2019-2021 April 30th Version Three-Year Plan

Presentation to the Council

May 16, 2018

Agenda

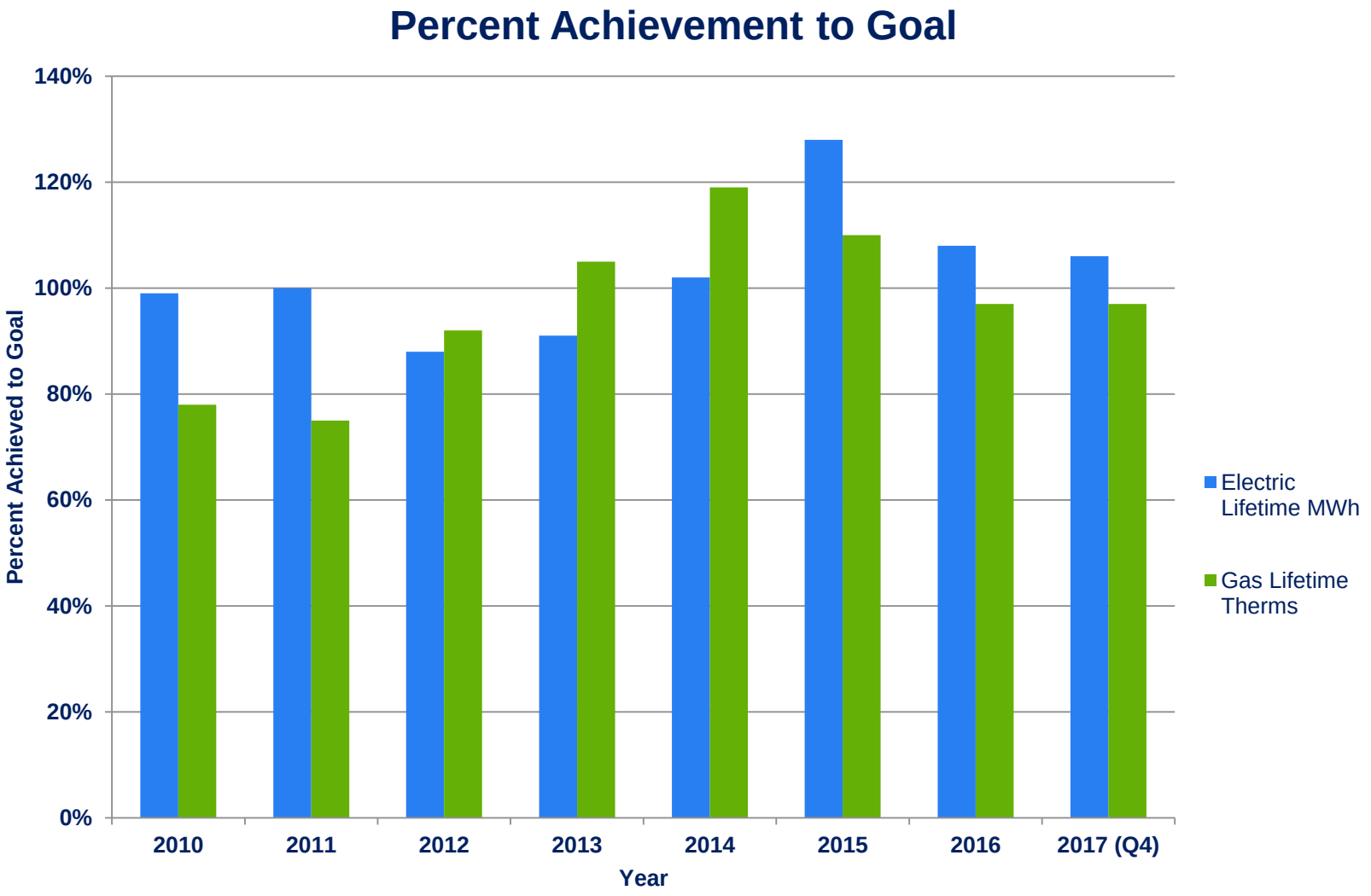
- Overview
- C&I program highlights
- Residential and Income Eligible highlights
- Numbers
- In the Works

