansion. LDC's have the greatest opportunity to influence service to rural and underserved areas. Creative partnerships at the LDC level in the planning (1) and market analysis (2) phase are critical. LDC's provide the "last mile" particularly for residential, underserved consumers

Consumers – Contributions to Construction and Costs to convert to natural gas utilization



Issues

Design, permitting, construction for large interstate pipeline projects

Capital Intensive Investments

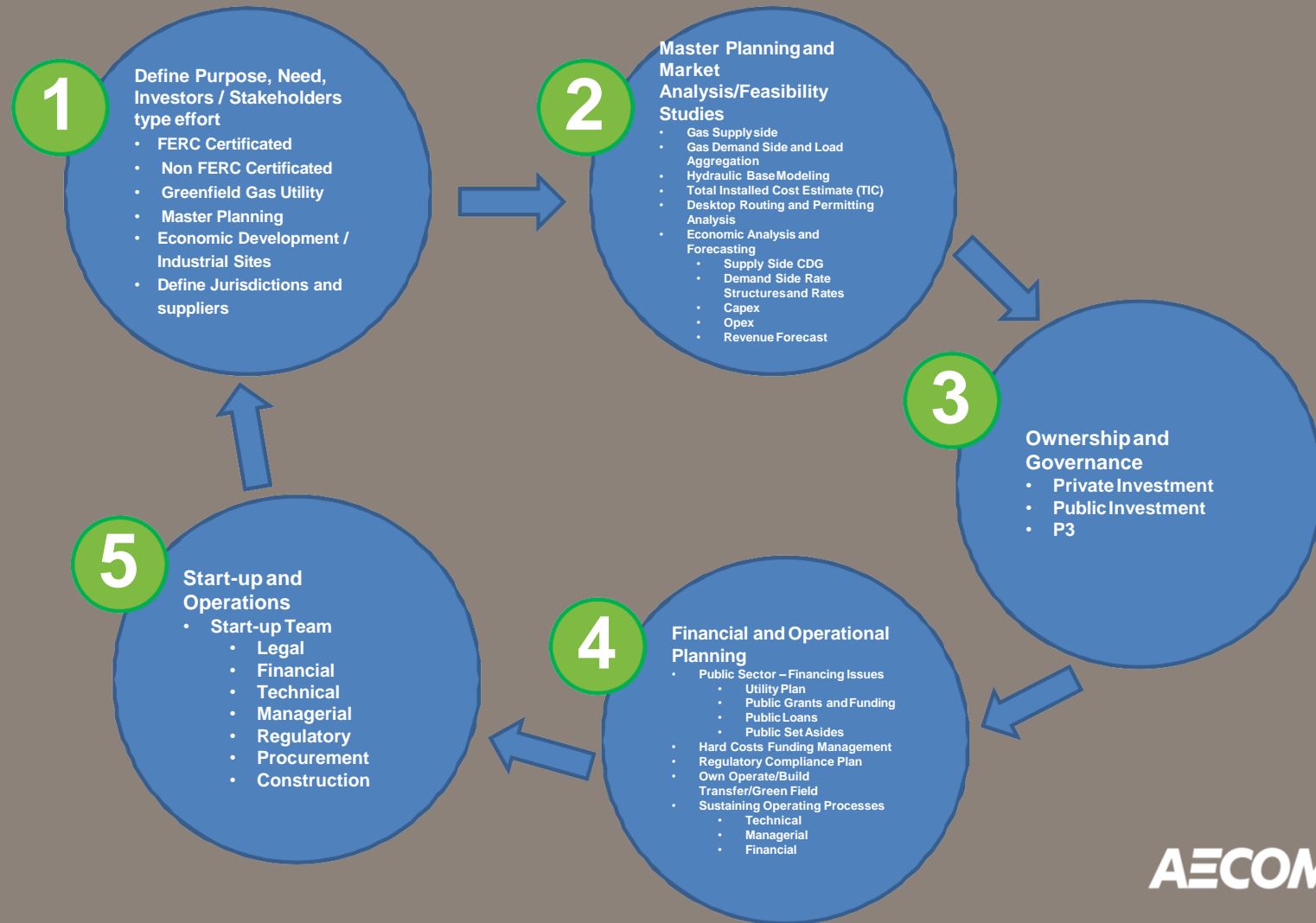
Planning and Permitting Drives Schedules

