



# ComEd Summary Impact Evaluation Report

Energy Efficiency / Demand Response Plan:  
Program Year 2018 (CY2018)  
1/1/2018 – 12/31/2018

Presented to  
Commonwealth Edison Company

**FINAL**

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## 1. INTRODUCTION

This report presents the results of the impact evaluation of ComEd's Program Year 2018 (CY2018) slate of energy efficiency programs offered under the Energy Efficiency Portfolio Standard (EEPS) umbrella. It presents a summary of the energy and demand impacts for the portfolio and each program and some detail on measure-specific savings. CY2018 covers January 1, 2018 through December 31, 2018.

In CY2018, ComEd's portfolio included 43 programs, including 16 Business, 12 Residential, 8 Income Eligible, 6 Pilot, and one other program (voltage optimization for all sectors), as listed in Table 1-1.

This summary report covers only programs that have savings that ComEd can claim for CY2018. Process evaluation findings and results of net-to-gross research are presented in separate reports.

The Lighting Discounts Program, Instant Discounts Program, UIC ERC Low Income Kits, Food Bank LED Distribution, Elementary Education, Middle School Take-Home Kits, and Rural Small Business Kits are the 7 programs that had carryover savings from measures sold or incented in program year 8 (PY8) and or program year 9 (PY9) that were installed in CY2018.

**Table 1-1. ComEd CY2018 Energy Efficiency Programs**

Sector	Program
All	Voltage Optimization
<b>Business</b>	
Business	Air Care Plus
Business	Custom
Business	Data Centers
Business	Energy Advisor Monitoring-Based Commissioning
Business	Industrial Systems Optimization
Business	Instant Discounts
Business	New Construction (Coordinated w/Nicor Gas & PGL-NSG)
Business	Operational Efficiency / Facility Assessments
Business	Public Housing Authority (Joint w/Nicor Gas)
Business	Public Small Facilities (PSF)
Business	Retro-commissioning (Coordinated w/Nicor Gas & PGL-NSG)
Business	Rural Small Business Kits
Business	Small Business (Private Sector)
Business	Standard
Business	Strategic Energy Management (Joint w/Nicor Gas)
Business	Street Lighting
<b>Residential</b>	
Residential	Appliance Rebates
Residential	Elementary Education Kits (Joint w/Nicor Gas & PGL-NSG)
Residential	Fridge and Freezer Recycling
Residential	Heating and Cooling (HVAC) Rebates
Residential	Holiday Light Exchange
Residential	Home Energy Assessment (Joint w/Nicor Gas & PGL-NSG)
Residential	Home Energy Reports
Residential	Lighting Discounts
Residential	Middle School Take-Home Kits
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL-NSG)
Residential	New Construction (Joint w/Nicor Gas & PGL-NSG)
Residential	Weatherization - Market Rate
<b>Income Eligible</b>	
Income Eligible	Affordable Housing New Construction (Joint w/Nicor Gas)
Income Eligible	Food Bank LED Distribution
Income Eligible	Retail (Lighting) Discounts - Income Eligible
Income Eligible	Multi-Family IHWAP
Income Eligible	Multi-Family Retrofits (Joint w/Nicor Gas & PGL-NSG)
Income Eligible	Single Family Retrofit - CBA (Joint w/Nicor Gas & PGL-NSG)
Income Eligible	Single Family Retrofit - IHWAP (Joint w/Nicor Gas & PGL-NSG)
Income Eligible	UIC ERC Low Income Kits
<b>Pilots</b>	
Pilot - Business	Variable Speed Drive Energy Savings in Refrigeration Condensers
Pilot - Business	Smart Building Operations
Pilot - Residential	Ductless Heat Pump and Building Envelope
Pilot - Residential	HVAC SAVE
Pilot - Residential	Nest Seasonal Savings (Cooling Season)
Pilot - Residential	Nest Seasonal Savings (Heating Season)
Pilot - Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Cooling Season)
Pilot - Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Heating Season)

Source: ComEd tracking data and Navigant evaluation reports.

