Key Drivers Summary

Joint Presentation of the Consultants and PAs

August 29, 2018

MA ENERGY EFFICIENCY ADVISORY COUNCIL

→ CONSULTANT TEAM

mass save

Savings through energy efficiency

Recap and Results of Key Drivers Discussions

- Process used by PAs and consultants to share data and better understand planning assumptions
  - Not an overall goal negotiation or policy discussion
- Assisted PAs and consultants with determining differences and finding some common ground
  - Conversations resulted in some agreed-to changes in planning details such as: unit quantities, ramp rate, strategies
- Changes may be difficult to isolate in overall goals due to net effects of things such as:
  - Evaluation results
  - Some increases and some decreases
  - Impact of measure level assumptions depends on the contribution of that measure in the portfolio

2018 Key Drivers Groups

- Various key drivers groups were established in discussion with PAs, DOER, and consultants
- Discussion topics were mostly quantitative focused, with some additional strategic/qualitative topics:
  - C&I – lighting, HVAC, and process
  - Active demand including storage
  - Residential lighting
  - CHP
  - Heat pumps (all sectors)
  - Residential program realignment
  - Small business and small nonprofits
  - Low-Income

Residential Lighting

- **Key areas of discussion**:
  - Retail lighting - how fast and in what years lighting attribution will decline
- **Changes resulting from discussions**:
  - PAs increased 2019 units to better reflect trends seen in 2017 and 2018 actuals and updates to the Market Adoption Model
- **Existing savings gaps**:
  - PAs agreed to higher revised unit numbers and consultants agreed
- **Other open issues**:
  - Whether the program should be run in 2021 and the extent of unit and savings decline in 2020.

Heat Pumps (all sectors)

- **Key areas of discussion**:
    - Energy optimization
    - Question of removing of existing heating systems
    - Baselines
    - Heat pump water heaters
    - Replacements of electric resistance heat
    - Customer education/contractor training
    - C&I opportunity – make them a Small Business/Turnkey measure?
- **Changes resulting from discussions**:
    - PAs looking into C&I opportunities
- **Existing savings gaps**:
    - PAs and consultants still reviewing results of EM&V and other analyses to determine potential savings opportunity.
- **Other open issues**:
    - Discussions on heat pumps ongoing, including research on evaluation questions.
    - What are appropriate savings to plan for C&I applications

Residential Program Realignment

- **Key areas of discussion**:
  - Weatherization trends
  - Customer experience
  - Negative customer costs
  - TRC costs
  - Incentive levels
  - Reporting buildings vs. units
  - Duct sealing
  - Participation levels
  - Qualified or verified HVAC installations
  - Balance of indicators vs. focus on overall portfolio savings/costs
  - Focus on weatherization and heating systems vs. smaller measures
  - Conversion rates and barriers,
  - Downward trends (lighting, baselines)
  - Customer focus,
  - AMI meters/technology
  - Customer platform

Residential Program Realignment (cont.)

- **Changes resulting from discussions:**
  - No specific number changes, but PAs agreed to review several items and make some programmatic updates, including:
    - Testing pre-weatherization barrier facilitation and introducing additional pre-weatherization HEAT loan financing
    - Providing a connected experience for non-English speakers
    - Investigating community models to target geographic areas
    - Moving some thermostats to retail program
    - Examining additional opportunities for duct sealing
    - Working on workforce development strategy
- **Existing savings gaps**:
  - Agreement on need to interact differently with customers
  - Agreement that more effort higher cost to deliver will be required going forward
  - Gaps exist on the savings that are achievable in the next three years, how they will be achieved, and program design details

C&I – Lighting, HVAC, and Process

- **Key areas of discussion**:
  - Achievable lighting savings, particularly from controls and increasing efficacy
  - Total HVAC potential, particularly from controls and large custom projects, total process potential, ramp rates
- **Changes resulting from discussions**:
  - Consultants revised lighting numbers using a DOE methodology, rather than PA Max Potential-based numbers
    - The three-year value is lower because 2019 values are lower, but later years remain the same
  - Eversource and National Grid committed to increases in HVAC/Process in response to the consultant recommendations

C&I – Lighting, HVAC, and Process (cont.)

- **Existing savings gaps**:
  - Significant savings differences remain for HVAC and process
    - Primary disagreement is on appropriate rates and magnitude of ramp up
- **Other open issues**:
  - Evaluation numbers and findings are still in flux
  - Available potential in HVAC
  - Cost to achieve of lighting controls
  - Cost to achieve for new HVAC and Process efforts
  - Additional PA corrections (particularly on lighting) may affect the gap (in either direction)

CHP

- **Key areas of discussion**:
  - Forecast of known CHP projects probability factors
  - Inclusion of a known Eversource CHP project
- **Changes resulting from discussions**:
  - Eversource to include a large CHP project that was initially excluded to wait for evaluation results
- **Existing savings gaps**:
  - None – agreement reached.
- **Other open issues**:
  - How the known large project will be incorporated in the plan: timing/exact savings levels

Small Business (Turnkey Delivery)

- **Key areas of discussion**:
  - Potential from lighting, lighting controls, and HVAC controls
  - Impact of increased Main Streets efforts
  - EMS system savings
- **Changes resulting from discussions**:
  - National Grid revised electric savings to align with the consultants' recommended three-year goal
  - Eversource agreed to add a retrocommissioning effort to both its electric and gas programs
- **Existing savings gaps**:
  - None on electric—agreement reached. Further follow-up on gas
- **Other open issues**:
  - Replicability and opportunity related to specific ISM approach
  - Ramp rate of lighting and HVAC controls
  - How evaluation treats EMS baselines

Low-Income

- **Key areas of discussion**:
  - Lighting assumptions and lighting fixture design
  - Potential new measures and cost-effective savings
  - Participants
  - Differences among PAs
  - Wi-Fi thermostats
  - Duct sealing
  - Multi-family electric weatherization
  - Behavior
- **Changes resulting from discussions**:
  - National Grid revising lighting production numbers to same downward trend as other PAs
  - PAs to include small amount of wi-fi themostat production and will testing/piloting measure in 2019
  - Eversource updating heat pump savings and incentives per unit based on 2017 actuals
- **Existing savings gaps**:
  - PAs and consultants expect to be aligned
- **Other open issues**:
  - Heat pump savings, including evaluation issues
  - Service of 60-80% SMI customers
  - exploration/ screening of new measures

Active Demand Including Storage

- **Key areas of discussion**:
  - Combined delivery of energy efficiency and demand
  - Clarification on methodologies for determining savings
  - Penetration and uptake of measures
  - Alternative incentive models
- **Changes resulting from discussions**:
  - PAs to expand narrative on combined delivery and eligibility of storage to participate
  - PAs refining statewide active demand proposal to include a specific called-out winter active demand component.
- **Existing savings gaps**:
  - Projections did not change as a result of discussions
- **Other open issues**:
  - Final results of demonstration projects.

Questions?