

Conservation and Efficiency

Maine Natural Gas: Energy for Maine's Future?!

October 8, 2015

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Natural Gas Conservation Fund

Helping Maine's Homes and Businesses Meet
their Energy Needs at the Lowest Cost

Michael D. Stoddard
Efficiency Maine Trust
October 8, 2015



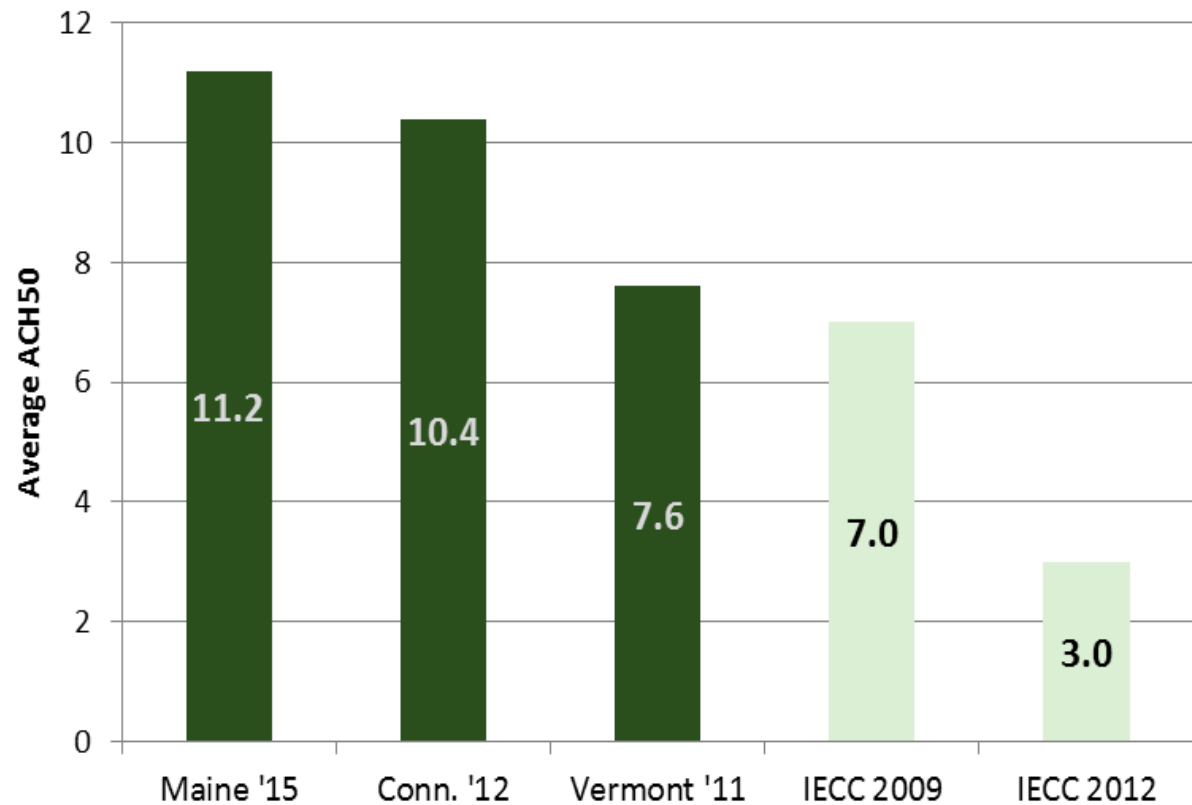
Maine Law – 35-A MRS 10111

- “In accordance with the goals and objectives of the triennial plan, the trust shall establish a cost-effective conservation program to promote the efficient use of natural gas.”
- “The commission shall assess each gas utility, in accordance with the triennial plan, an amount necessary to capture all cost-effective energy efficiency that is achievable and reliable.”
 - “All amounts collected under this subsection must be transferred to the natural gas conservation fund.”
 - Omnibus Energy Bill of 2013 extended the program to “each gas utility,” regardless of size
- “The assessments charged to gas utilities under this section are just and reasonable costs for rate-making purposes and must be reflected in the rates of gas utilities.”



Air Leakage Rate Comparisons

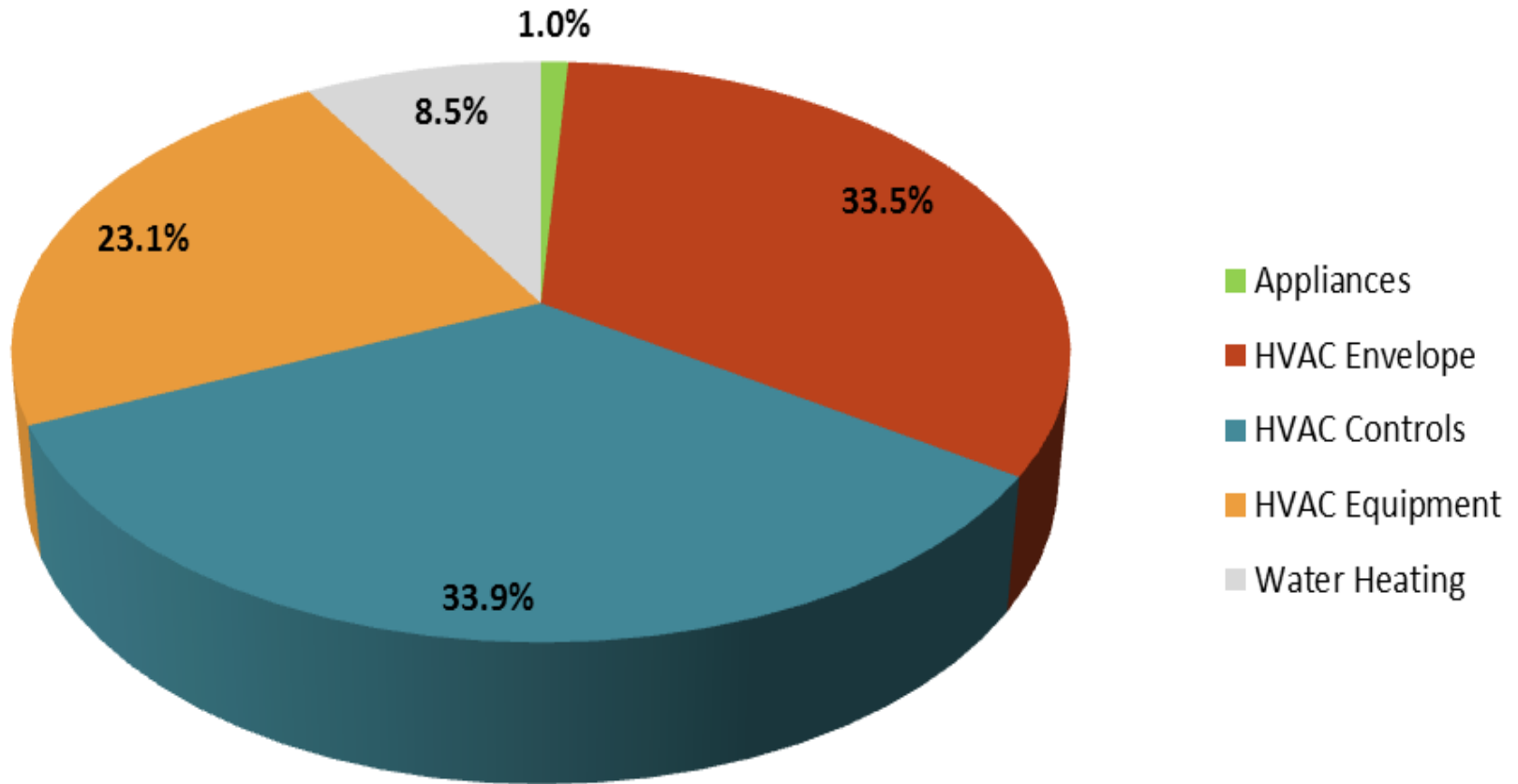
- The average Maine home is leakier than similar homes in CT or VT
- Sampled homes scored from 3.6 to 55 Air Changes per Hour at 50 Pascals