OVERVIEW

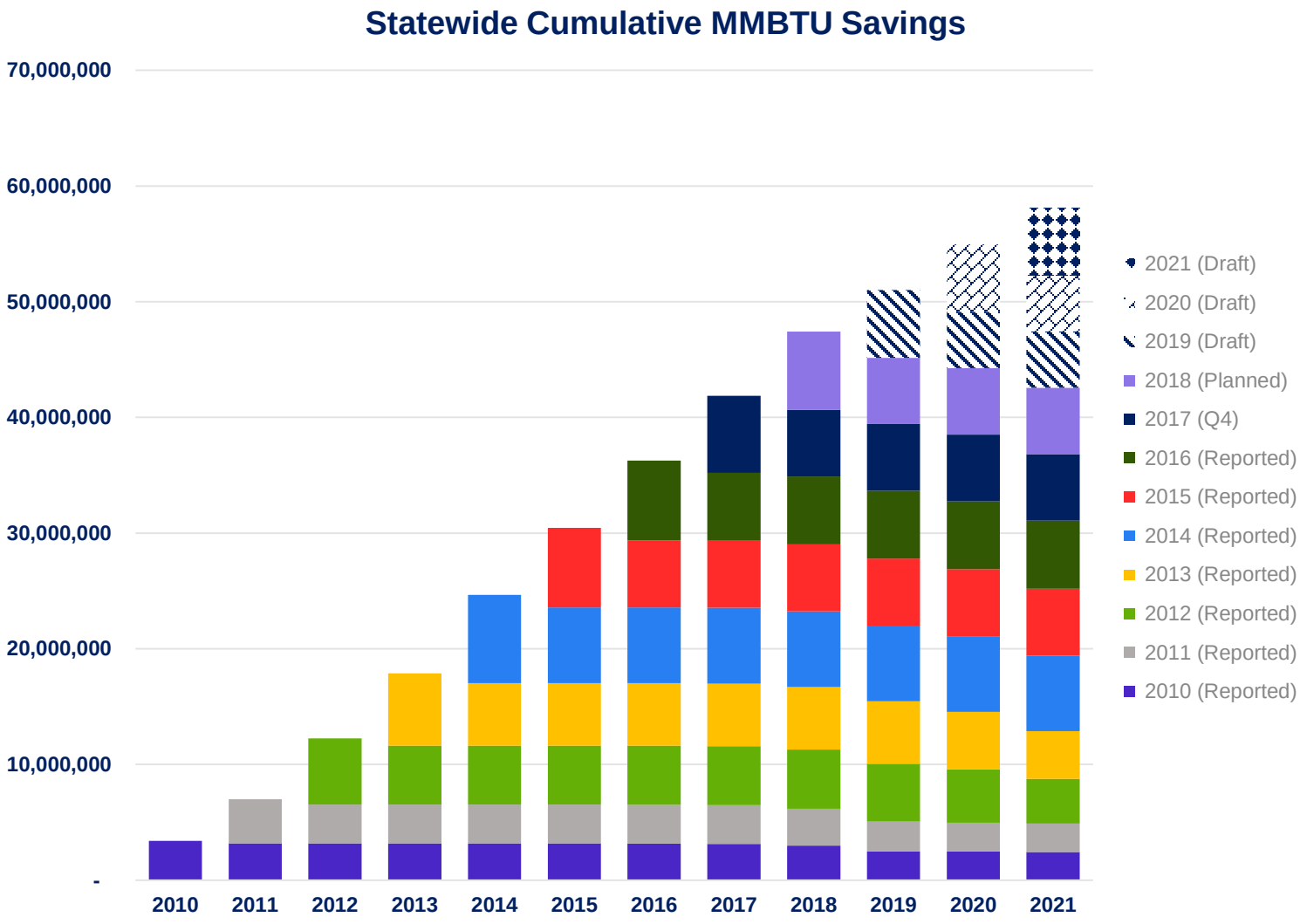
Plan in a Nutshell

- Builds on the historic success of program administration
- Acquires cost-effective energy efficiency and demand reduction resources
- Considers short-term customer bill impacts
- Includes creative new ideas designed to help customers achieve **total energy reductions**
- Aggressive goal of over **207 million lifetime MMBTU of total energy savings**
- Statewide three-year investment of **$2.3 billion**
- About 94% of budget is allocated to participant incentives, training and sales assistance, EMV and marketing our programs

Track Record of Success



Statewide Cumulative MMBTU Savings



Partnership

- Program Administrators
- DOER
- EEAC and constituencies
- Attorney General
- Vendors
- Contractors
- …and our customers

Objectives

- Maintain strong commitment to efficiency
- Meet or exceed customers' expectations
  - Consider energy consumption holistically
  - Increase ease of participation
  - Facilitate greater customer control over their consumption
- Meet state policy objectives for energy efficiency, and help support objectives for carbon mitigation

Engaging Customers

- Focus on positioning the Program Administrators as trusted energy advisors
- Empower customers to make educated decisions about their energy use
- Ensure that energy efficiency remains consumers' first choice in decisions about energy use

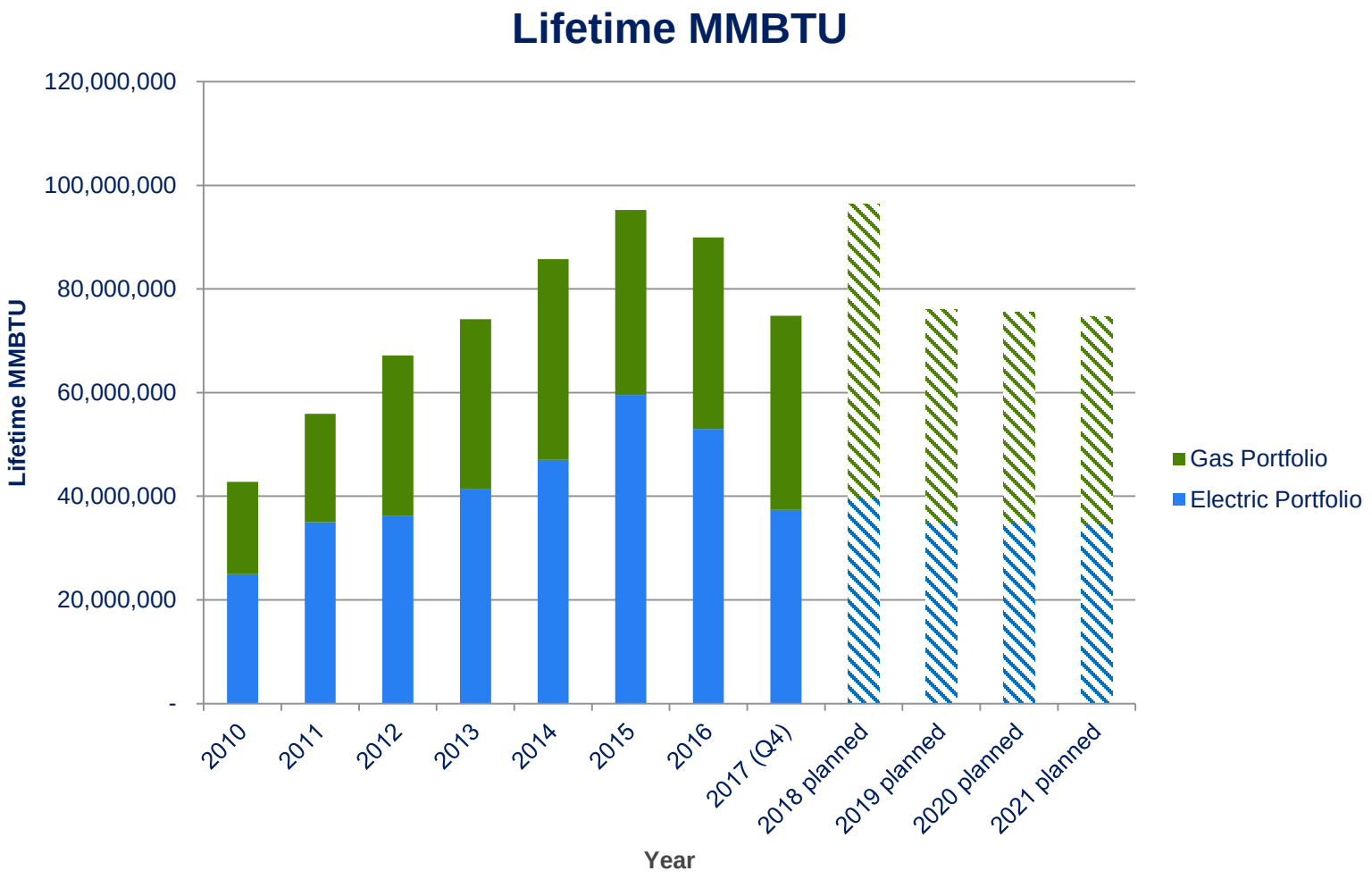
Challenges

- Diminished lifetime lighting savings
- Rising baselines due to the success of the programs' market transformation
- Managing bill impacts; today, consumers pay up to 10% of their bills to energy efficiency