## 2. PORTFOLIO SAVINGS

The evaluation calculated incremental annual savings and cumulative persisting annual savings (CPAS) from the ComEd CY2018 programs. Each is presented below.

### 2.1 Annual Savings

Table 2-1 summarizes the incremental energy and demand savings the ComEd portfolio achieved in CY2018, including both electric and gas savings (converted to kWh). According to Section 8-103B(b-25) of the Illinois Public Utilities Act, "In no event shall more than 10% of each year's applicable annual incremental goal as defined in paragraph (7) of subsection (g) of this Section be met through savings of fuels other than electricity." The terms and calculation approaches are defined in section 2.2.

**Table 2-1. Total Annual Savings**

Savings Category	Energy Savings (kWh)	Demand Savings (kW)*	Peak Demand Savings (kW)*
Ex Ante Gross Savings	1,997,582,827	112,478	120,090
Portfolio Gross Realization Rate	0.97	8.35	2.12
Verified Gross Savings	1,929,684,673	938,646	254,573
Portfolio Net-to-Gross Ratio (NTG)	0.91	0.74	0.77
Verified Net Savings	1,765,460,187	697,491	194,790
Legacy Savings†	4,558,842,920		
Gas Savings Eligible for Claiming (Therms)	7,399,442		
Gas Savings Counted Toward Goal (Therms)	3,218,045		
Gas Savings Counted Toward Goal (kWh)‡	94,320,888		
Total Net Savings (Electric + Gas Savings Counted)	1,859,781,075	697,491	194,790
Grand Total Net Savings (Plus Legacy Savings)	6,418,623,995	697,491	194,790
CPAS Statutory Goal§	6,130,857,720		
CPAS Achieved as Percent of Goal	104.7%		
Applicable Annual Incremental Goal (AAIG)	943,208,880		
Applicable Annual Incremental Savings Achieved‡§	1,230,975,155		
AAIG Achieved as Percent of Goal	130.5%		

Note: The totals in this table may vary slightly from the totals in other tables and the totals summed across the individual program reports due to rounding issues. Some programs do not report ex ante gross savings (e.g., the Home Energy Reports program), so the evaluation did not calculate verified gross savings. The ex ante gross shown here is as reported by the programs and verified gross is only for those reporting ex ante gross. For the purposes of calculating a portfolio NTG ratio, Navigant used only those programs reporting ex ante gross and verified gross. Based on the same issue, the ratio of the net and verified gross savings shown in the table will not present an accurate ratio for the portfolio.

\* Demand savings are equivalent to the reduction in kW in 2018. The Peak Demand are kW savings occurring at coincident Summer Peak period, defined as 1:00-5:00 PM Central Prevailing Time on non-holiday weekdays, June through August.

† Estimated by multiplying statutory 2018 CPAS Legacy Savings percent (5.8%) by ComEd Baseline - 2014-2016 Average Annual Sales Less Exempt Customers MWh value of 78,600,740.

‡ Gas savings converted to kWh by multiplying therms by 29.31 (which is based on 100,000 Btu/therm and 3,412 Btu/kWh).

§ Estimated by multiplying statutory 2018 CPAS Goal percent (7.8%) by ComEd Baseline - 2014-2016 Average Annual Sales Less Exempt Customers MWh value of 78,600,740.

‡§ Estimated as new incremental savings from 2018 after offsetting incremental expiring savings in 2018.

Source: ComEd tracking data and Navigant team analysis.