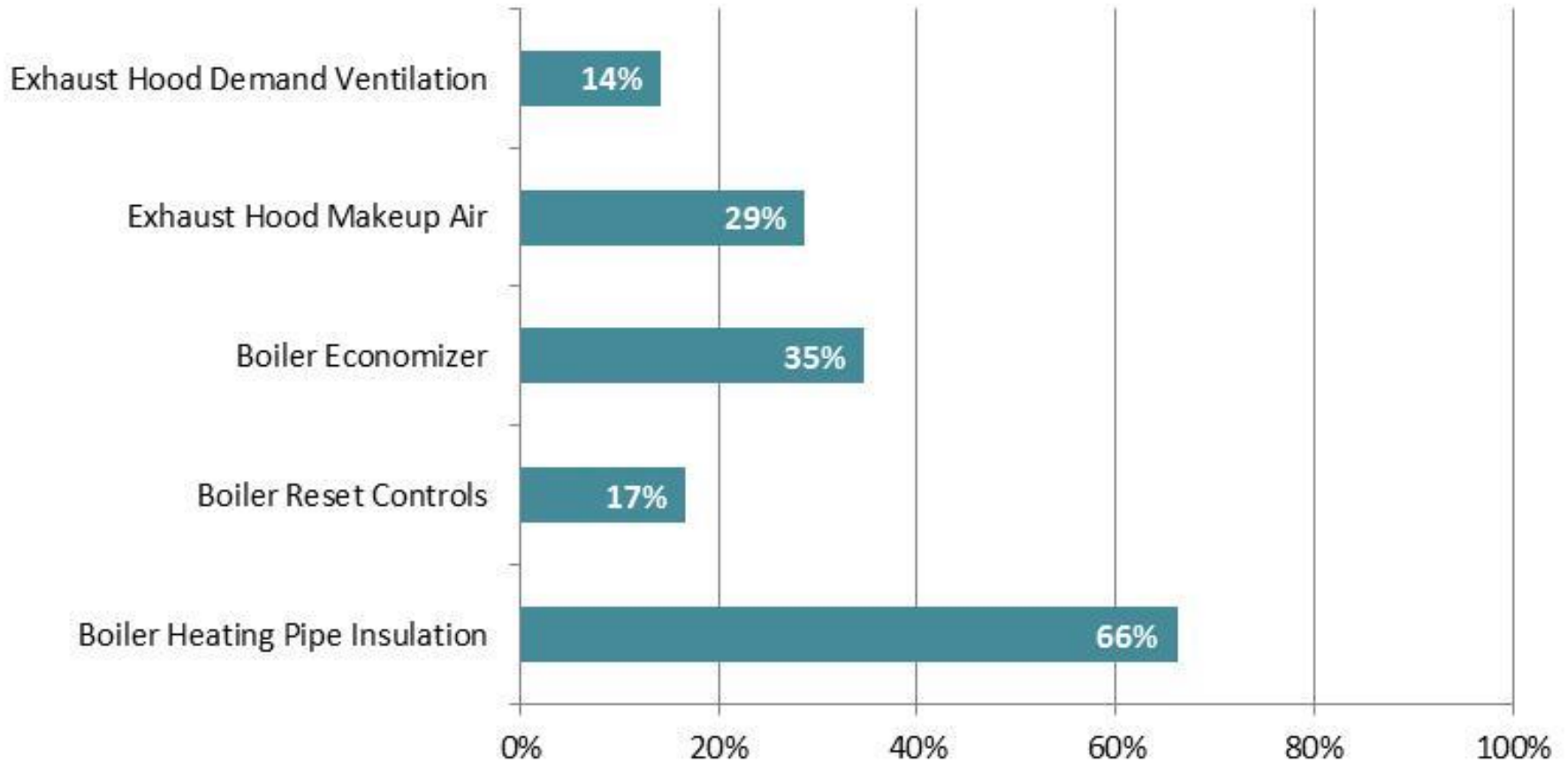
MACE Potential - Residential

by Measure Type





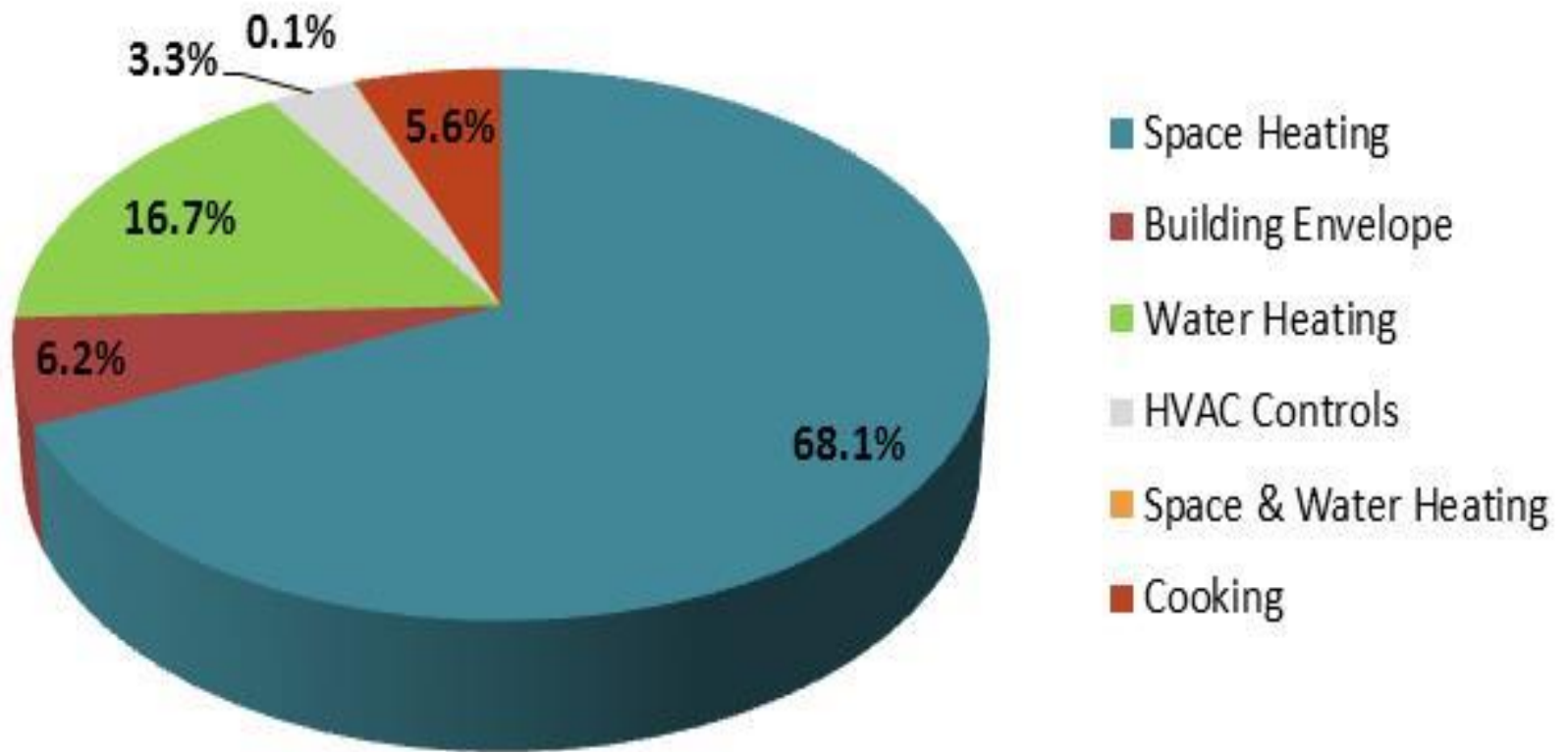
Saturation of C&I Efficient Space Heating Measures





