

SUCCESS INDICATORS FOR THE 2019-2021 PLAN – MMBTU ANALYSIS

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▶ March 19, 2018 (draft 3)

WHY CONSIDER ADDITIONAL SUCCESS INDICATORS?

- ▶ **Count all of the savings associated with the state policy and what the policy and programs are focused on**
 - Count oil and propane savings due to the electric programs
- ▶ **Be consistent with savings and costs**
 - When the electric program pays for oil savings, count the oil savings towards the electric program goal
- ▶ **Address additional state policies**
 - Fuel switching, energy optimization
- ▶ **One option: lifetime MMBTUs as an all-in energy indicator**
 - Replacement for annual savings as % of retail electric sales
- ▶ **Consider additional indicators, but also continue to use both *electric savings* and *benefits***

INCONSISTENT TREATMENT OF SAVINGS VS. COSTS CURRENTLY

Current practice:

Savings

- ▶ Electric

Costs

- ▶ Electric
- ▶ Oil
- ▶ Propane
- ▶ Gas

Using MMBTUs to capture all fuel savings:

Savings

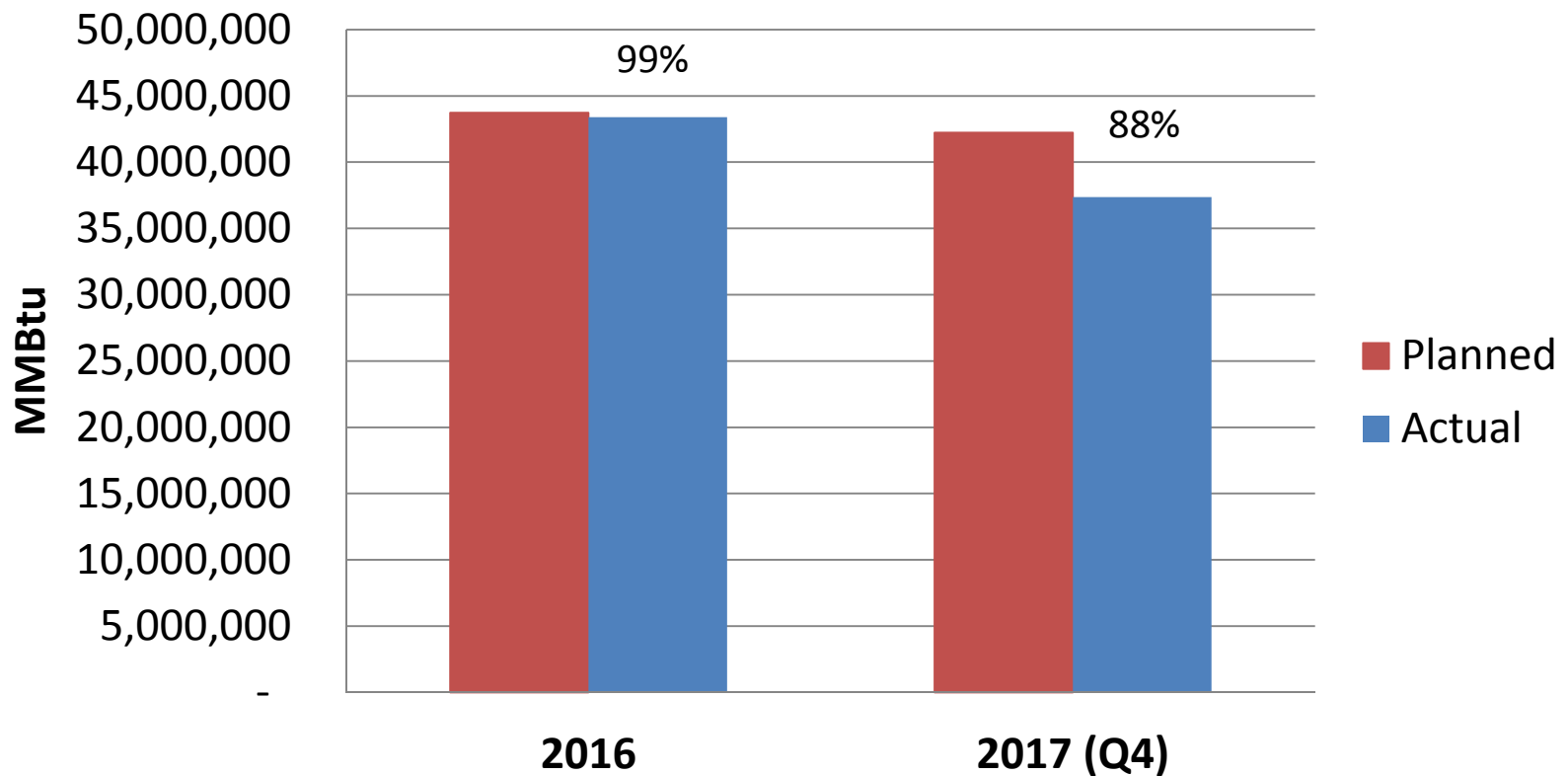
- ▶ Electric
- ▶ Oil
- ▶ Propane
- ▶ Gas