Primary Project Management Areas of a Typical Pipeline Project:

- 1. Planning and Routing**
- 2. Public Outreach**
- 3. Impact Assessment and Permitting**
- 4. Surveying and ROW Acquisition**
- 5. Engineering, Procurement and Construction**
- 6. Commissioning and Operating**

Issues

Design, permitting, constructing pipeline projects



Issues

Quote July 2017

The Hill

**“Rural areas left
out of
infrastructure plan”**

Issues

Bridging The Gap

Gas Market Analysis Spectrum

Stakeholder Decision Making Factors

Investor Owned Midstream and LDC's

- Economic Based on ROI
- Private or Self Financed
- Low Credit Risk Customers
- Expansion Policy Typically involves a Payback Ratio on Margin /TIC
- At Risk and Speculative investment is Focused on Residential and Commercial Growth Areas
- Wholesale and Industrial Growth is Based on Fixed Contractual Agreements



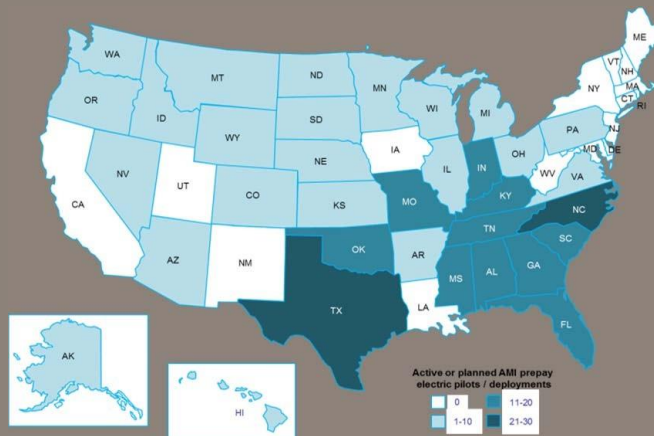
Agencies Serving Rural and Underserved Areas

- Example: CDBG, USDA, RIA, Fed/State/Local Agencies, COG's, Rural Development, Coops, EFCN, etc..
- Environmental, Transportation and Community Development Based
- Have Good Understanding of the Rural and Underserved Market
- Decisions Based on Charters, Public Funding of Grants and / or Low Interest Loans
- Analysis of Low to Moderate
- Public Finance
- Have Potential Customers with Credit Risk and who may depend on government in part for utility payment
- Have a strong Mission to address the underserved sector
- Have staff committed to providing services to the underserved sector

Issues – Affordability for Underserved Areas as a Percent of LMI Household Income spent on Utilities

Prepaid Energy Hub confirms rapid growth of prepaid utilities in the United States

200 electric utilities in 34 states offering prepayment programs, with about half of those programs located in the Southeast and 25 programs in North Carolina. While there are currently an estimated 660,000 meters on prepaid service, [Prepaid Energy Hub predicts](#) there will be 2.6 to 2.8 million by 2021.



Ideas NARUC members Can Consider to Improve Access to Rural and Underserved Areas

- **Promote funding options by service providers to address the soft costs associated with expansion**
 - Fund soft costs associated with expansion that can leverage public, private funding for the hard costs associated with expansions
 - Soft costs needs include:
 - Market analysis studies for the jurisdictional service areas to prioritize needs
 - Complete master plans to address the highest priority needs and address governance
 - Fund Industrial and Mega Site Certifications
 - Create implementation plans that address funding hard costs
 - Facilitate and Host Workshops to partner with these agencies

Ideas NARUC Members Can Consider to Improve Access to Rural and Underserved Areas – Get Creative

- Positive change can only occur if there is a strategic plan focused on this sector and a qualified leader to execute it, in concert with local community leaders and agencies
- Encourage utilities to get creative in thinking about planning, market analysis development, resources and investments in local underserved communities
- Consider Measuring Opportunity in Underserved Communities Through Development of an Opportunity Index
- Consider –“Better Together Programs”: Increasing Impact Through Innovative Partnerships with Agencies
- Innovative partnerships can increase the impact in underserved communities.