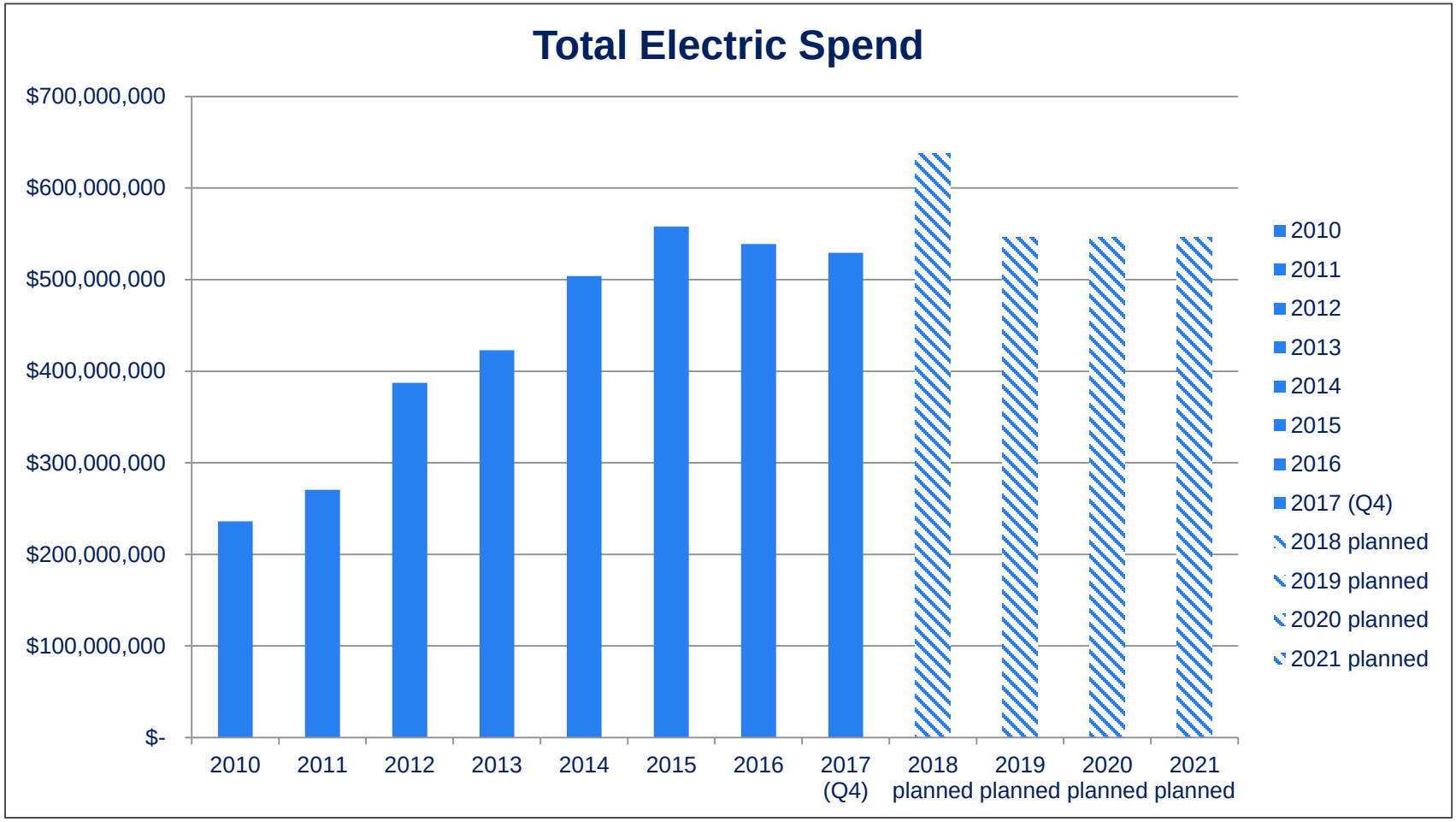
Our Response – Key Plan Elements

- Energy Optimization
- More choice for residential customers: Coordinated Delivery and Retail
- Platform for Integrated Services
- Demand Reduction
  - New scalable active demand reduction initiatives which allow for incorporation of multiple demand technologies
  - Implementation of multiple approved demonstration projects, including storage, in 2018 and 2019, which will provide lessons learned for potential additional demand efforts
- Market segmentation and increased targeting

