MA ENERGY EFFICIENCY ADVISORY COUNCIL

→ CONSULTANT TEAM

PRESENTATION ON 2019-2021 PLAN

▶ October 25, 2018

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AGENDA

- Introduction
- High level Plan metrics
- Term Sheet summary
- Council Priorities in revised Plan
- Next Steps

BACKGROUND

- **Review of "Plan" is primarily based on review of:**
  - September 14 Revised Plan
  - Term Sheet, October 19
  - Plan Data Tables, Electric and Gas, October 19
  - PA Memorandum to the EEAC, posted October 22

- **Additional review of Benefit-Cost Screening Tools**
  - Received Monday night, October 22 (limited time for review)
  - Additional details on savings, benefits, and costs
  - Measure level details

2019-2021 TERM SHEET ELECTRIC SUMMARY

Statewide Electric Summary

	2019-2021
Net Annual MWh (No FS)	**3,461,294**
Net Lifetime MWh (No FS)	**35,672,978**
Net Annual Site MMBTUs (EE other than CHP)	10,892,732
Net Annual Source MMBTUs from CHP	1,107,268
Total Adjusted Annual MMBTU	**12,000,000**
Net Lifetime Site MMBTUs (EE other than CHP)	120,396,475
Net Lifetime Source MMBTUs from CHP	22,071,692
Total Adjusted Lifetime MMBTU	**142,468,167**
Summer MW (including Active)	**665**
Winter MW (including Active)	**500**
CO2e Reductions	**2,137,288**
Benefits ($M)	**$ 6,560.8**
Budget ($M)	**$ 1,995.0**
Performance Incentive ($M)	**$ 114.0**

2019-2021 TERM SHEET GAS SUMMARY

Statewide Gas Summary

	2019-2021
Net Annual Therm	95,886,212
Net Lifetime Therm	1,192,251,177
Net Lifetime MMBTUs	119,463,568
CO2e Reductions (Tons)	622,290
Benefits ($M)	$ 2,000.0
Budget ($M)	$ 799.5
Performance Incentive ($M) (Design Level)	$ 23.0

CONSULTANT VIEWS

- Positive progress and increasing in savings since September 14 Revised Plan
- Gas savings at 1.25% of sales - highest ever
- The Plan has many good and innovative ideas; pursuing some new opportunities
- Commitment to Active Demand, both summer and winter, and to fuel switching
- Change to multi-goal framework including MMBtus, demand MW and GHG
- Two new PI components for active demand and renters
- The Plan maintains a sustainable trajectory for gas and electric energy efficiency savings into the future

CONSULTANT VIEWS

- The Plan currently lacks the necessary details for consultants to fully understand the efficacy of the budget
- There are significant headwinds for residential electric savings efforts; near-future program design issues remain (redesign still needed for 2020-2021)
- CI efforts continue to find new opportunities and develop new program offerings
- CHP impacts increase sharply in 2020
- Given limited time for review, Consultant slides focused on Council priorities

2019-2021 ELECTRIC PROGRAM SAVINGS GOALS

Lifetime MWh	PA April 30th Draft Plan	PA Sept 14 Revised Plan	PA Oct 22nd Revised Plan*
Residential	4,820,892	4,617,602	4,659,430
Low Income	1,003,086	1,137,336	1,064,230
C&I	23,133,721	27,766,487	30,644,903
Total	**28,957,699**	**33,521,426**	**36,368,563**

Annual Savings as % of Sales	PA April 30th Draft Plan	PA Sept 14th Revised Plan	PA Oct 22nd Revised Plan*
Residential	2.26%	2.43%	2.53%
Low Income	1.91%	2.04%	1.89%
C&I	2.33%	2.52%	2.84%
Total	**2.29%**	**2.47%**	**2.70%**