Ideas NARUC Members Can Consider to Improve Access to Rural and Underserved Areas – Get Creative

- Encourage and Request utilities to produce a plan and a person to drive it in concert with other community agencies and the community.
- Consider development of metrics and evaluate all investments in Rural and Underserved communities to alternate financing plans for funding other rural investments
- Examples:
 - Economic Development – Site Certifications – Bridgestone Site Selection and gas expansion
 - Community Development – Financing Development of a Utility Regionalization Study with other agencies serving the rural and underserved sectors that resulted in a greenfield utility

Examples of Recent AECOM Gas Projects Related to Rural and Underserved Areas:

- **New natural gas system expansions across the US**

- Gas Expansion Master Plan Development for Industrial Site Selections / Certifications
- Greenfield Gas Utilities – Analysis and Master Plan Development
- Base Privatization and Base Energy Security projects for the US Military
- Pipeline and Lateral Expansion projects for
 - Industrial Air Emissions Compliance
 - Coal to Gas Power Plant Conversions
 - Gas Turbines
 - Industrial Sites

Thank You

Follow up Questions:

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Ranked #1 in *Engineering News Record's* “Top 500 Design Firms” for 8th consecutive year

WITHOUT
LIMITS

IMAGINE IT. DELIVERED.

AECOM



Natural Gas Access and Expansion

July 2017

Don Stanczak

Vice President, Regulatory Affairs

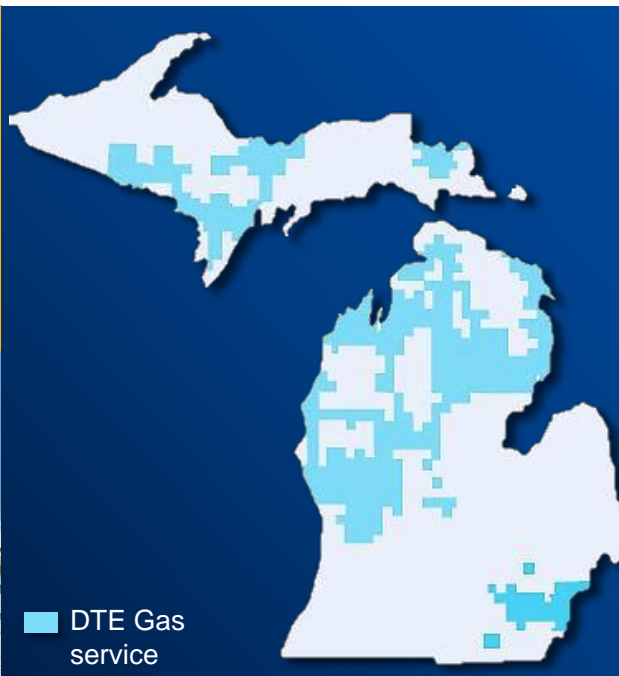


DTE Gas overview



\$3.7B
2016 rate
base

19,000 miles
distribution main



Replacing
4,000 miles
of cast iron and
unprotected distribution
main

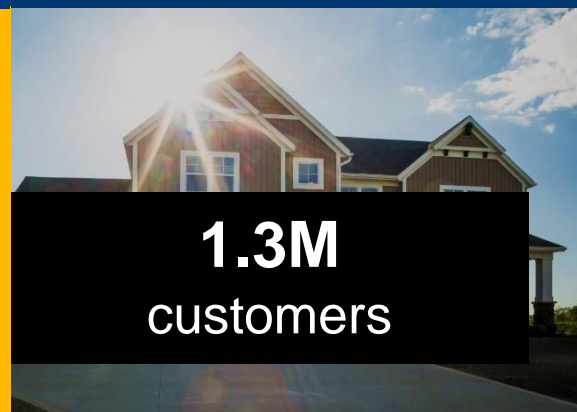
\$1.8B
5 year capital plan
(2017-2021)