Costs

- ▶ Electric
- ▶ Oil
- ▶ Propane
- ▶ Gas

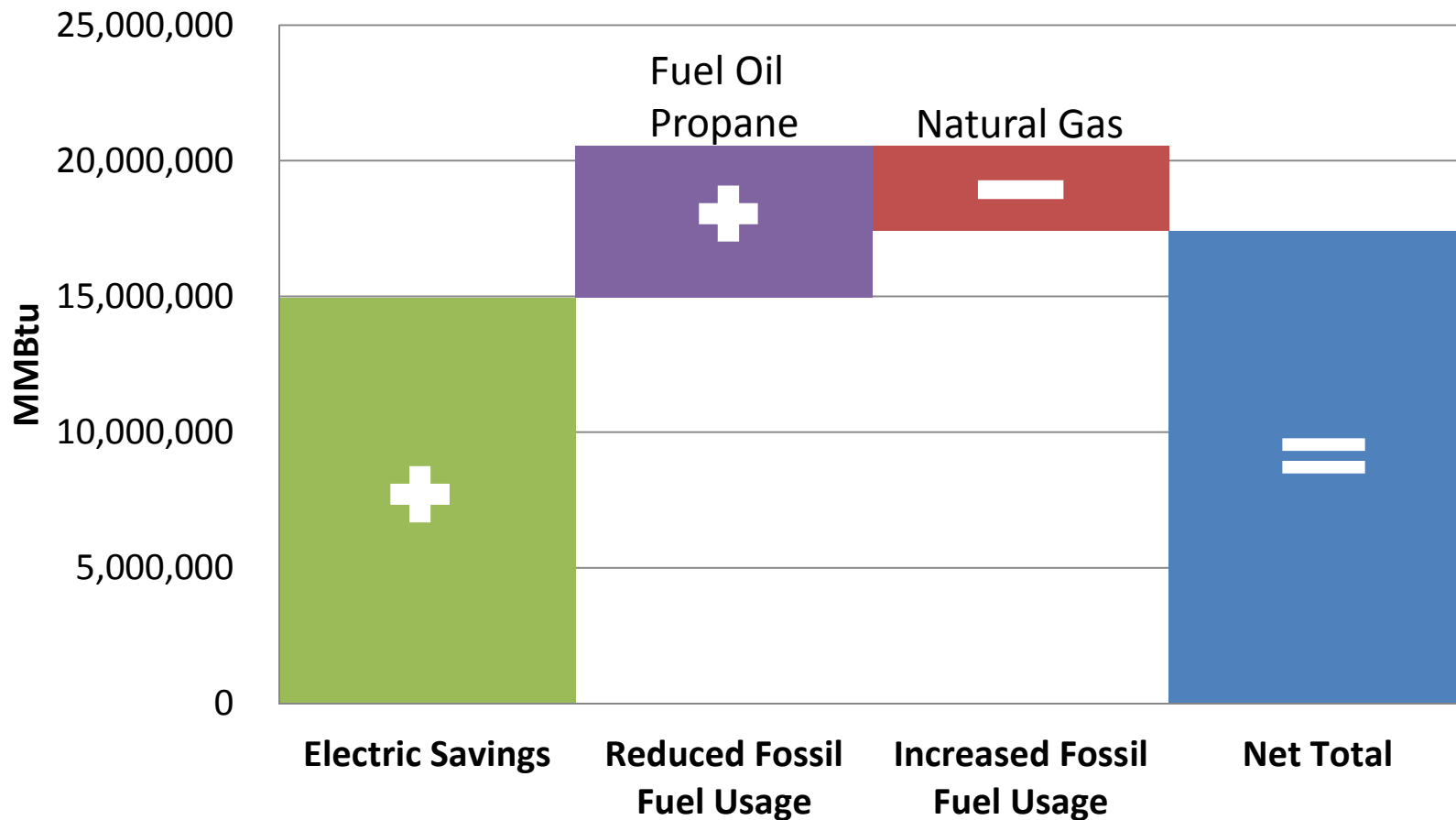
WHAT WOULD 2016 AND 2017 ELECTRIC PROGRAM SAVINGS LOOK LIKE IN MMBTUS?