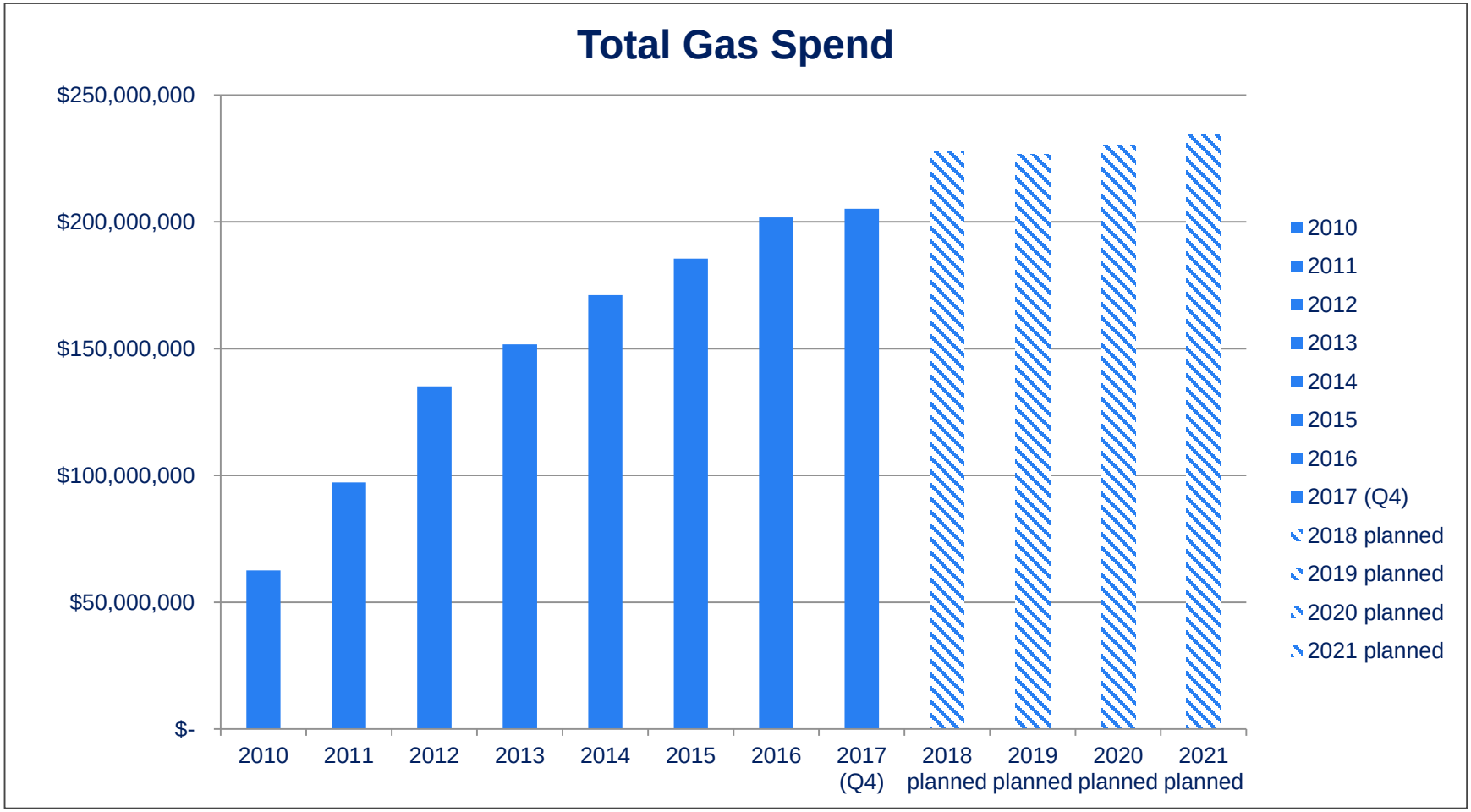
Lifetime MMBTUs 2010-2021



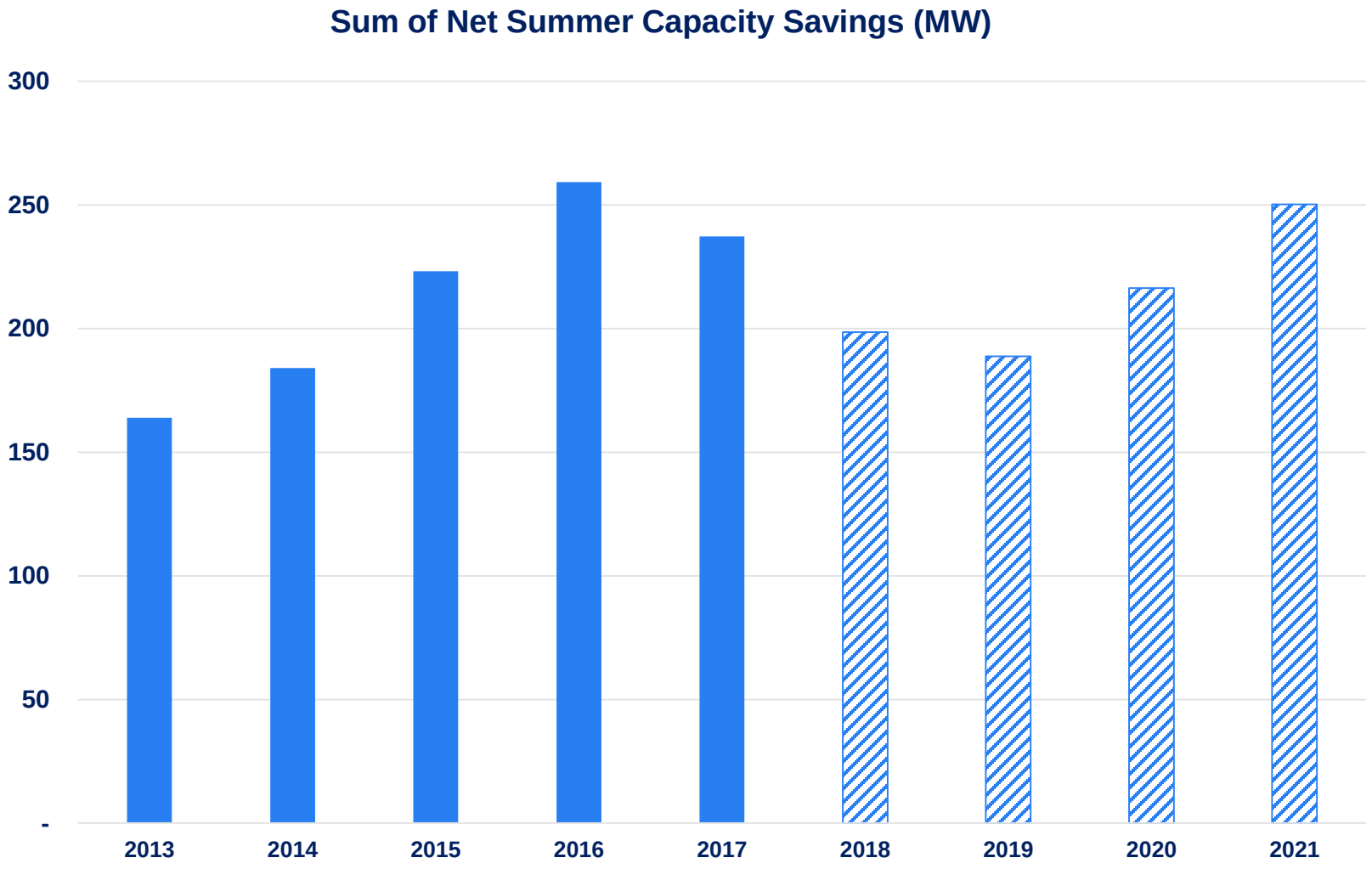
Strong and Sustained Commitment - Electric



Strong and Sustained Commitment - Gas

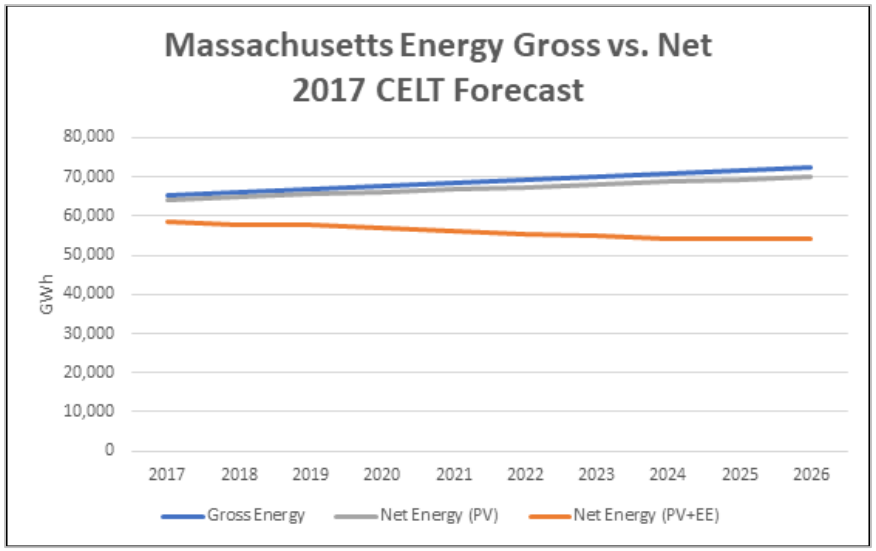


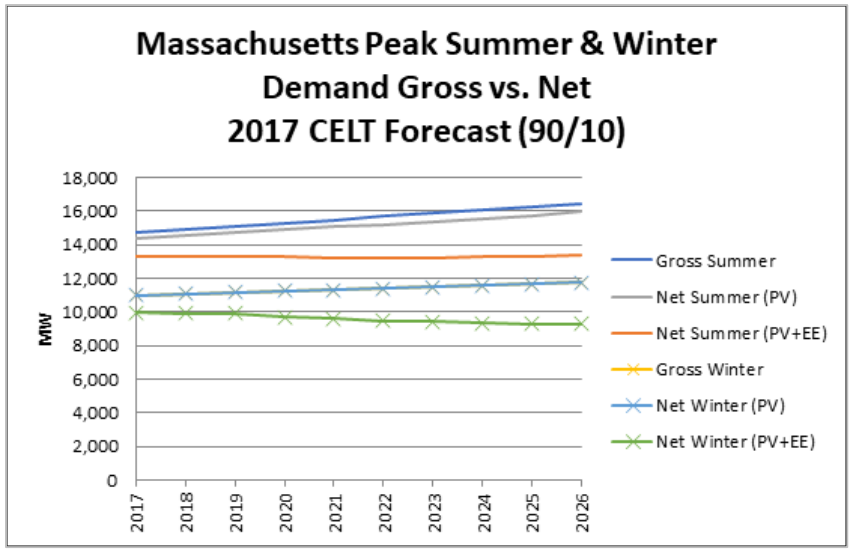
Sum of Net Summer Capacity Savings



Still First and Best Option for Meeting Resource Needs

- Energy efficiency continues to play an important role in reducing customer demand, and has a positive impact on system reliability
- As shown below, the ISO-NE's 2017-2026 Forecast Report of Capacity, Energy, Loads, and Transmission projects that, when considering energy efficiency, demand will remain relatively flat and annual energy use will decrease over the next ten years





*Note that Gross Winter demand and Net Winter (PV) trend identically.