2,118 miles
transmission lines

139 Bcf
storage
capacity

Founded
1849

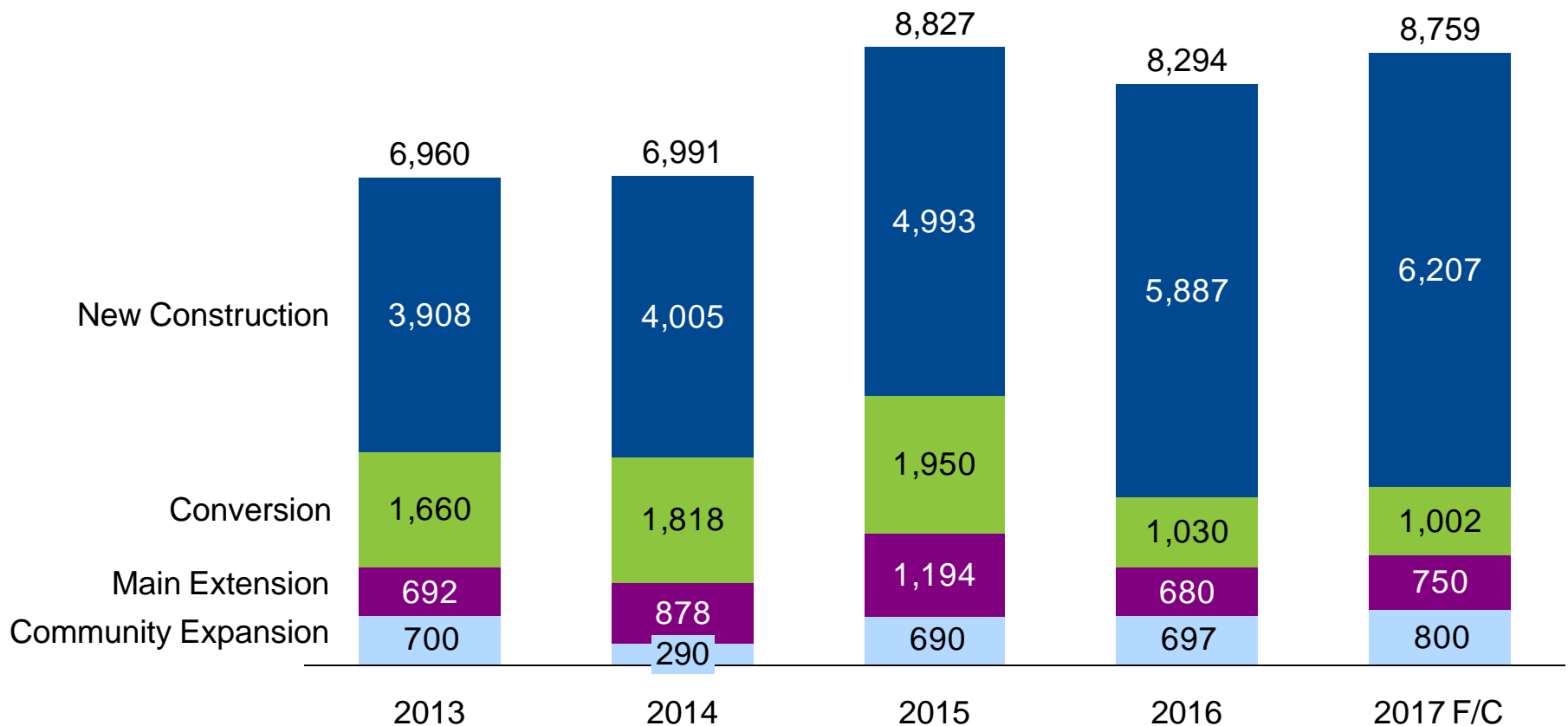
1.3M
customers



New Construction makes up a majority of our overall annual attachments and have grown in recent years as the economy has improved