MACE Potential - Commercial

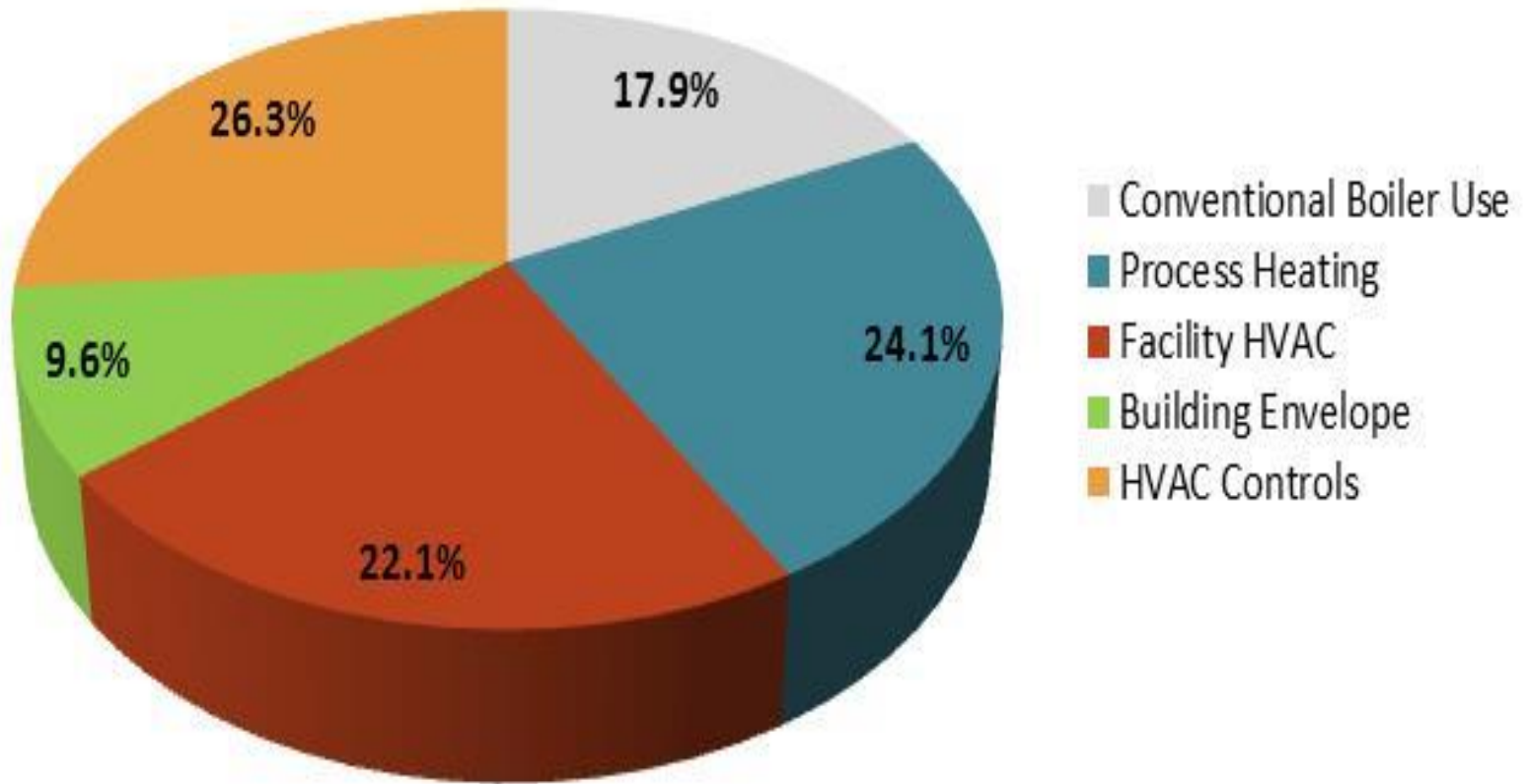
by Measure Type





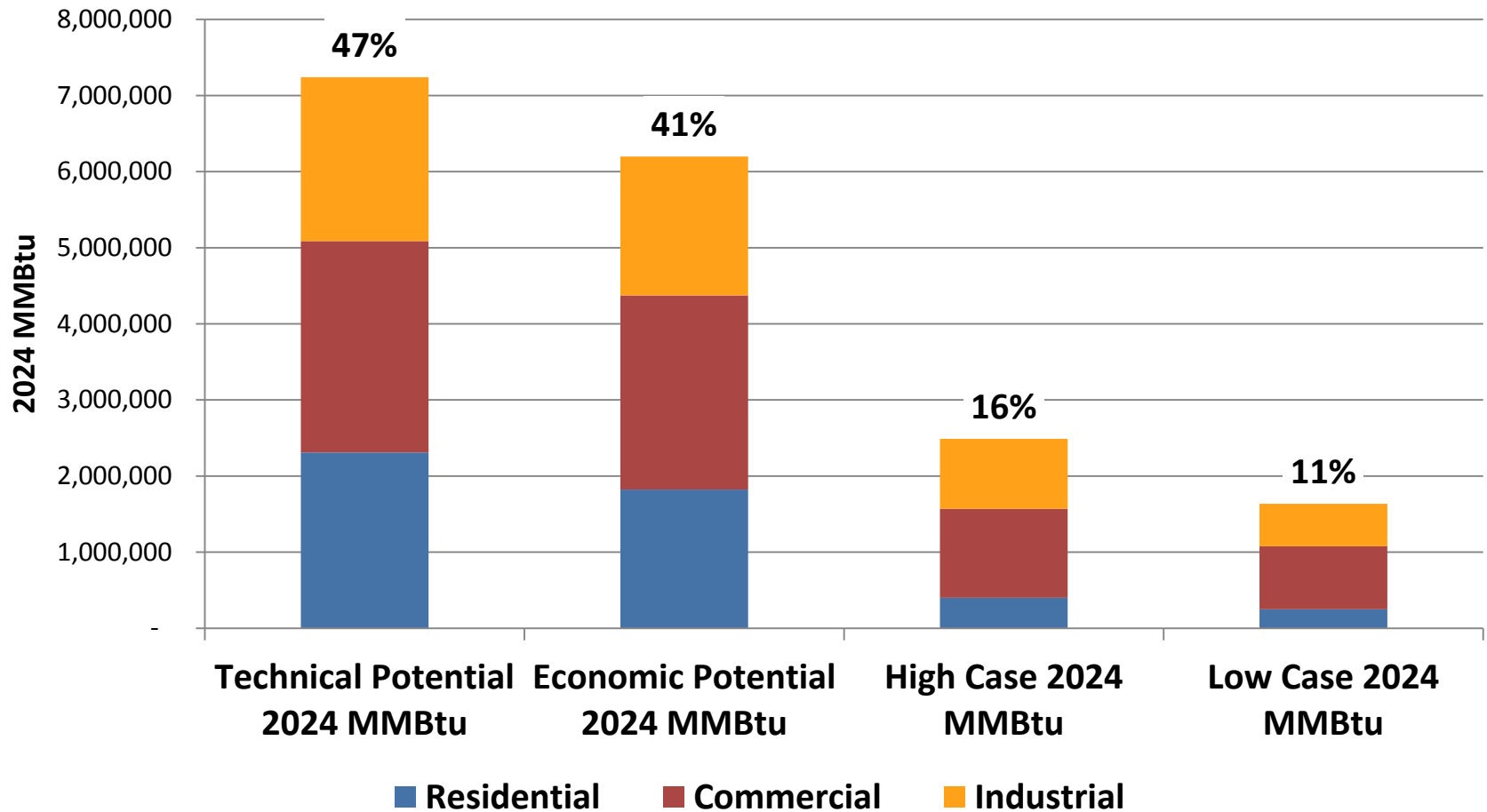
MACE Potential - Industrial

by Measure Type





10-Yr Potential for Efficiency





FY 16 Budget and Benefits

Sector	Annual MMBtu Savings	Efficiency Maine Costs
Residential	10,100	\$ 527,931
Commercial	34,868	\$ 700,000
Industrial	26,660	\$ 468,559
Total	71,629	\$ 1,696,490

- **HESP** will service the residential sector
- The Business Incentive Program and Large Custom Program will serve the C&I Sectors



Triennial Plan Budget and Benefits - Preliminary estimates

Program Year	Natural Gas Budget	MMBtu Savings
FY 2017	\$ 4,579,070	633,129
FY 2018	\$ 4,687,349	680,339
FY 2019	\$ 4,985,881	787,714
Total	\$ 14,252,301	2,101,182