Table 2-2 summarizes savings from the sectors (showing just electric savings, excluding legacy savings and gas savings counted towards goal). In CY2018, ComEd’s energy efficiency portfolio achieved 1,765,460 verified net MWh savings, with the Business programs achieving 895,389 verified net MWh, the Residential programs achieving 690,876 verified net MWh, the Income Eligible programs achieving 106,215 verified net MWh, the Pilot programs achieving 6,967 verified net MWh, and other 66,014 net MWh savings from voltage optimization. The portfolio savings included 1,716,790 net MWh from funded measures in CY2018 and 48,670 net MWh savings from previously funded lighting measures, or carryover, funded in PY8 or PY9 through the Lighting Discounts, Instant Discounts, UIC ERC Low Income Kits, Rural Small Business Kits, Food Bank LED Distribution, Middle School Take-Home Kits, and Elementary Education Kits Programs and expected to be installed in CY2018.<sup>1</sup>

Carryover was addressed in different ways in the summary tables in the program-specific impact reports. All program reports with carryover show carryover in the verified gross and verified net savings in the CPAS tables. The Instant Discount and Residential Lighting reports included carryover in all relevant tables. Five program reports (Food Bank LED Distribution, UIC ERC Low Income Kits, Middle School Take Home Kits, Rural Small Business Kits, and Elementary Education Kits) did not include carryover savings in other (non-CPAS) tables (typically the ex ante in Table 5-1 and verified gross in Table 4-1). For the portfolio Summary Report, carryover savings were counted as part of ex ante gross, verified gross, and verified net savings for all programs. This was done to ensure consistency in estimating the gross realization rates across all programs.

**Table 2-2. Total Annual Incremental Electric Savings by Sector**

Savings Type	Portfolio	Ex Ante Gross Savings	Verified Gross Realization Rate	Verified Gross Savings	NTG	Verified Net Savings
Energy (kWh)	Business	1,126,726,829	0.98	1,107,836,631	0.81	895,388,763
Energy (kWh)	Residential	661,814,775	0.98	648,191,485	0.63	690,875,559
Energy (kWh)	Income Eligible	108,248,619	0.98	106,214,978	1.00	106,214,978
Energy (kWh)	Pilots	1,411,604	1.01	1,427,530	1.00	6,966,837
Energy (kWh)	Voltage Optimization	99,381,000	0.66	66,014,049	1.00	66,014,049
<b>Energy (kWh)</b>	<b>Total</b>	<b>1,997,582,827</b>	<b>0.97</b>	<b>1,929,684,673</b>	<b>0.91</b>	<b>1,765,460,187</b>
Demand (kW)	Business	110,113	2.17	238,837	0.83	199,008
Demand (kW)	Residential	-	-	573,927	0.65	372,602
Demand (kW)	Income Eligible	2,365	50.02	118,288	1.00	118,288
Demand (kW)	Pilots	-	-	57	1.00	57
Demand (kW)	Voltage Optimization	-	-	7,536	1.00	7,536
<b>Demand (kW)</b>	<b>Total</b>	<b>112,478</b>	<b>8.35</b>	<b>938,646</b>	<b>0.74</b>	<b>697,491</b>
Peak Demand (kW)	Business	95,163	1.66	157,758	0.79	124,516
Peak Demand (kW)	Residential	18,167	4.66	84,643	0.65	54,778
Peak Demand (kW)	Income Eligible	6,702	1.80	12,038	1.00	12,038
Peak Demand (kW)	Pilot Business	59	2.29	134	1.00	3,459
Peak Demand (kW)	Voltage Optimization	-	-	-	1.00	-
<b>Peak Demand (kW)</b>	<b>Total</b>	<b>120,090</b>	<b>2.12</b>	<b>254,573</b>	<b>0.77</b>	<b>194,790</b>