Portfolio Electric Program Lifetime Savings in MMBtu



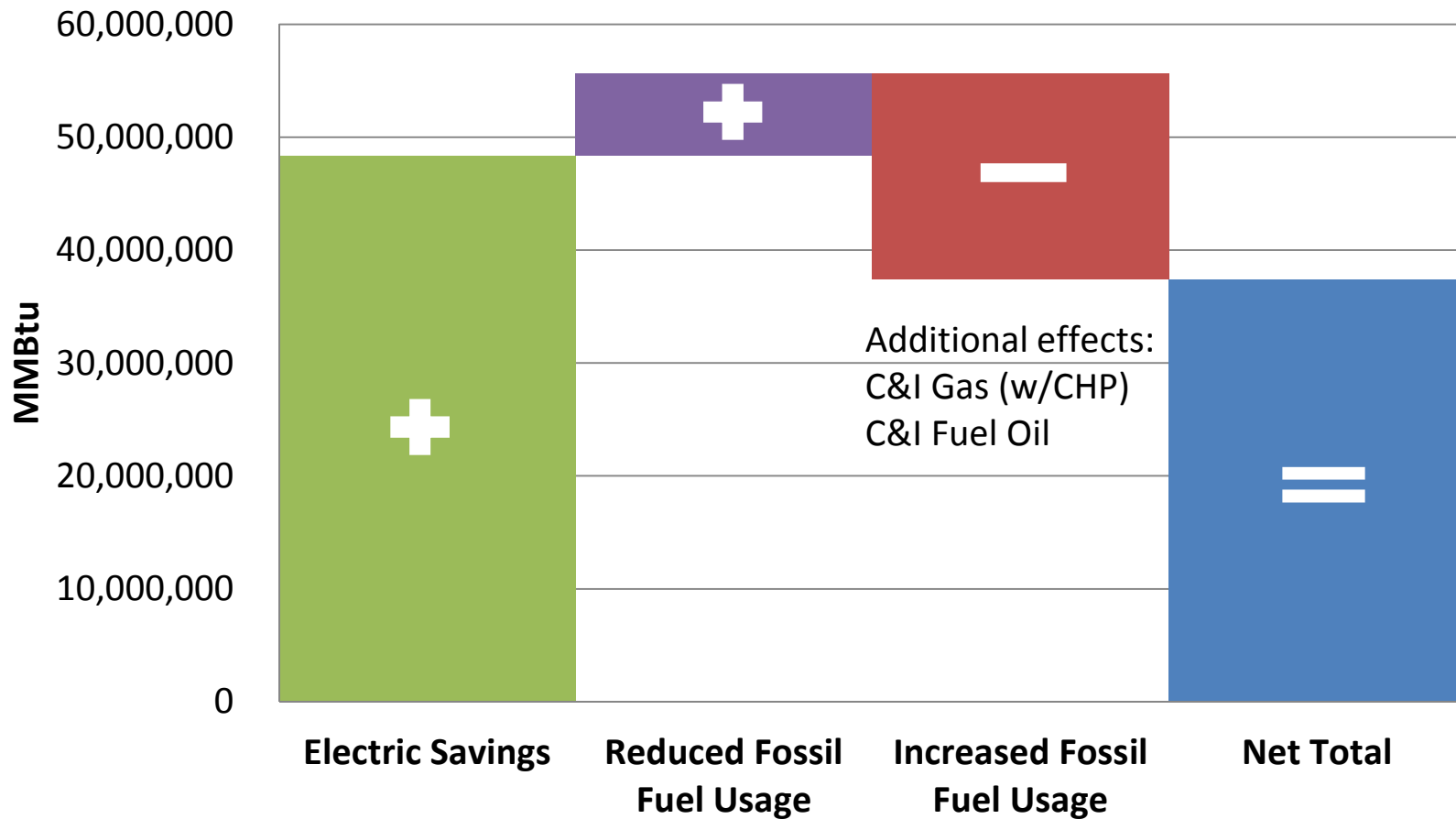
FOR THE ELECTRIC RESIDENTIAL SECTOR, AN MMBTU INDICATOR SHOWS ADDITIONAL SAVINGS