Bangor *Natural Gas*

Jerry Livengood, General Manager

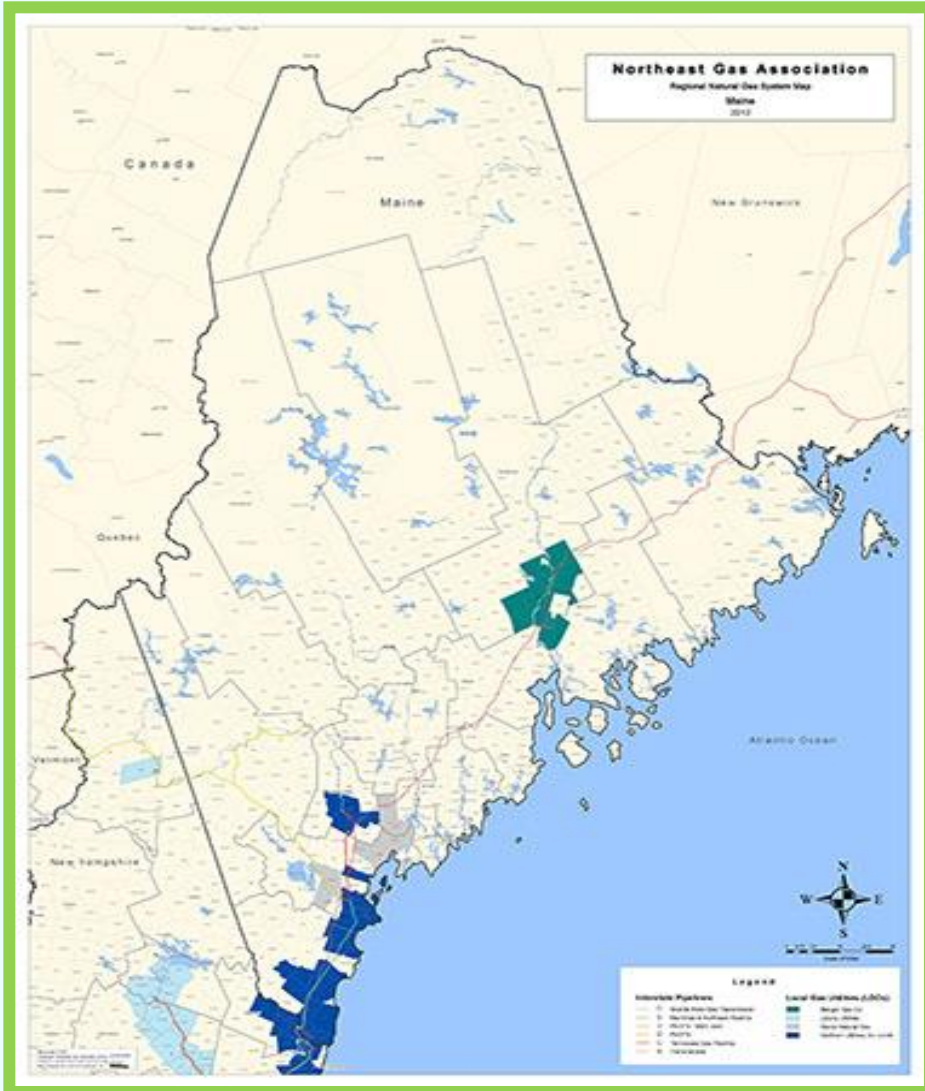
498 Maine Avenue

Bangor, ME 04401

207.941.9595



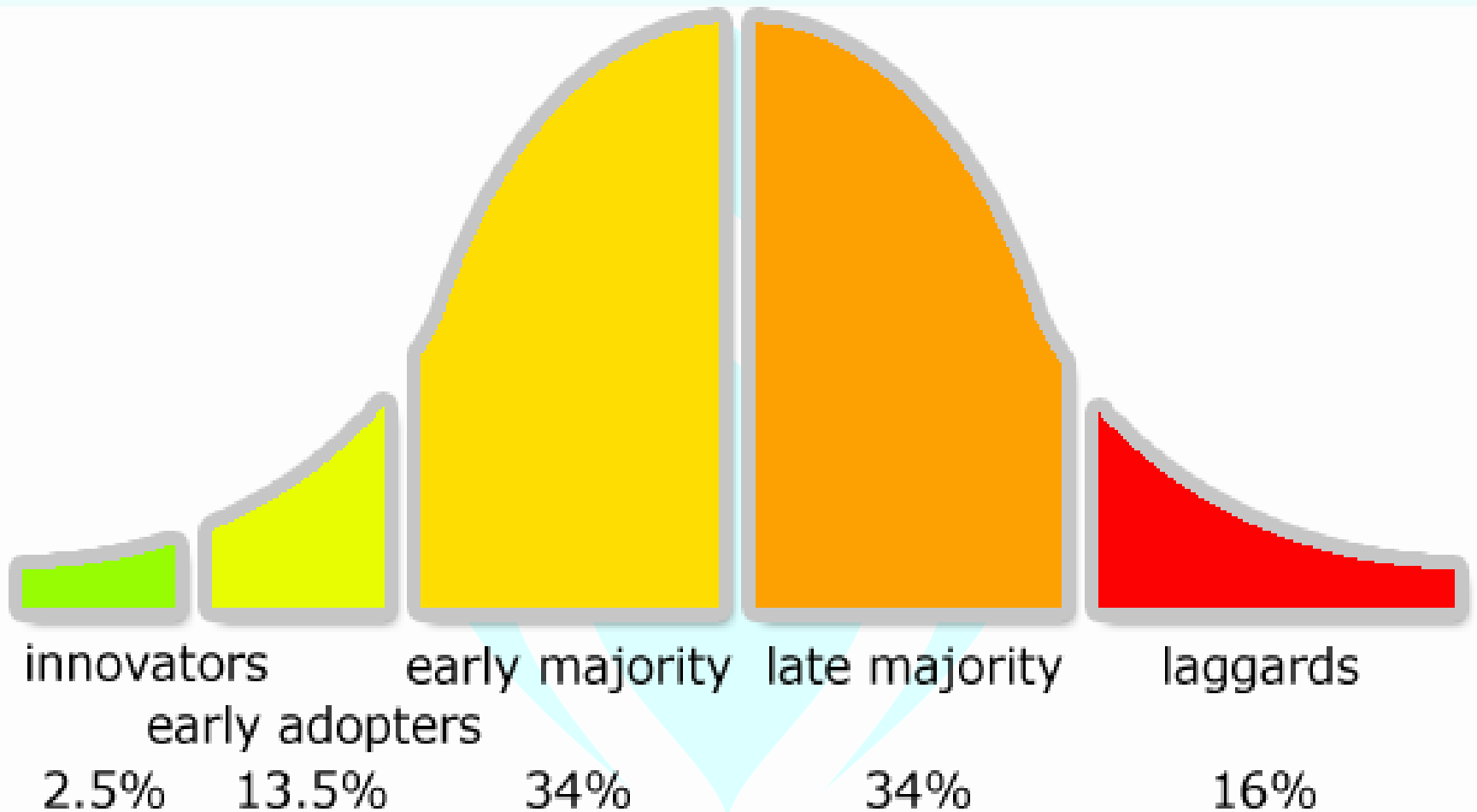
Bangor Natural Gas



- Serving Central Maine
- 968 Customers in 2014
- 6,000+ customers
- Acquired EWST, 2008
- Lowest delivery rates and an ARP to 2021
- Loring Corridor 2013
- Lincoln Maine 2014
- Loring Phase 2 2016



ME = Underserved Market





ME = Growth Opportunity

- Availability of Natural Gas
 - Regional pipeline constraint
 - Momentum return to NE
- Price advantage of Natural Gas over No. 2 Oil
- Barrier to Entry / Co\$ of Conver\$ion
- Program aligned with market conditions
 - Transitions from Alternative to Traditional
 - Allows for Boiler conversions and life expectancy
 - Cleaning, Programmable thermostats, Combustion Anal.