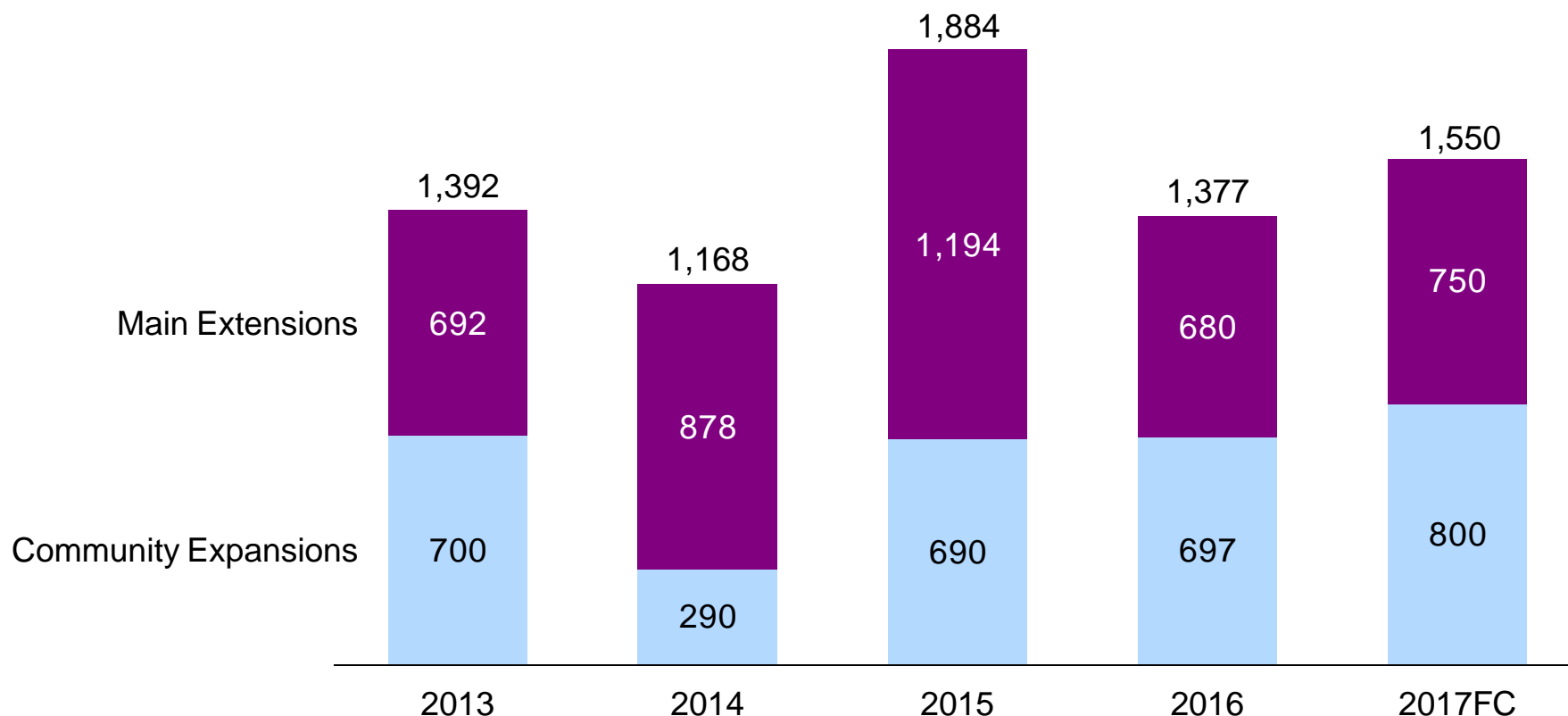
Total Annual Attachments by Category



Since 2013, DTE has executed 259 expansion projects bringing natural gas to a potential 13,000+ homeowners. Approximately 60% have made the switch to natural gas



Total Annual Attachments by Category



The Customer Attachment Program (CAP) was implemented in 1995 and is based on the NPV of expected incremental cost and revenue



Investment Costs



- Direct/Indirect Labor
- Material
- Property Taxes
- O&M
- Carrying Charges on Plant Investment

Revenue Credit



- Number of potential customers
- Usage patterns (year round, summer only, etc.)
- Level of interest
- 20 Year Revenue Stream for Residential
- 5 Year Revenue Stream for Commercial

Customer Requirement

Connection Fee of \$300 required at time of application, then two options are available for any shortfall between revenue and investment costs.

Option 1

Fixed monthly surcharge for up to a 10 year term

Option 2

One-time upfront payment to cover the per unit cost of attachment

DTE Gas has identified approximately 120,000 homes within our service territory that are greater than 1,000 feet from our closest main