Ensure Credibility through Evaluation Innovations

- Improved communication and collaboration between evaluation and implementation to sustain program improvement
  - Quick hit evaluations
  - Ex ante review, particularly baselines
- Improved prioritization of studies using a new tool
- Reporting improvements
- Application of credible baselines
- Encompass M&V of new technologies and emerging issues, such as DR, electric vehicles, load shapes, and energy optimization
- Research and savings claims of market effects
- Improved approach to coordinating studies of various aspects a particular program

What is Energy Optimization?

- Holistic and integrated approach to help customers address energy use and costs based on individual needs and goals
  - Build on successful integrated gas and electric program delivery
  - Provide education to help customers make informed decisions, including providing information about all heating measures available to help customers optimize energy consumption at their premises
  - Will result in lower customers' overall energy use and costs, though it may increase some aspects of consumption for customers for certain projects
  - Includes energy efficiency, integrated controls, active and passive demand reduction, and holistic approaches to reducing customers' overall energy use and costs, particularly for space and water heating, regardless of fuel
  - Can accommodate new measures and technologies over time

MMBTU Metric

- The overall goal is to reduce and manage energy consumption, regardless of fuel type
- An MMBtu metric accounts for all energy impacts (all fuels, all reductions, all additional use) and supports a holistic approach
- Most transparent method to assess the total impact of the programs - including electricity, natural gas, oil, and propane
- Single overall energy metric avoids confusing, conflicting goals
- Provides accountability for the Program Administrators to focus on seeking energy reductions, not on shifting energy consumption to alternative fuels
- Continue to report savings by each fuel type in tables, including MMBtu savings from the offset oil or propane usage in their claimed savings and account for the increase in primary fuel usage
- Electric Program Administrators will also have a kW goal

Gas Energy Efficiency

Collaboration

- Gas and electric programs remain aligned in 2019-2021 plan
- Thoroughly collaborative efforts
- Little change, if any, in gas incentives

Energy Optimization

Customer-centric

Holistic approach to energy use must include natural gas to support all cost-effective mandate

Supports environmental benefits

CUSTOMER-CENTRIC APPROACH

Customer-Centric Approach

Facilitate pathways to support the adoption of major measures for all customer segments, responding to opportunity where and when it is available.

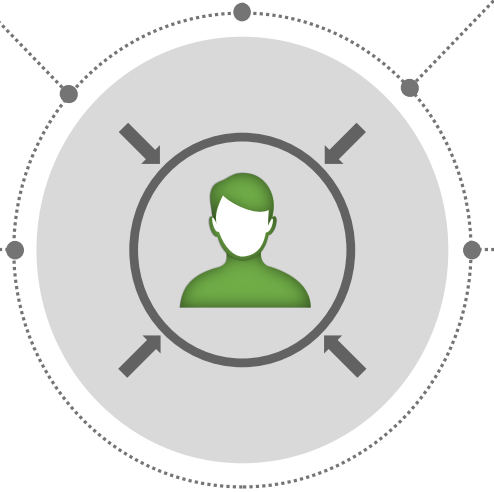
Facilitate

Leverage our relationships with contractors and trade allies to capture customers at all entry points.

Leverage

Provide streamlined, customer-directed options that respond to each customer's motivations and barriers to participation.

Simplify



Advise

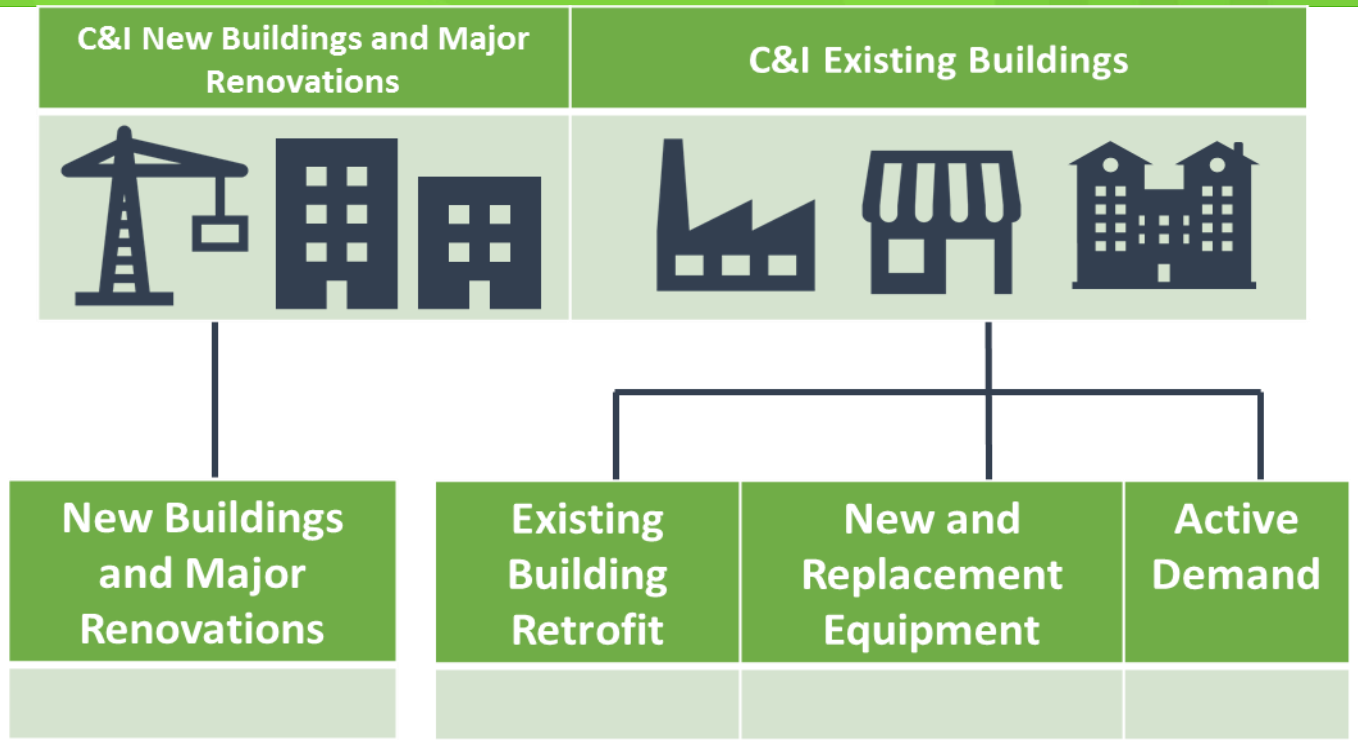
Become our customers' trusted energy advisor, by empowering them to make educated decisions about their energy use.

Maximize

Design every interaction to maximize the customers' overall savings and benefits.