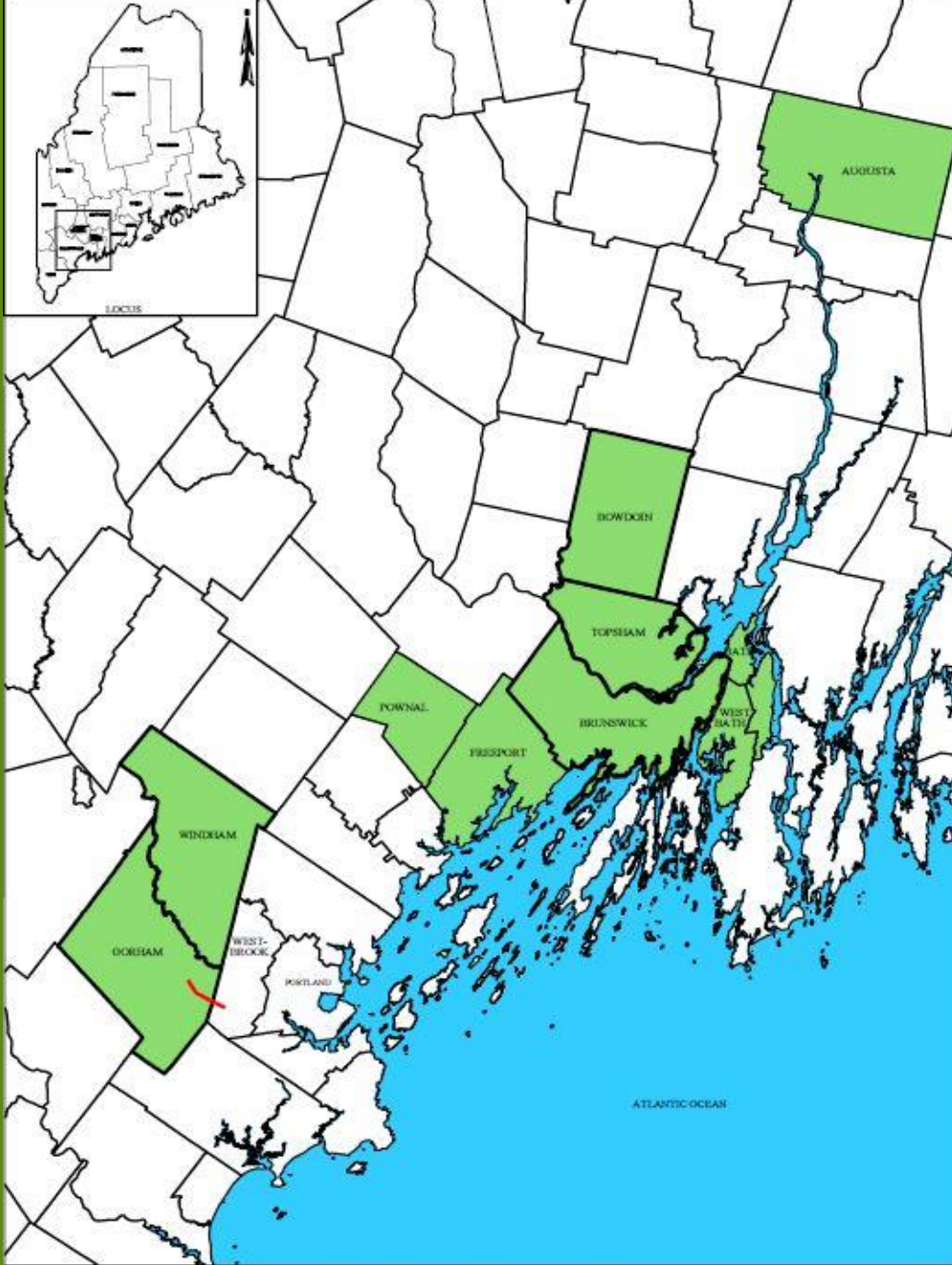
Maine Natural Gas

*Maine's Local
Gas Company*



Maine Natural Gas

Maine's Local Gas Company



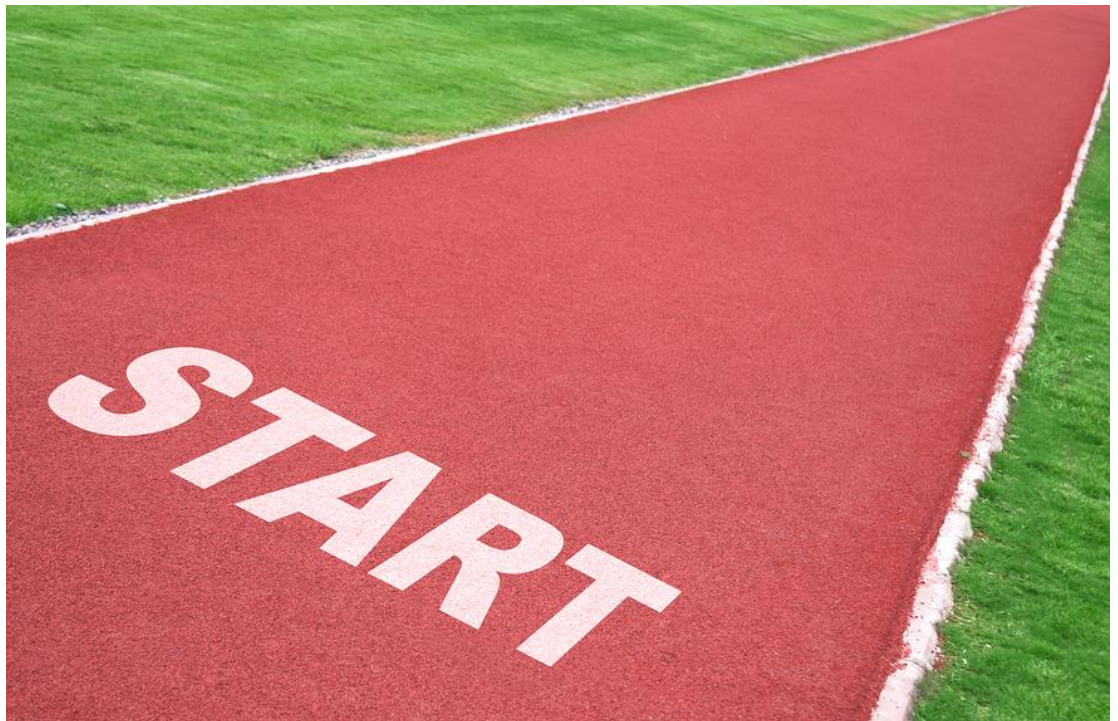
Maine Natural Gas
Service Areas

LEGEND

-  SERVICE AREA
-  CALPINE TRANSMISSION LINE

Consumer Efficiency at MNG

- Maine Natural Gas is a young, growing LDC with about 4,200 customers
- Company size now allows for additional customer programs

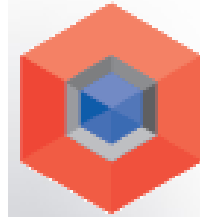


Customer Acquisition

- How much is this going to save me?
 - Personal decision, highly significant
 - Risk tolerance is a factor
- Traditional method:
 - What is your current usage – oil, propane, wood, pellet, electric
 - Convert to therms
 - Cost of NG for the same number of therms, modeled based off HDD
- Drawback to traditional method:
 - Fuel prices change, commodity prices of NG change
 - Multiple systems in a home, “don’t consider the woodstove”
 - Consumer behavior, closing off a floor, set back to 55°, etc.
 - Doesn’t calculate benefits of a new system, hybrid/dual fuel



Comparison Tool, CakeSystems



CAKESYSTEMS

- What is it?
- CakeSystems QuickCompare provides homeowners and/or contractors with an easy way to calculate savings (in \$ and energy) for upgrading to higher-efficiency HVAC equipment.
- QuickCompare is easily used in just a couple minutes using only 9 data points.

Key Features

- Only 9 basic data points (with the ability to fine tune the savings with 7 additional questions)
- Compare HVAC system upgrades (gas furnaces & heat pumps)
- Calculate savings in \$ and energy
- Utilizes the SIMPLE energy model for savings calculations
- Configurable: submit incentives, find trade allies, produce proposals, etc.
- Integrate with other CakeSystems modules: Dashboard, Audit Module, HOME Portal, Salesforce
- Savings for water heater, insulation and appliance upgrades can be added

Quick Compare Tool

Find the right heating & cooling solution for your home.