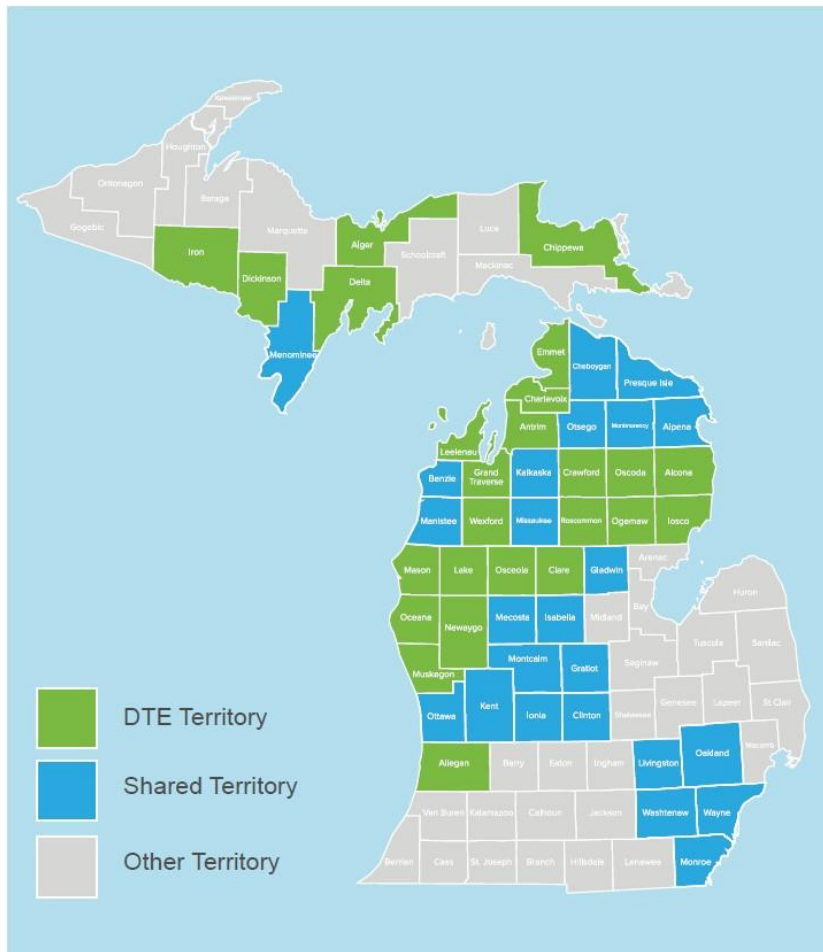


Greater than 1,000 feet from our main typically indicates it will be an expansion project requiring additional infrastructure