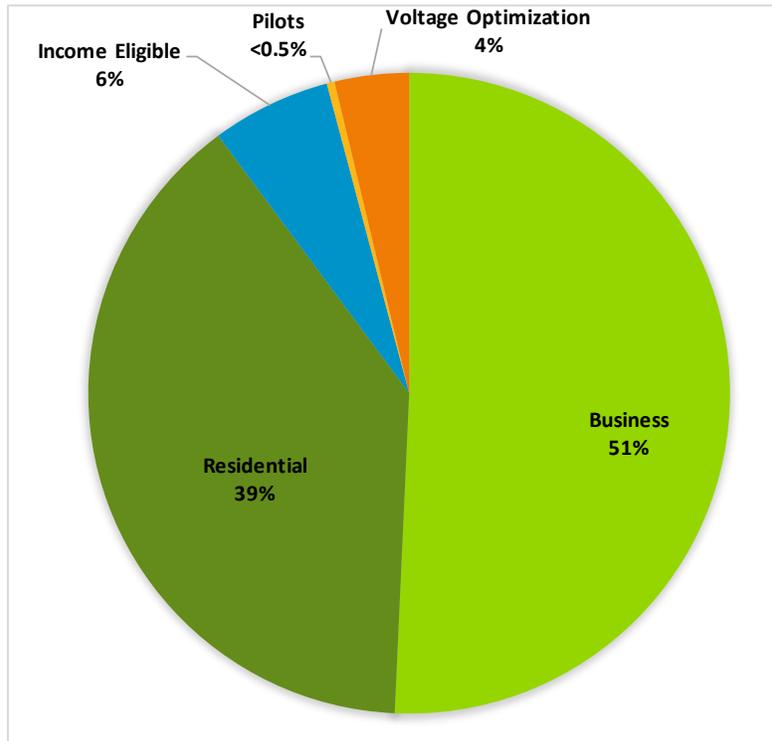
Note: The totals in this table may vary slightly from the totals in other tables and the totals summed across the individual program reports due to rounding issues. The net savings for the Residential and Pilots sectors are higher than the verified gross savings because the Home Energy Reports program from the residential sector and the Nest Seasonal Savings program from the Pilots sector did not report ex ante gross savings, and thus the evaluation did not calculate verified gross savings but only verified net savings.

Source: ComEd tracking data and Navigant team analysis.

<sup>1</sup> For the purpose of the portfolio summary report, all carryover savings were counted as part of ex ante savings, unless the ex ante varies from the verified carryover savings (e.g. residential lighting program). This was done to avoid over estimation of the gross realization rates.

Overall, the Business programs realized 51% of the portfolio savings, the Residential programs contributed 39% of the total savings, followed by Income Eligible programs at 6%, Voltage Optimization at 4%, and Pilots with less than half percent (see Figure 2-1). Further detail on the savings by program are shown in subsequent sections.

**Figure 2-1. Annual Incremental Electric Savings by Sector**



Source: ComEd tracking data and Navigant team analysis.

## 2.2 Cumulative Persisting Annual Savings (CPAS)

Per Section 8-103B, ComEd’s energy efficiency goals are expressed in Cumulative Persisting Annual Savings (CPAS), which is the sum of the electric energy savings achieved in a given year from all measures installed in that year and in previous years, but no earlier than January 1, 2012, that are still operational and providing savings in that year.

ComEd’s CPAS is formed of several parts: Electricity savings and other fuels’ savings (gas savings in therms converted to kWh in 2018) that ComEd can claim toward their goal.

### 2.2.1 Gas Savings

The gas savings attributed to ComEd’s programs are only those not claimed by the Illinois gas utilities so that there is no double-counting. Some of the gas savings are from programs jointly implemented with the gas utilities, and some are from ComEd-only programs that produce gas savings along with electric savings. According to Section 8-103B(b-25) of the Illinois Public Utilities Act, "In no event shall more than 10% of each year’s applicable annual incremental goal as defined in paragraph (7) of subsection (g) of

this Section be met through savings of fuels other than electricity." For CY2018, ComEd's savings target is 943,209 MWh and so ComEd can claim up to 94,321 MWh in gas savings.<sup>2</sup>

The Future Energy Jobs Act (FEJA) specifies that ComEd shall prioritize other fuels for the Income Eligible population first to the extent practicable, but can use other fuels from other sectors to achieve their target. To calculate the other fuels' savings (gas savings) eligible for claiming, the evaluation team used a data set containing all measure-level savings, with associated sector and program flags. We sorted the measures from the Income Eligible programs to the top, then sorted by descending measure life<sup>3</sup>. We calculated cumulative savings from the top of the data set until the cumulative total reached the maximum ComEd can claim. Only those savings above that point were included in Table 2-5 below.