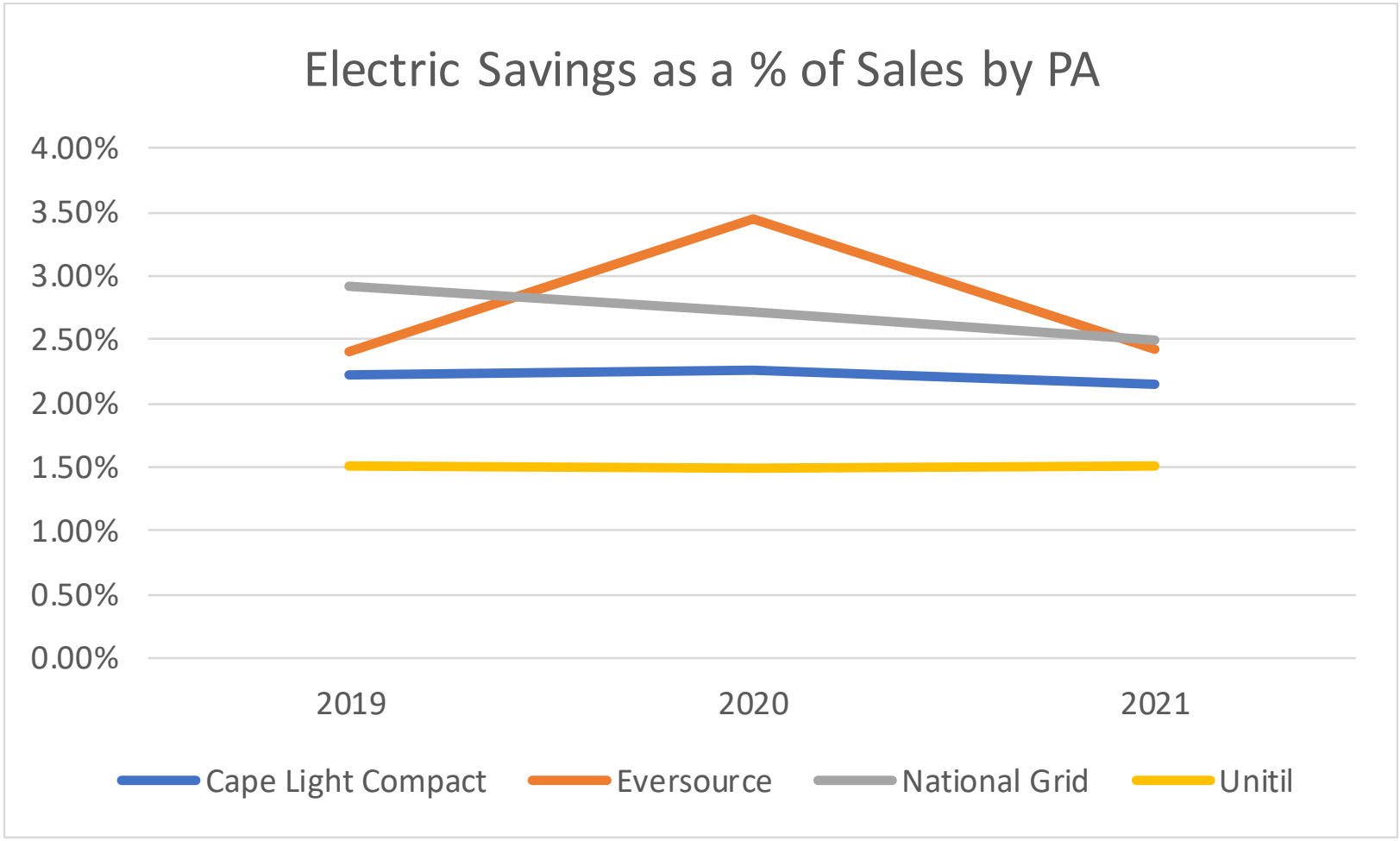
*Excludes fuel switching and active demand management impacts