2017 Residential Electric Lifetime Program Net MMBtu



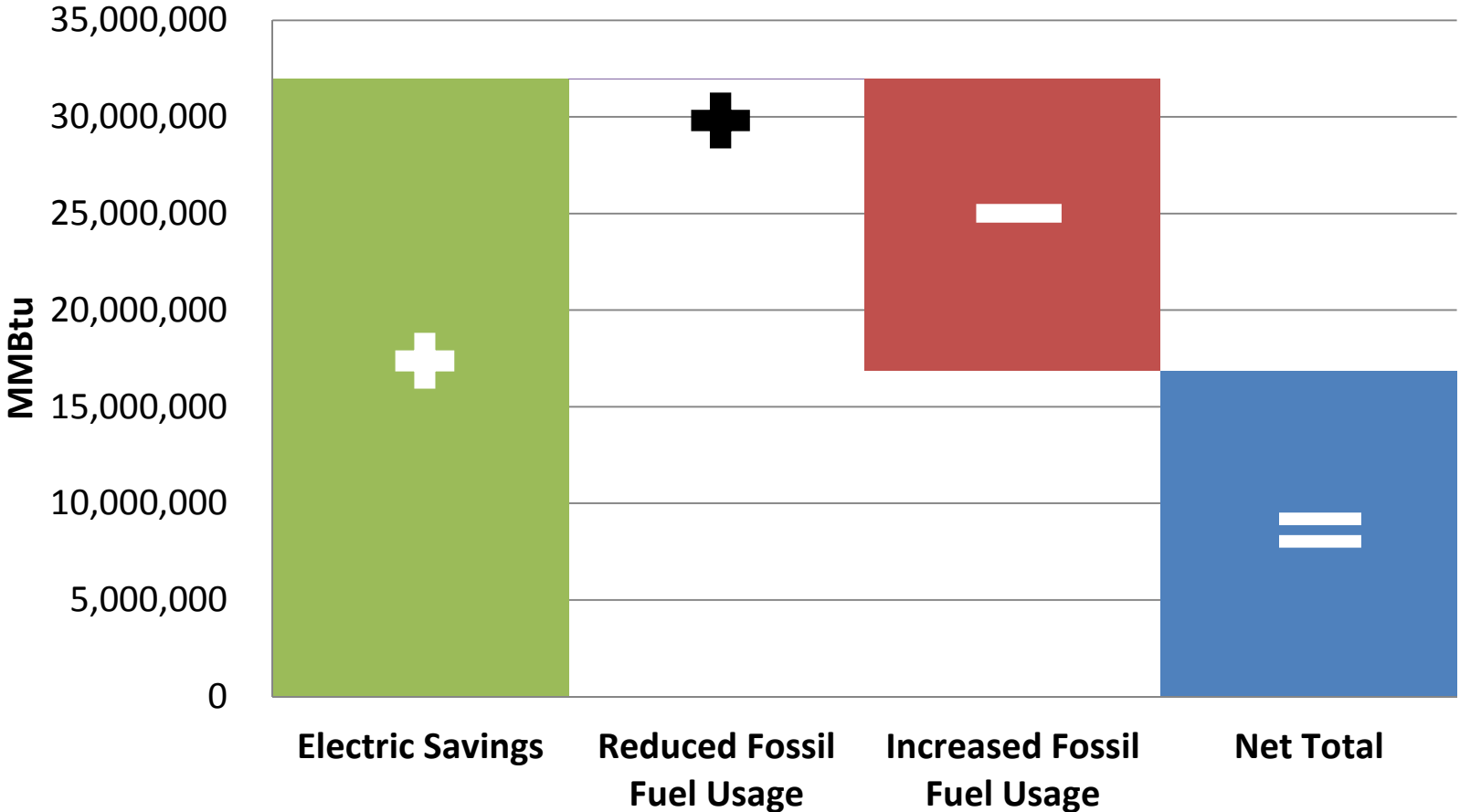
FOR THE ELECTRIC PORTFOLIO OVERALL, MMBTU INDICATOR SHOWS LOWER TOTAL SAVINGS

2017 Portfolio Lifetime Electric Program Net MMBtu

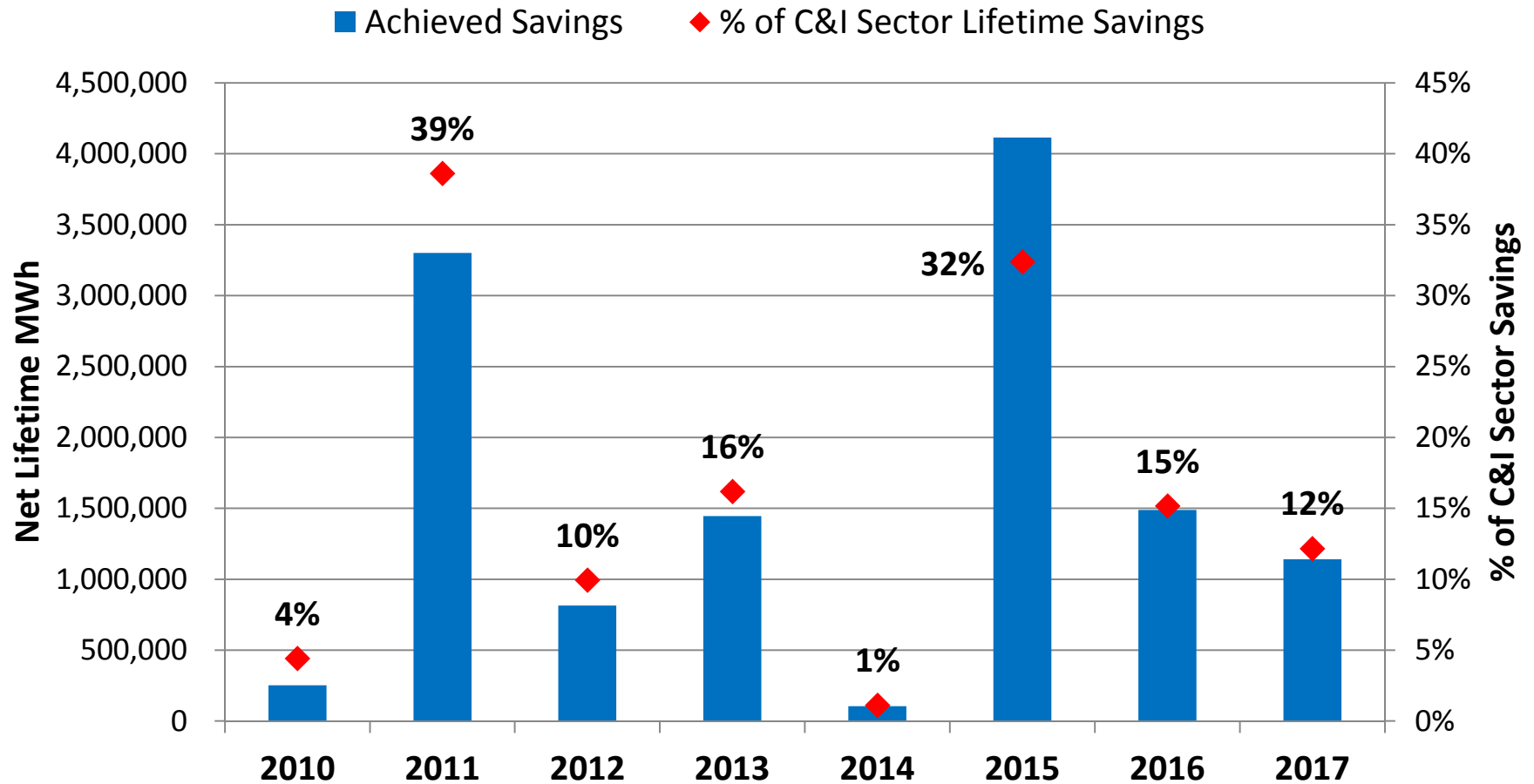


FOR ELECTRIC C&I, AN MMBTU INDICATOR SHOWS LARGE “NEGATIVE SAVINGS” AND LITTLE SAVINGS IN OTHER FUELS

2017 C&I Electric Lifetime Program Net MMBtu