C&I PROGRAMS

Commercial & Industrial: Programs and Pathways to Reflect Customer Activity



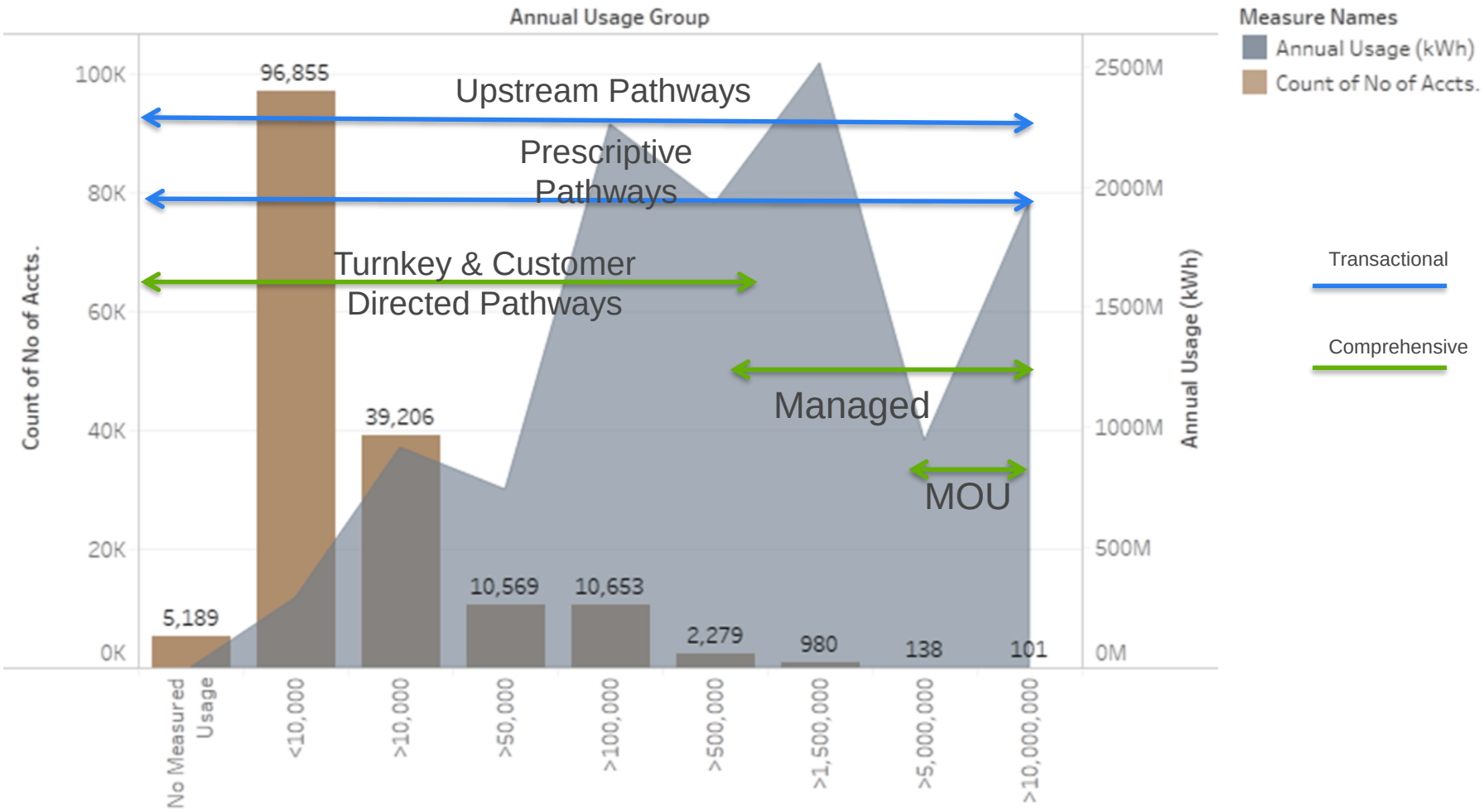
- A more intuitive and customer-focused plan
- Alignment with customers' building state or activity:
  - Building a new building – optimize design & systems
  - Upgrading an existing building – optimize & upgrade existing systems

Strategic Enhancements- Commercial & Industrial

- Diverse and Refined Delivery Pathways
- Mass Save® Application Portal
- Streamlined Market and Sector Specific Strategies
- Thoughtful Expansion of Upstream Delivery
- Enhancements for Whole Building New Construction
- Workforce Development, Training Platforms
- Active Demand Reduction Implementation

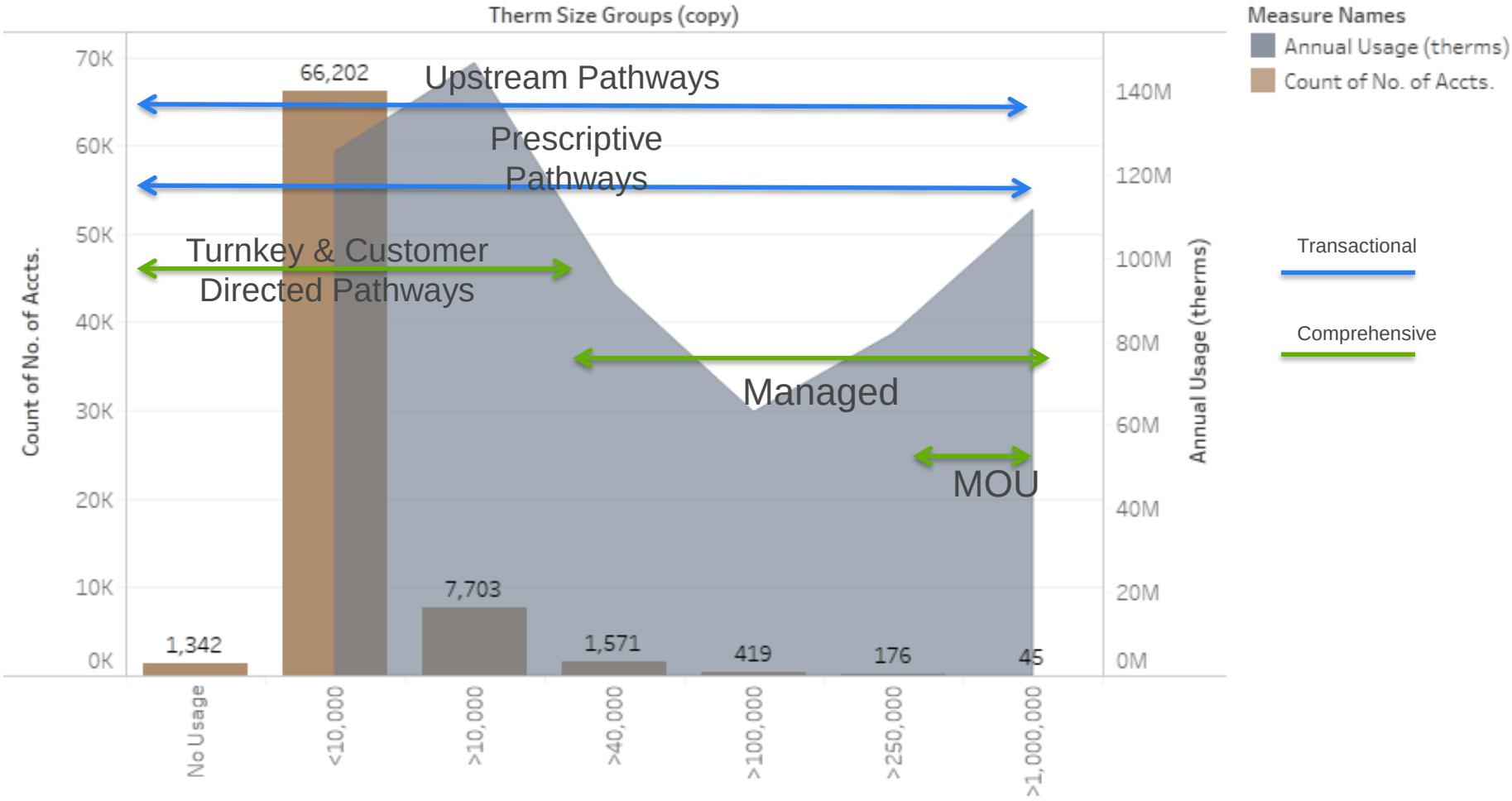
How the pathways align with all types and sizes of customers - electric