### 2.2.2 Legacy Savings

FEJA specifies legacy savings, which are cumulative persisting annual savings from energy efficiency measures implemented by ComEd from January 1, 2012 to December 31, 2017, that are still providing savings in the applicable year. The evaluation applied the deemed legacy savings of 4,558,843 MWh toward ComEd verified CPAS in CY2018.<sup>4</sup>

### 2.2.3 Expiring Savings

FEJA specifies that each year ComEd's programs must replace energy savings for measures that have reached the end of their measure lives before any progress towards achievement of its applicable annual incremental goal may be counted. The evaluation calculated cumulative and incremental expiring savings using the following equations. The grand total cumulative expiring savings in CY2018 is estimated as CY2018 cumulative expiring savings plus the legacy cumulative expiring savings<sup>5</sup>, given a value of 628,806 MWh (in CY2018, there are only legacy cumulative expiring savings, which is 628,806 MWh).

#### Equation 1. Cumulative Expiring Savings

$$\text{Cumulative Expiring Savings}^6 = \text{CPAS } Y_{n-1} - \text{CPAS } Y_n + \text{Expiring Savings } Y_{n-1}$$

#### Equation 2. Incremental Expiring Savings

$$\text{Incremental Expiring Savings} = \text{Cumulative Expiring Savings } Y_n - \text{Cumulative Expiring Savings } Y_{n-1}$$

The grand total incremental expiring savings in CY2018 is estimated as CY2018 incremental expiring savings plus the legacy incremental expiring savings, given a value of 628,806 MWh (in CY2018, there

<sup>2</sup> FEJA Statute: 220 ILCS 5/8-103B(g)(7.5). Section 8-103B. The 2018 applicable annual incremental goal is estimated as the difference in the 2018 CPAS Statutory Goal (6,130,858 MWh) and the 2017 CPAS Statutory Goal (5,187,649 MWh).

<sup>3</sup> For 2018, Navigant identified some measures where it was possible to confirm the gas companies were not also claiming gas savings (e.g. gas companies purchase therms from ComEd on advanced thermostats, they did not claim gas savings on clothes washers, ductless mini-split heat pumps, and EMS). There were other measures where it was not possible to state definitively that gas companies were not also counting the gas savings (e.g. Kitchen DCV, programmable thermostats, air sealing and pipe insulation). Some of those measures were either sorted to the bottom of the data so they were not counted in the calculation of the savings ComEd can claim toward goal (e.g. programmable thermostats) or were further reviewed from the gas utilities data that no gas savings were claimed, and thus were included in the sorting and counted in the calculation of the savings ComEd can claim toward goal.

<sup>4</sup> For CY2018, legacy savings is estimated by multiplying statutory 2018 CPAS Legacy Savings percent (5.8%) by ComEd Baseline - 2014-2016 Average Annual Sales Less Exempt Customers MWh value of 78,600,740.

<sup>5</sup> In CY2018, legacy expiring savings is the difference between legacy savings persisting in current year and previous year (difference in the year's statutory 2018 CPAS Legacy Savings percent of 5.8% and 6.6% respectively) multiplied by ComEd Baseline - 2014-2016 Average Annual Sales Less Exempt Customers MWh value of 78,600,740.

<sup>6</sup> CPAS in previous year minus CPAS in current year plus the expiring savings from previous year.

are only legacy incremental expiring savings which is 628,806 MWh, same as the legacy cumulative expiring savings).