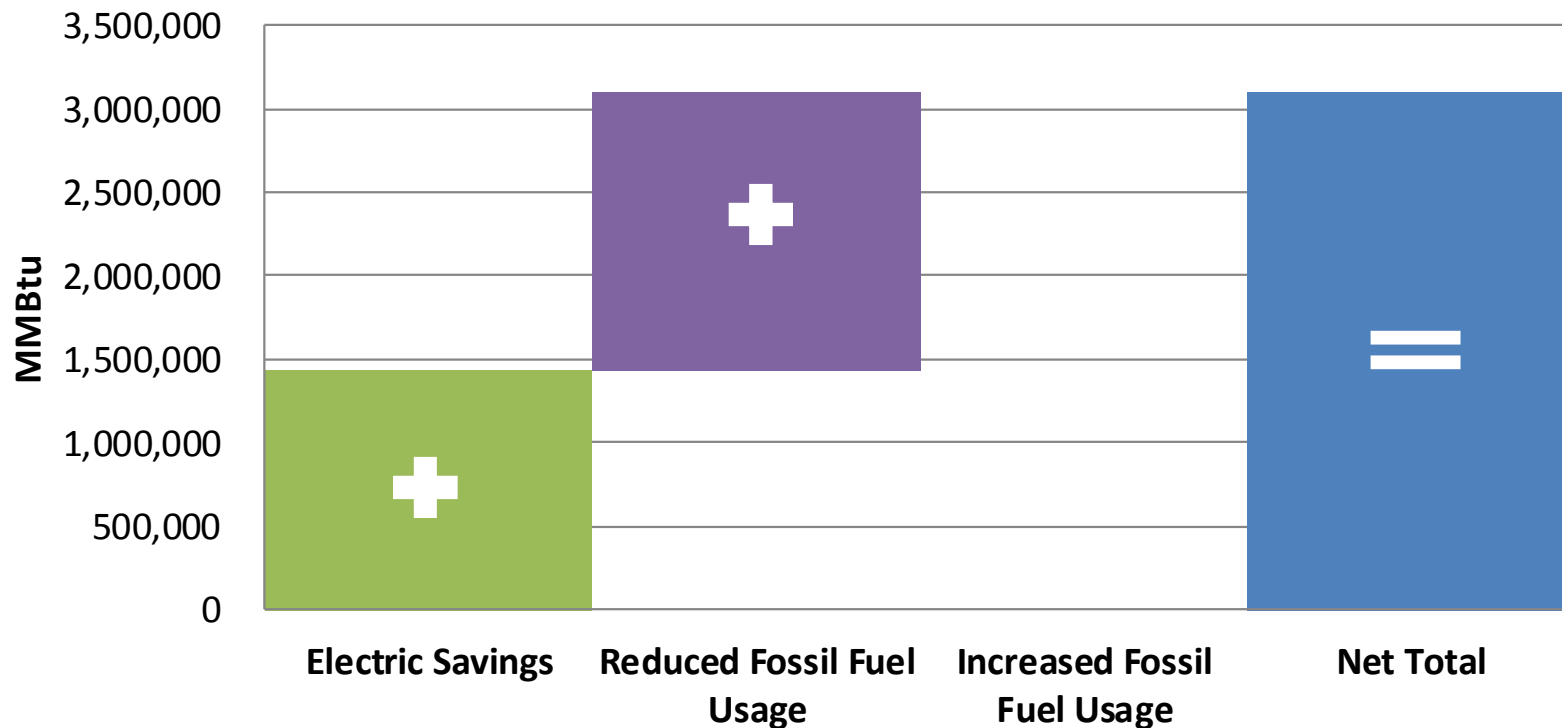


CHP SAVINGS AND SHARE OF C&I SECTOR VARY GREATLY; CHP LOWER IN 2017 VS 2015



FOR ELECTRIC LOW INCOME, AN MMBTU INDICATOR IS USEFUL IN CAPTURING OTHER FUEL SAVINGS

2017 Low Income Electric Lifetime Program Net MMBtu



2017 ELECTRIC PROGRAM MMBTUS (DATA TABLE)

► 2017 Savings and Changes in Usage, in MMBTUs

	Residential	Low Income	C&I	Total
Electric	14,945,980	1,428,697	31,949,563	48,324,241
Gas	(3,138,315)	36,753	(13,668,023)	(16,769,585)
Oil	4,363,805	1,550,394	(1,457,304)	4,456,896
Propane	1,237,421	84,525	36,240	1,358,186
Total	17,408,892	3,100,369	16,860,477	37,369,737

- Note: Several of these cells include more than one effect. For example, Residential Oil includes the oil savings due to the EE programs, but also some partially-offsetting increases in oil heat use due to interactive effects with efficient lighting.