Could you save on your energy costs by upgrading?

Use this calculator to compare your estimated heating and cooling costs using different energy sources and equipment.



GET STARTED...

My zip code is

is my electric provider.

Knowing where your home is located will help us determine the heating and cooling costs in your area.



1

2

3

4

5

6

7

8

9



Quick Compare Tool

SIZE

My home is about square feet.

Tip: We'll use this to get a rough idea of how much space you have to heat and cool, so only include finished living areas.

AGE

My home was built around... 1980



Construction trends change over the years. We can tell a lot about how your home retains and absorbs heat just by knowing when it was built.

Quick Compare Tool

WINDOWS

My home has about as many windows as...



Energy Fact: Windows allow more energy to escape than walls, so the amount of windows you have can make a big impact on the overall efficiency of your home.

Quick Compare Tool

RESIDENTS

My home houses people.



Energy Fact: The more people in a home, the more fluctuation there is in energy consumption.

STORIES

My home is stories.



Tip: If your basement or attic is a finished living area that you heat or cool, include it in your tally. Otherwise, leave it out.

Quick Compare Tool

HEATING EQUIPMENT

I currently heat my home with oil /



Oil



Electricity



Natural Gas

HEATING EQUIPMENT

I currently heat my home with oil / radiant heat / low efficiency

Old
[Installed before 1989]



Standard Efficiency
[Up to 89%]



High Efficiency
[Above 90%]



If you don't know your current equipment's efficiency, choose "Standard."

Quick Compare Tool

COOLING EQUIPMENT

I currently use central air conditioning to cool my home.

I want to compare my **Oil Furnace** to...

Choose the equipment you'd like to compare to your current Oil Furnace.

HEATING

NATURAL GAS FURNACE

GAS FURNACE AND HEAT PUMP

OR

HEATING & COOLING

GAS FURNACE & AC

GAS FURNACE, AC & HEAT PUMP

Quick Compare Tool

ESTIMATED ENERGY COSTS

Find this tool useful? [Share it on Facebook!](#)

Here's how the equipment you selected compares to your current estimated energy usage and costs. Choose an equipment option to see more detailed information.



Quick Compare Tool

You chose a Natural Gas Furnace

ANNUAL ENERGY SAVINGS: \$1,455

1-year total
\$708

699 therms

Natural Gas Furnace

High Efficiency
93% Efficient

Find a Contractor »

Ready to install? Search for a NW Natural Certified Contractor in your area.

Contact NW Natural »

Have questions? Get answers from a NW Natural energy specialist.

Calculate Your Savings Offset »

Enter your installation cost to get an idea of how quickly your upgrade will pay for itself.



Download
Your Report



Print
Your Report



Share
Your Results



Can you get gas?

Our gas availability tool will determine if gas is available to your home in three easy steps. [Find out »](#)



Special Offer

Save big when you upgrade to new high-efficiency natural gas equipment. [Learn more »](#)



Benefits of Natural Gas

Natural gas brings comfort and convenience into your home while reducing your environmental footprint. [Details »](#)

Benefits of Quick Compare

- 3rd Party verification of fuel expenses
 - Savings may or may not exist given the system modeled
 - Scenarios can be compared
- Saves time for the customer & staff
- Consistent, assumptions locked (bias removed)
- Considers MNG's tariff and cost of commodity
- User friendly and private (no questions about money)
- Educational, energy facts throughout

Take Home

- Promoting natural gas on price is short sighted
- The conversion needs to be the customer's best interest, everyone benefits
 - Rate Payers
 - LDC
 - Customer
- Efficient homes are COMFORTABLE homes
- Focusing on comfort will build our brand and drive customer satisfaction

Questions?

Thank you for listening!



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Reference

Building Shell Improvements / Conservation Methods: reduce load requirements

- Attic, Wall, & Basement Insulation
- Air Sealing
- Windows
- Lighting
- Radiant Barriers
- Appliance Upgrades (non-heating system)

Building shell (thermal boundary) improvements reduce heating and cooling loads by reducing the rate the building releases its energy (conductive or infiltration) or by reducing the rate a building accepts radiation (solar gain). Comfort increases with shell improvements because it limits the affect of weather on the building providing a more stable environment.

Reference

Heating System Efficiency Upgrades: less waste

- Outdoor Reset
- Variable Speed Circulator Pumps
- Low Energy Zones Valves
- Zone Synchronization
- Duct Sealing & Insulation
- Pipe Insulation
- Variable Speed Furnace Blowers (2 Stage)
- Heat Pumps

We have learned a tremendous amount from our European counterparts in that, we will reduce overall usage and peak demand when we move from cyclical heating at higher rates of energy consumption to continuous conditioning at lower rates of energy consumption. The latter allows the conditioned space to be held within a tighter set point than the traditional heating and cooling methods.

Houses are always losing heat or cooling. There are a few brief periods in the season when neither heating or cooling is required. For all the other times, these type of upgrades require less energy or reduce the energy consumption of another component in the system.



Tim Johnston, P.E.
Chief Strategy Officer



***Summit
Natural Gas***

SNG Commitments to Conservation

- Residential Rebate Program:
 - \$560 Rebate towards an Energy Audit and 6 hours of Air-Sealing
 - \$1500 Rebate for High-Efficiency Heating Equipment
 - \$300 Rebate for an Energy Star Storage Water Heater
 - \$560 Rebate for an Energy Star On-Demand Water Heater



SNG Commitments to Conservation

- Commercial Rebate Program:
 - \$1500 rebate toward any conversion
 - Additional rebates or special rates available for conservation-related projects
 - Combined Heat and Power assistance available for evaluation and for installation and equipment costs



***Summit
Natural Gas***

Challenges

- Long-Term Rate Plans and the need for flexibility:
 - Regulated in an Unregulated Market – competition with oil and propane suppliers
 - Customer Affordability is often the key, not payback. Cost of conversion with or without changes to affect conservation need to be low enough to not require financing
 - Need to facilitate the rebate programs for smaller contractors



Efficiency Maine Trust Program Challenges

- Is an Energy Star rating the right answer for Maine Heating Equipment? Is the desire for a home-run keeping us from hitting doubles?
- How can we get smaller contractors authorized for the EMT rebates?



NATURAL GAS: ENERGY FOR MAINE'S FUTURE?!