**2.2.4 Total Savings**

As shown in Table 2-2 and the following tables, ComEd’s CY2018 energy efficiency programs achieved total electric CPAS of 1,765,460 MWh. They achieved 7,399,442 therms of gas savings, which converts to 216,878 MWh<sup>7</sup>. From those gas savings, ComEd can claim 94,321 MWh toward their annual incremental goal. Adding the current year electric savings to the allowable converted gas savings gives 1,859,781 MWh total savings.

Adding the legacy savings of 4,558,843 MWh, the grand total CY2018 CPAS that ComEd can claim is 6,418,624 MWh (which is 105% of CPAS goal).

**2.2.5 Applicable Annual Incremental Goal (AAIG)**

Per FEJA<sup>8</sup>, the AAIG is estimated as the difference between the statutory CPAS goal for current year (CY2018) and the CPAS goal for the immediately preceding calendar year (2017). We calculate progress toward AAIG that ComEd achieved in CY2018 as the difference in verified CY2018 CPAS and the incremental expiring savings (both expiring legacy savings and post 2017 expiring programmatic savings).

**Equation 3. Applicable Annual Incremental Goal (AAIG)**

$$AAIG = CPAS\ Y_n\ Goal - CPAS\ Y_{n-1}\ Goal$$

**Equation 4. Applicable Annual Incremental Goal Achieved**

$$Progress\ toward\ AAIG = CPAS\ Y_n - Incremental\ Expiring\ Savings\ Y_n$$

In CY2018, the AAIG is estimated as 943,209 MWh. The estimated progress toward goal that ComEd achieved is 1,230,975 MWh, which is the difference between the CPAS that ComEd can claim against their goal (1,859,781 MWh) and the legacy incremental expiring savings (628,806 MWh). The AAIG achieved as percent of goal is 131%.

<sup>7</sup> Gas savings converted to kWh by multiplying therms by 29.31 (which is based on 100,000 Btu/therm and 3,412 Btu/kWh).

<sup>8</sup> FEJA Statute: 220 ILCS 5/8-103B(g)(7.5). Section 8-103B.