WHERE DO MMBTUS, ELECTRIC MWH SAVINGS, & BENEFITS COME FROM?

Q4 2017	Lifetime MMBtu Savings as % of Total Lifetime MMBtu	Lifetime MWh Electric Savings as % of Total Lifetime Electric Savings	Lifetime Benefits as % of Total Benefits	Negative MMBtu Gas Savings as % of Total Negative Gas Savings	Program Cost as % of Total Program Cost
Total	100%	100%	100%	100%	100%
A - Residential	47%	31%	36%	19%	41%
A1a - Residential New Construction	4%	1%	3%	0%	2%
A1b - Residential Multi-Family Retrofit	1%	1%	1%		3%
A1c - Residential Home Energy Services - Measures	28%	5%	15%		15%
A1d - Residential Home Energy Services - RCS	0%	0%	0%		3%
A1e - Residential Behavior/Feedback Program	1%	1%	1%		2%
A2a - Residential Heating & Cooling Equipment	1%	1%	1%	0%	3%
A2b - Residential Consumer Products	1%	1%	1%		2%
A2c - Residential Lighting	11%	21%	14%	22%	12%
B - Low-Income	8%	3%	7%		13%
B1a - Low-Income Single Family Retrofit	6%	1%	4%		6%
B1b - Low-Income Multi-Family Retrofit	3%	2%	3%		7%
C - Commercial & Industrial	45%	66%	57%	82%	46%
C1a - C&I New Buildings & Major Renovations	7%	6%	5%	1%	5%
C1b - C&I Initial Purchase & End of Useful Life	7%	6%	5%	1%	4%
C2a - C&I Existing Building Retrofit	14%	38%	30%	72%	22%
C2b - C&I Small Business	9%	10%	10%	7%	11%
C2c - C&I Multifamily Retrofit	1%	0%	1%	0%	2%
C2d - C&I Upstream Lighting	8%	7%	7%	1%	4%

2017 MWH SAVINGS, MMBTUS, AND BENEFITS AS % OF PLAN

Q4 2017	Electric Energy Savings (MWh) as % of Plan	All Fuel Energy Savings (MMBtu) as % of Plan	Total Benefits as % of Plan	Negative Gas Savings as % of Plan
Total	106%	88%	102%	139%
A - Residential	98%	89%	95%	91%
A1a - Residential New Construction	155%	171%	145%	
A1b - Residential Multi-Family Retrofit	80%	58%	99%	
A1c - Residential Home Energy Services - Measures	83%	82%	80%	
A1e - Residential Behavior/Feedback Program	98%	98%	99%	
A2a - Residential Heating & Cooling Equipment	111%	113%	105%	69%
A2b - Residential Consumer Products	145%	148%	163%	
A2c - Residential Lighting	98%	90%	102%	107%
B - Low-Income	123%	98%	126%	
B1a - Low-Income Single Family Retrofit	80%	97%	124%	
B1b - Low-Income Multi-Family Retrofit	159%	98%	129%	
C - Commercial & Industrial	109%	86%	106%	159%
C1a - C&I New Buildings & Major Renovations	78%	70%	78%	
C1b - C&I Initial Purchase & End of Useful Life	101%	96%	84%	604%
C2a - C&I Existing Building Retrofit	122%	74%	115%	161%
C2b - C&I Small Business	128%	112%	125%	163%
C2c - C&I Multifamily Retrofit	71%	76%	128%	2%
C2d - C&I Upstream Lighting	81%	102%	89%	40%

FOR GAS PROGRAMS, AN MMBTU INDICATOR DOES NOT SHOW MUCH DIFFERENCE FROM GAS SAVINGS

2017 Gas Program Net MMBtu