2019-2021 GAS PROGRAM SAVINGS GOALS

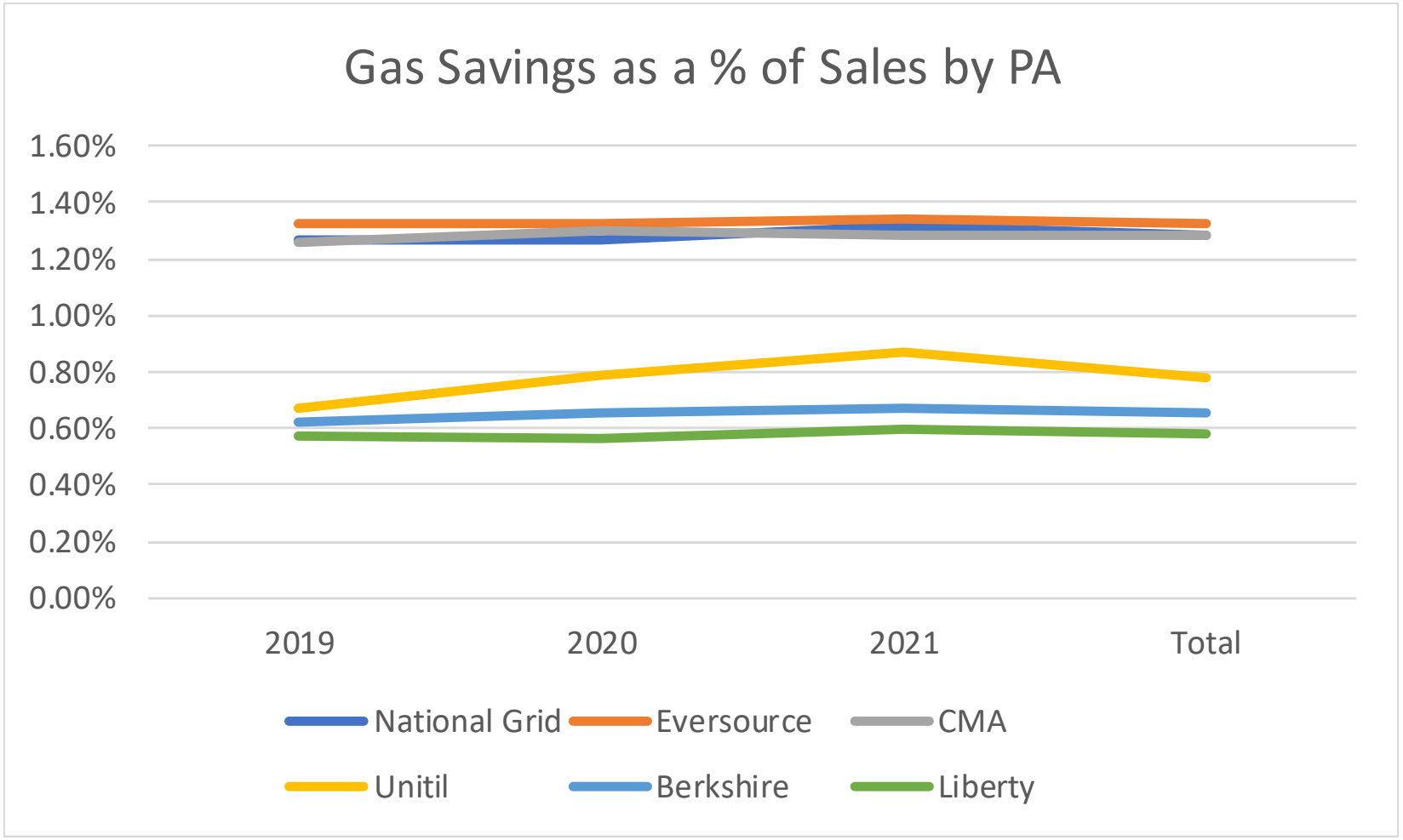
Lifetime Therms	PA April 30th Draft Plan	PA Sept 14 Revised Plan	PA Oct 22nd Revised Plan
Residential	521,222,857	470,438,416	550,995,600
Low Income	141,943,335	135,229,028	135,803,664
C&I	361,996,290	439,655,489	564,640,331
Total	**1,025,162,483**	**1,045,322,933**	**1,251,439,595**

Savings as % of Sales	PA April 30th Draft Plan	PA Sept 14th Revised Plan	PA Oct 22nd Revised Plan
Residential	1.28%	1.20%	1.39%
Low Income	1.70%	1.63%	1.66%
C&I	0.75%	0.90%	1.07%
Total	**1.04%**	**1.08%**	**1.25%**