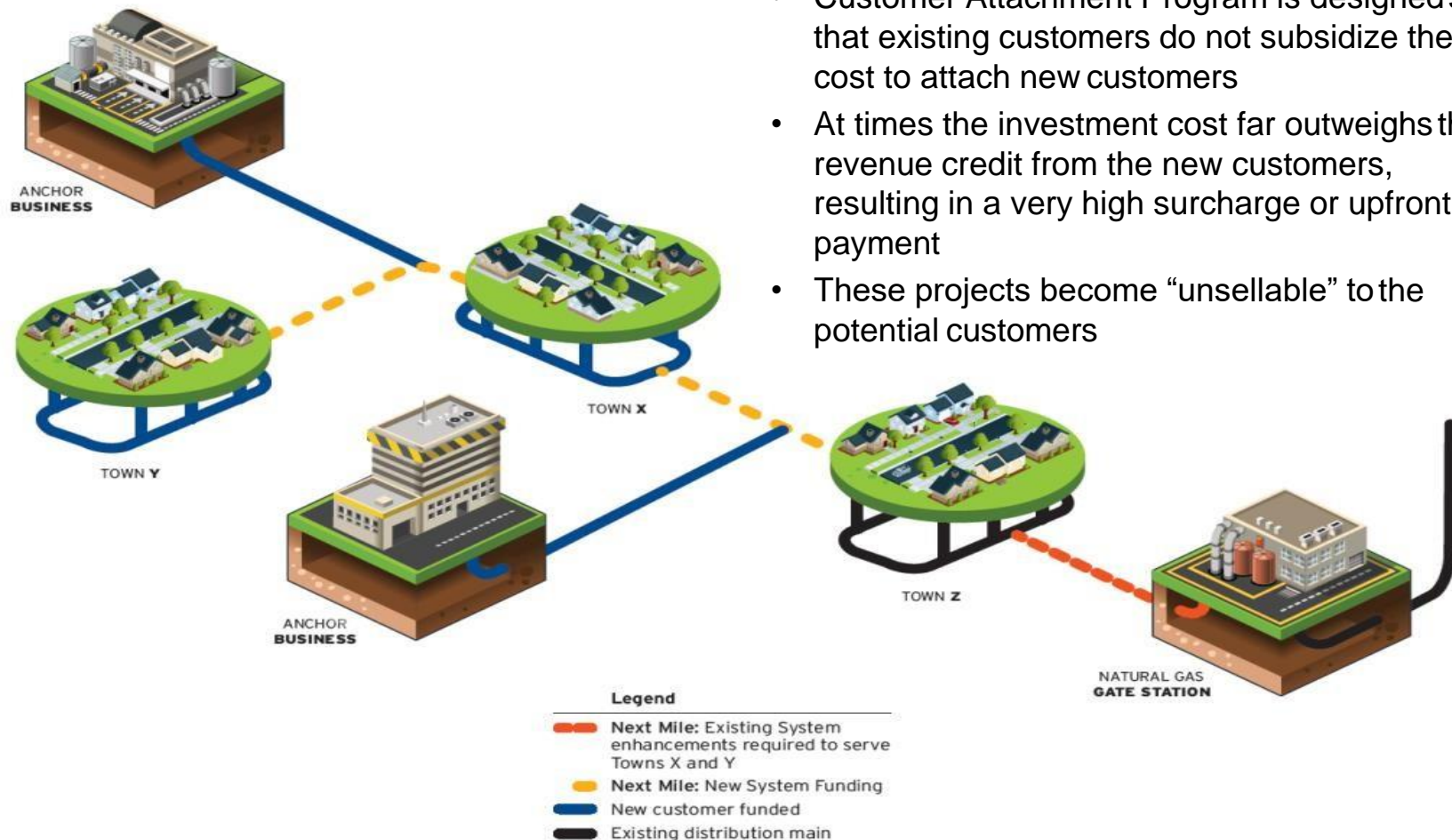
We identified all homes within DTE Gas service territory that are not currently using natural gas, of those identified:

- 97,000+ Owner Occupied Homes are greater than 1,000 feet from our closest main
- 22,000 Investment/2nd Homes are also greater than 1,000 feet from our closest main

Although not all identified leads would be economical to serve, there are significant areas that would benefit from natural gas.



Existing system enhancement requirements and distance between communities (bridging) has prohibited future enhancement in some cases



- Customer Attachment Program is designed so that existing customers do not subsidize the cost to attach new customers
- At times the investment cost far outweighs the revenue credit from the new customers, resulting in a very high surcharge or upfront payment
- These projects become “unsellable” to the potential customers

In addition to the required contribution to extend utility infrastructure, homes/businesses incur additional costs to convert to natural gas



- New Appliance Purchases
- Fuel Line Replacement Costs
- Appliance Orifice Change



***Average Cost of conversion
is usually \$1,000***

Homeowners expect to save at least \$500 - \$1,000 per year by making the switch to natural gas



- **Investment Costs**

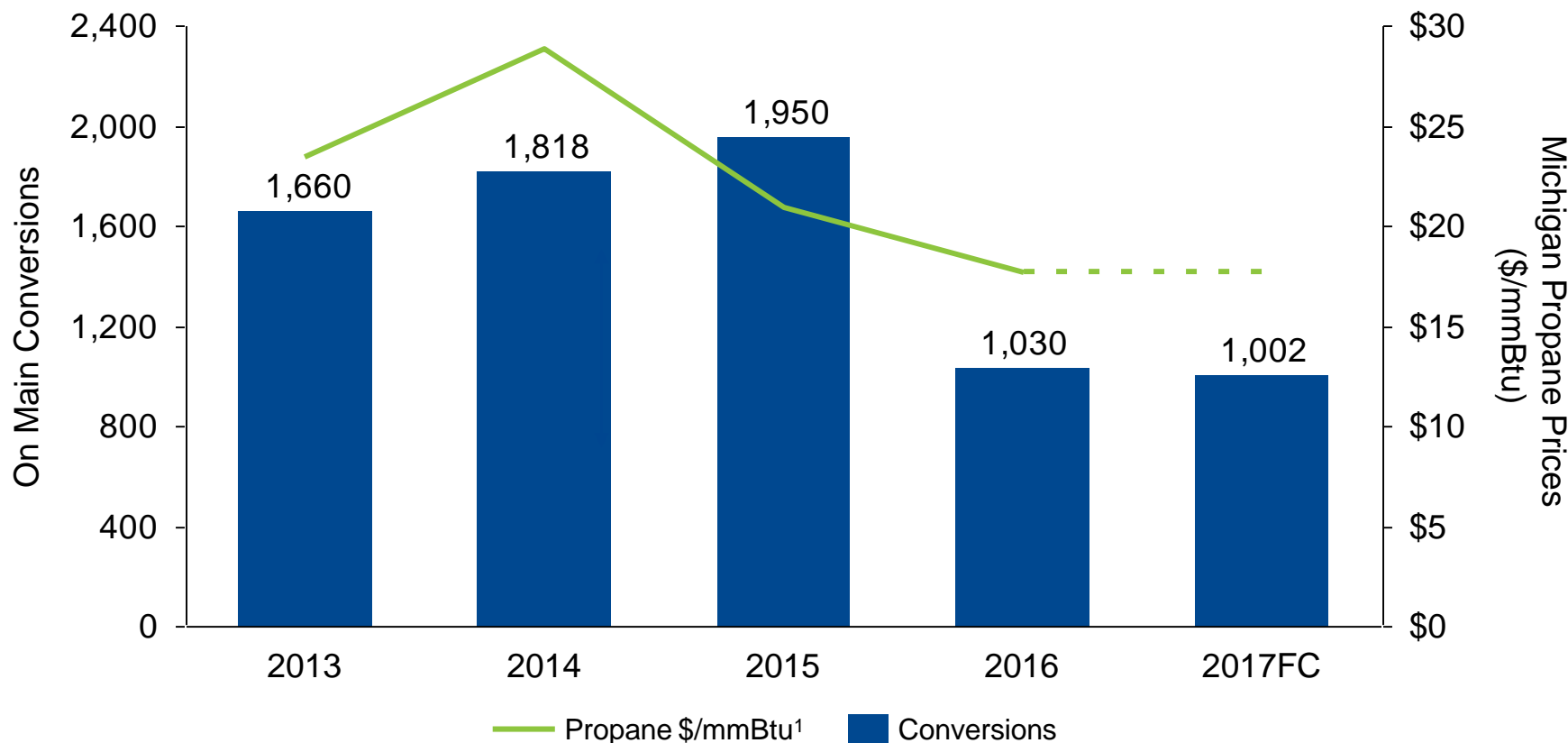
Application Fee	\$ 300
Customer Contribution (annual monthly Surcharge)	\$ 420*
Conversion Costs	<u>\$ 1,000</u>
Total Investment Costs:	\$ 1,720

- **Energy Savings (based on 1,200 gallons)** \$ 1,246**
- **Year One Savings** \$ -474
- **After Year One Savings** \$ 526

* Assumes \$35/month surcharge for first 10years

** Assumes \$1.80/gallonpropane cost/DTE current gas rate

Propane prices play an important role in the economics of switching - Conversion requests have decreased as propane prices declined



1. Source: MPSC: State Heating Oil and Propane Program (SHOPP) – represents spot retail prices, actual prices may be lower pre-buys, etc.

We have developed a number of initiatives aimed at driving increased on main conversions that will be implemented throughout 2017



- Updating our **lead data** for potential on main conversions to allow us to develop targeted campaigns utilizing multiple channels
 - Planning to utilize direct mail, email, telemarketing and direct sales
 - Switch to Gas campaign launched April 24, 2017
 - Switch to Gas webpage updated with new video www.dteenergy.com/switch2gas
- Working with **MISaves** (a green bank sponsored by the MPSC) to make changes to the program to be more beneficial to gas conversion customers. Program provides low-cost financing for upfront conversion costs
- Participating in a cross functional effort on utility **on-bill financing**. Potential for customers to on-bill finance upfront conversion costs/appliance purchases at lower interest



SAVINGS USING NATURAL GAS VS. PROPANE		
Propane Cost	Natural Gas Cost @ 2016 - 2017 Winter Average DTE Rate	One Year Savings using NATURAL GAS
\$1,500	\$679	\$821
\$2,000	\$857	\$1,143
\$3,000	\$1,214	\$1,786



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