Example Customer Distribution



How the pathways align with all types and sizes of customers - gas

Example Customer Distribution



Expanding Services & Offerings for Customers

Expanding offerings

- Using Segment Specific Approaches – Industrial, Municipal, Multifamily, Small Business and more
- Promotion of technology plus controls
- Expansion of upstream delivery
- Active demand reduction

Expanding trainings

- More educated workforce and customer base broadening the provider pool
- Enhanced relationships with business partners to increase customer entry points
- Mass Save® Application Portal

Expanding comprehensive focus

- Customer focused technical assistance emphasizing deeper and more complex solutions for more customers
- Emphasis on increasing savings from lighting with controls, CHP, industrial process savings, HVAC systems, rather than discreet widgets

New Buildings Program

From Boston to the Berkshires and everywhere in-between

Hub at Causeway Boston; Boston.curbed.com

Treehouse Brewery; treehousebrew.com/blog

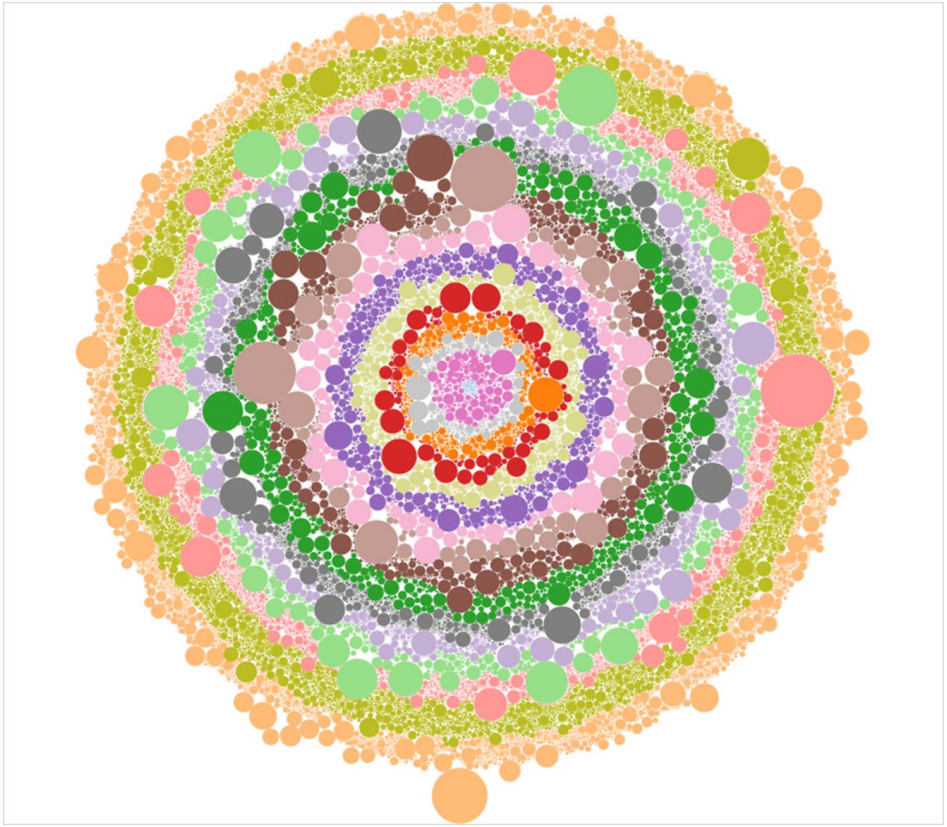
Solutions for customers at all stages of construction

- Whole Building Approach - Integrated design process- early and full engagement, precision modeling
- Systems Approach to capture more savings opportunities
- Codes & Standards Support to transform markets

Existing Buildings Program

- Enhancements
  - Expedited Paths to Capture Operations & Maintenance & Retrocommissioning Savings
  - Trainings for Customers & Business Partners
  - Segment Specific Approaches
  - Strategic Energy Management Cohort Approach
  - Leveraging Channel Partners
  - Active Demand Reduction offering

Many approaches needed to reach the diverse universe of existing C&I customers



Hard-to-serve Populations: Small Business & Non-Profits

- **Program Administrators are committed to ensuring that small business customers have access to energy efficiency opportunities**

Two specialized delivery paths targeted to small business customers and most non-profits	
Turnkey Approach	• Highly facilitated process • Integrates gas and electric measures • Provides simplified assessments, proposal, and measure installation • Addresses time and complexity barriers
Customer Directed Option	• Customer chooses the installation vendor • Customers pursue EE upgrades similar to those offered through Turnkey approach

- **In addition, the Program Administrators ensure products are promoted and delivered through distributors at point-of-sale allowing customers of all sizes to essentially self-serve and install high-efficient equipment**

RESIDENTIAL PROGRAMS

Residential Realignment: We are Listening

- Integrated program design to maintain strong savings and benefits
- Participation from all customers, in particular moderate income households, renters, and all geographies
- Robust multi-unit building participation
- Active demand reduction offer
- Zero Energy Ready and Passive House support
- Strong Income Eligible Programs

Strategic Enhancements: Residential

- Refined Delivery Pathways
- Retail Reimagined
- Additions and Renovations
- Pay for Savings for New Homes & Renovations
- Passive House and Zero Energy Ready
- Active Demand Reduction Offering

Hard-to-Serve Populations: Moderate Income

- **PAs have realigned the residential program to encourage entry and provide participation paths that reduce customer required time and effort through increased tailoring and facilitation**

- **A recent evaluation suggests that time is the greatest challenge moderate income customers face in participating in the Program Administrators' programs:**

• Planned savings and budgets • Have more free time • Are more aware and likely to participate in an HEA	• Have little disposable income • Have minimal free time • Decision to participate is dependent on the perceived value they will receive for their time.

Hard-to-Serve Populations: Moderate Income

Moderate income and renter customers remain a high priority for Program Administrators:

- Program Administrators are also redoubling efforts to use evaluations and market research, along with community partner and stakeholder input, to ensure we are continuously learning and expanding our program to equitably serve all customers.