ELECTRIC SAVINGS AS % OF SALES BY INDIVIDUAL PA



GAS SAVINGS AS % OF SALES BY INDIVIDUAL PA

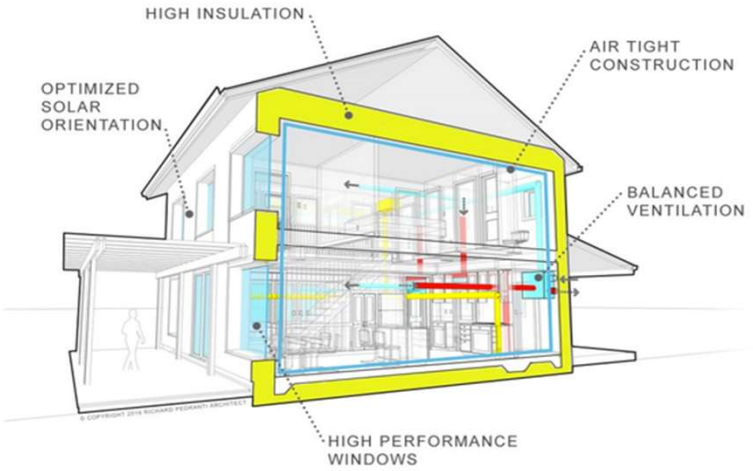


PRIORITY: UNDERSERVED POPULATIONS AND GEOGRAPHIES

- **Performance incentive includes a component for increased renter participation**
  - $2M for electric and $1M for gas
- **PAs provide timeline for non-English speaker enhancements (by Sept 2019)**
- **PAs will engage with municipalities and communities with historically low participation rates**
- **PAs will report on underserved population metrics**
- **Still needed:**
  - Report to EEAC on LEAN moderate income demonstration results and plans moving forward
  - Dedicated HVAC approaches and incentives
  - Enhanced rental outreach/marketing strategy
  - Changes to income qualification process

PRIORITY: ZERO ENERGY READY BUILDINGS AND PASSIVE HOUSE

- **Full details to be provided in Final Plan**
- **PA memo indicates:**
  - PAs will implement Passive House offering through training efforts and incentives
  - Incentives for soft costs available for multiple steps in process
  - Incentives also calculated on a $/kWh and $/therm basis
  - Incentives will launch no later than July 1, 2019



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PRIORITY: FUEL SWITCHING

- **PAs plan to:**
  - Provide information on fuel/system options, cost, and environmental impacts
  - Offer conversion incentives for oil/propane to electric hp
- **PAs have agreed to report of fuel switching bi-annually in quarterly reports**
- **No oil to gas fuel switching included in Plan**
- **Customers receive fuel neutral recommendations**
- **More work needed to address C&I fuel switching**

PRIORITY: FUEL SWITCHING – AIR SOURCE HEAT PUMPS

- **The PAs will target the following number of cold climate air source heat pump installations (total 2019-2021):**
  - 37,993 customers (Residential)
  - 6,082 customers (Low Income)
  - 17,980 units (C&I)

- **The PAs will report bi-annually in the quarterly reports on the number of heat pump installations, including specifying the number of heat pumps related to fuel switching.**
- **PAs are offering increased incentives for cold climate heat pumps**

PRIORITY: ACTIVE DEMAND MANAGEMENT (ADM)

ADM Summer Peak MW	PA April 30th Draft Plan	PA Sept 14th Revised Plan	PA Oct 22nd Revised Plan
Res & LI T-stats/Direct Load Control	9.5	15.1	20.8
C&I Curtailment	106.6	138.0	192.8
Storage - BTM	4.0	33.5	(included in above)
Total (w/ storage)	**120.1**	**186.6**	**213.6**

- **At least 200 MW summer and 50 MW winter ADM**
- **Increased attention to winter peak demand issues; study on winter demand benefits**
- **More effective program design for energy storage; storage offerings in all sectors**
- **Performance incentive metric for ADM ($5 million)**

PRIORITY: INTEGRATED MULTI-FAMILY FRAMEWORK

- **The PAs' new Residential Coordinated Delivery Initiative appears to provide enhanced integration of the multi-family framework.**

- **The PAs have committed to maintaining distinct multi-family reporting to the Council, which will support assessment of participation levels and other progress in achieving the priority**