Cindy Carroll
Director, Customer Energy Solutions

October 8, 2015

Topics

1. Unitil Corporation / ME Gas Operations Overview
2. Recent Growth
3. Challenges of Expansion
4. Recent Initiatives
5. Unitil's Objectives

Unitil Corporation / ME Gas Operations Overview



- Natural gas and electric utility with operations in Maine, New Hampshire and Massachusetts.
- Serving ~181,000 gas and electric customers.
- Stable business model based on natural gas and electric transmission and distribution with regulated rate base and rate of return.
- Unitil is a local natural gas distribution utility serving customers in Maine and New Hampshire.
- Service customers in 45 NH and southern Maine communities
- In Maine, over 31,000 customers in 23 communities.

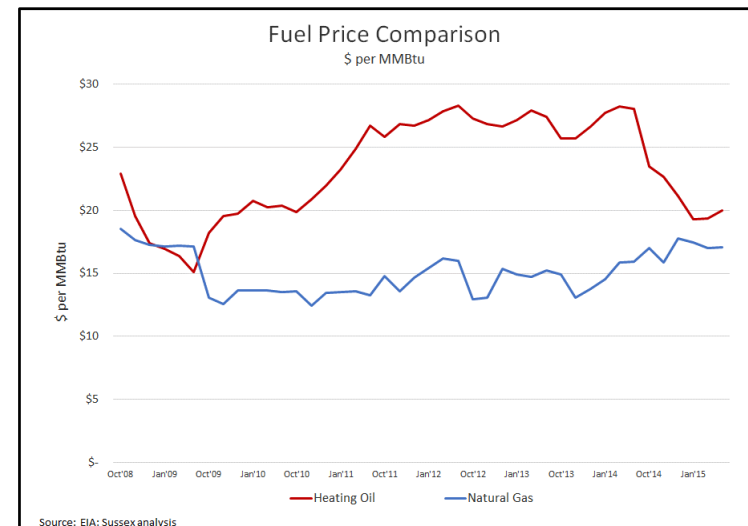
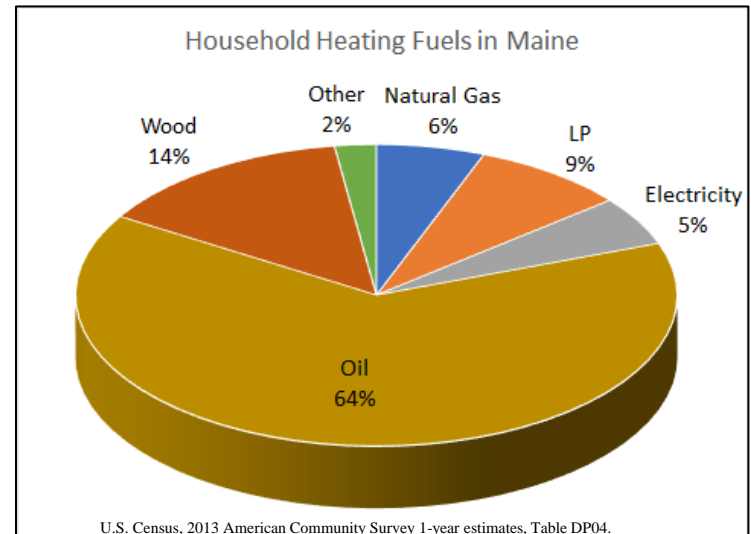
Unitil Corporation Service Areas



Recent Growth



- The Company has experienced substantial customer growth since being acquired by Unitil in 2008.
 - A 15% increase (18% in ME) added since the acquisition.
- Customer growth consists of:
 - New construction.
 - Conversions, largely from heating oil as it is the primary home heating fuel in Maine.
- Fuel price is only one reason why customers switch to natural gas but, an important one.
 - The price of natural gas in Maine has been 40 percent less than the price of heating oil in four of last five winters.
- Price comparison this coming winter
 - Unitil has filed it's cost of gas for this winter. It is pending PUC approval and adjustment.
 - Over the winter (Oct – Apr) we will be equivalent to the price of fuel oil at ~\$1.58 per gallon



Challenges of Expansion



- Conversion markets
 - On-main – requires only a service line and typically no contribution payment.
 - Off-main – requires a gas main and service line and almost always requires a contribution payment from new customer(s).
- Upfront costs reduce the likelihood that customers will convert to natural gas.
 - Upfront costs include equipment costs and contributions in aid of construction.
- Unitil’s gas system expansion policy employs a disciplined but aggressive approach to growth.
 - Current rate structure is not designed to promote large, off-main gas expansions.
 - Contribution payments are the result of a financial analysis performed under a Main Extension policy that ensures that new customers are not subsidized by existing customers.
 - Financial analysis is a discounted cash flow analysis that compares the Net Present Value (“NPV”) of estimated delivery revenues and cost of service. (If $NPV \geq 0$, then no contribution required; If $NPV < 0$, then contribution required)

Recent Initiatives



- PeoplesChoice Credit Union - collaborate with local financial institutions to offer unsecured loans to cover equipment and contributions (if required).
- Rental Conversion Burners & Water Heaters – offers a low upfront cost option to help consumers and businesses take advantage of the availability of gas service. Unitil has filed a proposal for approval by the ME Public Utilities Commission (MEPUC) to open the company’s existing rental programs to new customers in Maine.
- Targeted Area Build Out “TAB” - Unitil has filed a TAB program for approval by the MEPUC designed to facilitate gas expansion to off-main homes and businesses (as a supplement to the existing approach to expansion) that mitigates contribution payments.
 - To be used in specific geographic areas designated by the Company such as large neighborhoods or sections of a community.
 - Maintain the principle that new customers pay the cost associated with expansion of natural gas service.
 - Develop an approach that is scalable, easily understood and administered.
 - TAB area customers billed a surcharge in place of a contribution payment.

- Help to advance Maine's Energy Action Plan that seeks to reduce dependence on fuel oil and promote conversions to natural gas.
 - Continue to aggressively grow the gas distribution system and customer base by making disciplined capital investments that meet or exceed the required investment criteria
 - Continue to develop and implement innovative approaches and initiatives that are designed to help customers overcome barriers to conversion
 - Maintain the principle that new customers pay the cost associated with expansion of natural gas service
- Deliver value to customers, the communities we serve and shareholders

EMT's Natural Gas Conservation Program
Regulatory Practice Pointers

Katie M. Gray
Verrill Dana, LLP
October 8, 2015



Overview

- I. Information-Sharing: Data Requests and Confidentiality
- II. MACE Assessment: How Much Is It?
- III. Commission Review Process and Compliance Requirements



Information-Sharing: Data Requests and Confidentiality

- LDCs must share data with Trust for development of Triennial Plan, evaluation of MACE, and program development
- Recoverable in rates
- Confidentiality



MACE Assessment: How Much Is It?

- What is MACE?
- Act does not specify amount
- Act does not contain waiver provision
- Maine PUC has determined that MACE need not be identical among LDCs



Commission Review Process and Compliance Requirements

- Description of review process
- Collection and remittance of assessments
- Tariff modifications



Contact Information

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