Hard-to-Serve Populations: Renters

- **Customers will continue to be offered pathways to participation in rental situations where landlords are present and in situations where landlords are not present.**

Landlord Participation	No Landlord Involvement
Landlord installs measures	Tailored Energy Savings Package

Multi-Unit Buildings

➢ Building science approach to multi-unit buildings

Smaller buildings

- HES style delivery and incentives
- Scaled incentives based on participation to encourage landlords and condo owner participation

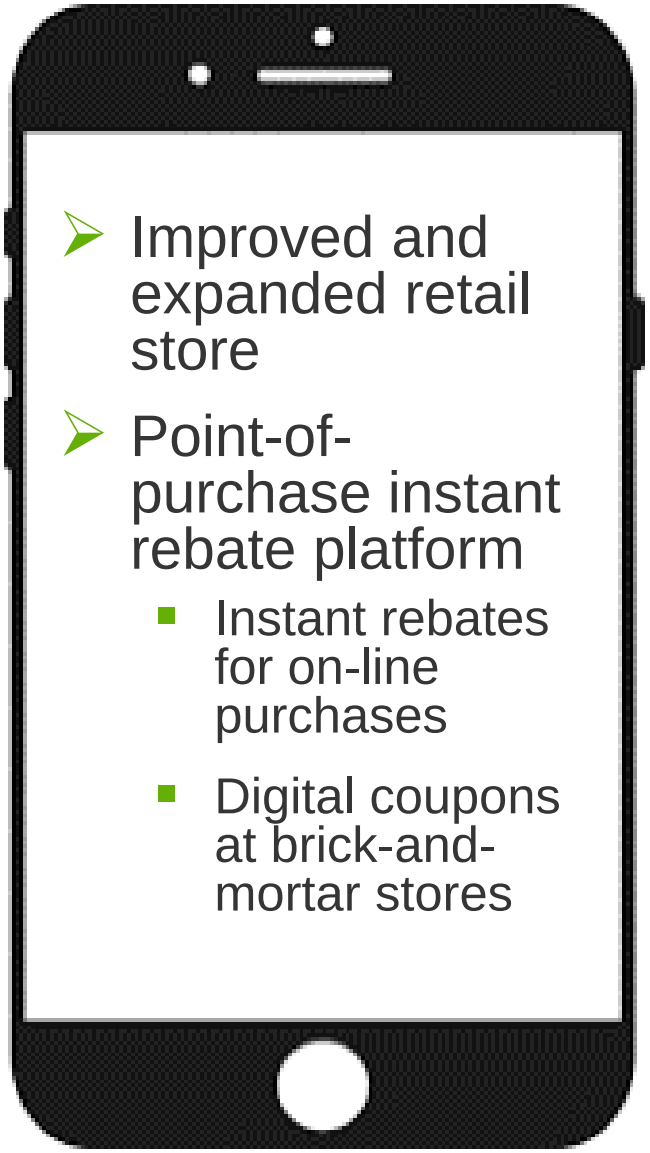
Larger buildings

- Custom delivery, incentives and savings
- Business proposition for property owner

Increased Facilitation of Services

Increasing customer capture	• Expanded on-line assessment, enrollment and in-take options • Streamlined delivery paths
New and expanded methods for realizing savings	• More education at in-home visits and in customer follow-up • Fuel optimization • More products offered mid-stream • Active demand reduction
Increasing conversion rates for HVAC and weatherization measures	• Enhanced relationships with trade allies to increase customer entry points • Help for customers to secure ancillary services (e.g. pre-weatherization barriers)

Improved and Expanded Self-Service Options



New Homes and Renovations

- New customer path: renovations and additions
- Pay for Savings
- Passive House
  - Garner lessons learned from participating customers
  - Targeted trainings, technical support, incentives
- Zero Energy Ready
  - Continued relationship with MA Clean Energy Center for ZNE and ZNE Ready education
  - Exploration of incentives

PHIUS+: Stone Fruit Farm

Pre-Certified PHIUS+ Distillery North

Income-Eligible Enhancements

Leveraging Technology and Data

- Enhanced online assessment and intake tools
- EPA portfolio manager tool for landlord/tenant data
- Geographic tab on Mass Save data that provides usage data by town by month
- Increased data collection for mid-stream products
- Tracking systems that maintain customer privacy and security

Looking Ahead – Next Steps

- Refinement of delivery details
- Continued vendor/contractor conversations
- Marketing and outreach strategies
- Transition timelines

GOAL DEVELOPMENT AND NUMBERS

Factors in Developing Goals

- Program Administrators consider numerous factors in developing Plan goals, including:
  - Quality of program implementation
  - Customer economic conditions
  - Bill impacts
  - Market conditions/seasonality for various measures
  - Lower avoided costs
  - Market barriers
  - Equity concerns
  - The need to avoid “stops/starts” that send negative messages to the contractor community
  - The capacity and reach of vendors and contractors
  - The need to provide consistency over time to be able to capture time-dependent opportunities such as renovations and new construction
  - The need to accommodate new technologies over time

Budgets, Savings, and Benefits by Fuel

Electric Program Administrators				
	2019	2020	2021	2019-2021
Budgets ($)	546,115,992	546,124,782	545,778,813	1,638,019,587
Lifetime Savings (MMBTU)	34,609,995	34,053,736	34,227,358	102,891,089
Annual Savings (MMBTU)	3,233,126	3,170,240	3,217,941	9,621,307
Summer Peak Demand Reductions (kW)	180,711	208,371	242,295	631,377
Benefits ($)	1,546,677,055	1,551,680,026	1,557,514,401	4,655,871,482

Gas Program Administrators				
	2019	2020	2021	2019-2021
Budgets ($)	226,711,853	230,196,846	234,382,612	691,291,311
Lifetime Savings (MMBTU)	34,887,992	34,950,707	34,559,419	104,398,118
Annual Savings (MMBTU)	2,703,845	2,716,023	2,702,075	8,121,944
Benefits ($)	534,293,073	533,670,047	529,202,023	1,597,165,143

IN THE WORKS…

Not Yet Fully Developed – details to come

- Bill impact calculations
- Whole house/Passive House details
- Enhanced financing mechanisms
- Standards support
- Instant rebates
- Details on energy optimization efficient heating equipment incentives
- Performance incentives pool and any tweaks to mechanism
- Finalize written response to Council's strategic recommendations

APPENDIX

Informed Customer Choices – Heating Equipment Example

- During an assessment, customers will receive information regarding the costs, financial incentives, other government agency incentives, estimated payback periods, energy savings, and emissions reductions of various heating measures, regardless of fuel type, that are offered through the programs and are appropriate to their premises
- Program Administrators will educate customers and encourage the use of available technology, as appropriate, to help customers operate their new systems optimally and efficiently
- While the Program Administrators will not be recommending specific or preferred technologies, the Program Administrators are expecting that the increased education will result in some customers electing to convert from oil or propane to highly efficient heat pumps or gas equipment when those choices are cleaner and less expensive than their current system
- Customers may also leverage incentives offered by other government entities, such as DOER and MassCEC

THANK YOU!