PRIORITY: PROVIDE NEW INTEGRATED RES PROGRAM DESIGN

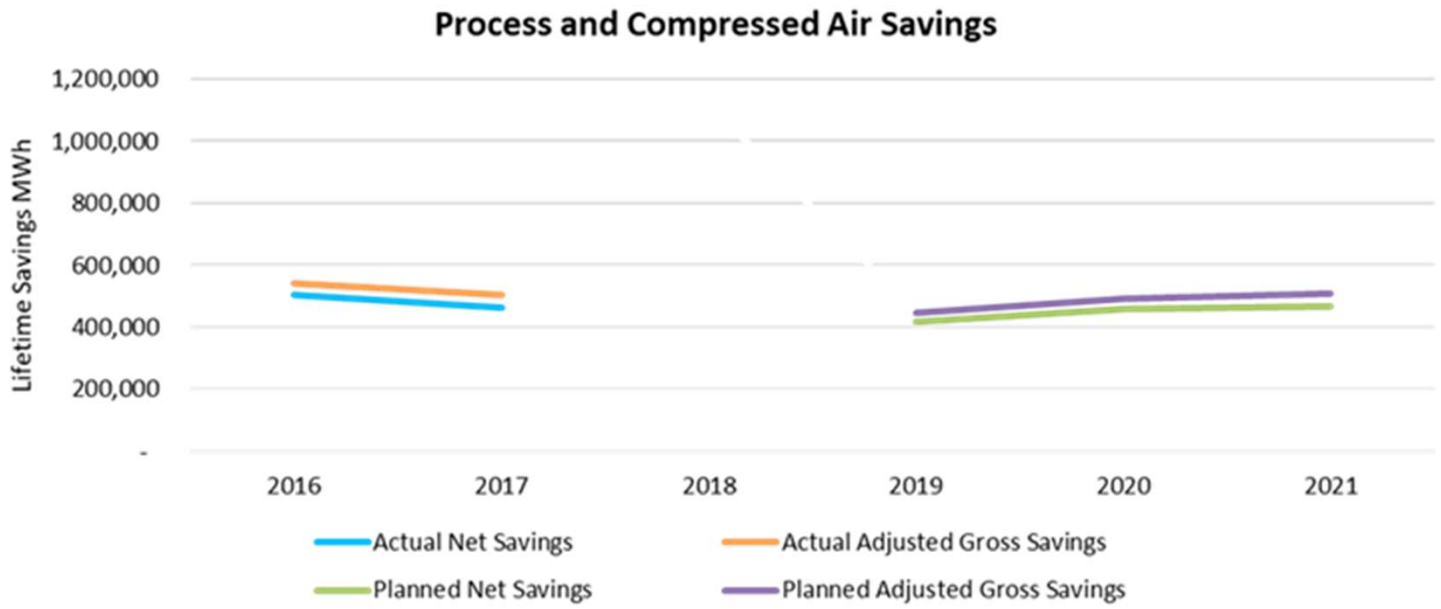
- **Residential plan falls short of a new program design**
  - PAs propose a set of enhancements that—while adding value--falls short of the level of innovation needed to mitigate the downward trend in participation and savings
- **Recommendations:**
  - PAs provide list and estimated timeline for planned enhancements in final plan
  - In September 2019, the Program Administrators provide and present to the EEAC a redesign of their residential plan, including:
    - report on the results of the PAs' development and implementation of proposed enhancements to be demonstrated and tested in 2019
    - revised program plan with quantitative participation, costs, and energy savings projections for 2020 and 2021.

PRIORITY: LOW INCOME

- **Low income programs are testing new measures and approaches including:**
  - Wi-fi thermostats
  - Air source heat pumps
  - Active demand management
  - Coordinated service delivery with market rate program for 1-4 unit mixed income buildings
- **PAs and LEAN will evaluate use of U.S. Department of Energy-approved electronic audit tools**

PRIORITY: C&I SECTOR SAVINGS

- Increased CHP savings from Sept. 14 draft Plan
- HVAC, process, and lighting savings all increasing from 2017



PRIORITY: DATA MANAGEMENT

- New reporting commitments in term sheet
- Six additional key performance indicators to be determined
- New reporting through RCS in 2019
- Comprehensive data collection and management not specifically addressed in the Plan

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THANK YOU

Questions?

- October 25, 2018

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