### Table 2-3. CPAS by Program – Electric

Sector	Program	WAML*	CY2018 Verified Gross kWh Savings	NTG†	Lifetime Net kWh Savings‡	Verified Net kWh Savings						
						2018	2019	2020	2021	2022	2023	2024
Business	Air Care Plus	4.3	23,055,268	0.90	86,942,247	20,749,741	20,749,741	18,062,060	16,399,648	2,998,870	1,511,543	1,510,206
Business	Custom	14.4	26,350,802	0.58	219,560,948	15,283,465	15,283,465	15,249,998	15,249,998	15,249,998	15,249,998	15,249,998
Business	Data Centers	16.1	25,473,522	0.68	279,696,102	17,321,995	17,321,995	17,321,995	17,321,995	17,321,995	16,291,773	16,291,773
Business	Energy Advisor Monitoring-Based Commissioning	5.0	8,148,664	1.00	40,743,321	8,148,664	8,148,664	8,148,664	8,148,664	8,148,664		
Business	Industrial Systems Optimization	10.5	22,488,399	0.80	184,662,186	17,990,719	17,990,719	17,694,526	11,918,391	11,918,391	11,918,391	11,918,391
Business	Instant Discounts	9.7	321,683,597	0.79	2,303,689,284	253,222,349	245,411,842	245,411,842	220,796,835	216,725,305	210,847,104	200,866,765
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	17.4	37,066,372	0.60	386,972,924	22,239,823	22,239,823	22,239,823	22,239,823	22,239,823	22,239,823	22,239,823
Business	Operational Efficiency / Facility Assessments	4.3	3,607,356	0.91	14,195,258	3,282,694	3,282,694	3,282,694	2,173,588	2,173,588		
Business	Public Housing Authority (Joint/Nicor)	10.1	2,472,099	1.00	22,934,972	2,472,099	2,472,099	2,470,496	2,328,406	2,262,701	2,199,969	2,074,991
Business	Public Small Facilities (PSF)	9.6	8,816,014	0.91	71,700,150	8,022,573	7,399,306	7,399,306	7,361,833	7,361,833	7,361,833	6,007,084
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)	7.5	36,336,589	0.95	258,898,196	34,519,759	34,519,759	34,519,759	34,519,759	34,519,759	34,519,759	34,519,759
Business	Rural Small Business Kits	12.7	2,277,336	0.90	20,926,054	2,049,602	2,049,602	1,987,233	1,568,626	1,568,626	1,353,768	1,262,267
Business	Small Business (Private Sector)	12.0	216,443,112	0.91	1,990,866,858	196,963,232	164,398,619	163,887,470	163,887,470	163,424,271	162,585,781	162,585,781
Business	Standard	11.5	272,795,071	0.71	2,139,892,413	193,038,555	186,054,934	185,951,332	185,951,332	185,686,017	185,118,562	182,919,796
Business	Strategic Energy Management (Joint/Nicor Gas)	5.0	14,778,772	0.95	70,199,167	14,039,833	14,039,833	14,039,833	14,039,833			
Business	Street Lighting	12.0	86,043,658	1.00	1,010,081,927	86,043,658	86,043,658	86,043,658	86,043,658	83,238,412	83,238,412	83,238,412
Residential	Appliance Rebates	9.6	38,557,739	0.89	327,669,470	34,269,851	34,269,851	34,269,851	34,269,851	34,269,851	34,269,851	34,269,851
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	9.3	6,104,453	1.00	44,755,039	6,104,453	6,104,453	5,847,835	3,958,787	3,958,787	3,958,787	3,958,787
Residential	Fridge and Freezer Recycling	8.0	41,903,899	0.52	172,869,432	21,697,981	21,697,981	21,697,981	21,697,981	21,519,377	21,519,377	21,519,377
Residential	Heating and Cooling (HVAC) Rebates	18.5	13,098,267	0.71	160,507,063	9,255,057	9,255,057	9,255,057	9,255,057	9,255,057	9,255,057	8,640,310
Residential	Holiday Light Exchange	7.0	54,842	0.80	307,115	43,874	43,874	43,874	43,874	43,874	43,874	43,874
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	9.6	29,622,475	0.82	206,110,468	24,149,880	24,149,880	23,928,139	20,007,644	20,007,644	19,813,957	19,439,261
Residential	Home Energy Reports	5.0	0		692,109,172	279,539,772	200,821,372	121,727,875	62,752,974	27,267,179		
Residential	Lighting Discounts	9.1	503,823,727	0.60	2,158,085,569	301,534,004	301,534,004	301,534,004	176,209,185	168,972,262	157,383,937	147,675,707
Residential	Middle School Take-Home Kits	8.5	1,483,137	1.00	10,036,649	1,483,137	1,483,137	1,483,137	1,000,806	1,000,806	1,000,806	1,000,806
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)	9.4	12,396,380	0.95	95,324,236	11,768,297	11,303,190	11,300,406	9,444,652	9,444,652	9,299,982	9,138,185
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	18.0	357,717	0.65	4,185,293	232,516	232,516	232,516	232,516	232,516	232,516	232,516
Residential	Weatherization - Market Rate	18.1	788,848	1.01	14,410,692	796,737	796,737	796,737	796,737	796,737	796,737	796,737
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	12.2	1,935,089	1.00	22,173,638	1,935,089	1,935,089	1,935,089	1,707,148	1,707,148	1,707,148	1,707,148
Income Eligible	Food Bank LED Distribution	9.2	39,753,102	1.00	200,943,126	39,753,102	39,753,102	39,753,102	12,007,480	12,007,480	12,007,480	12,006,881
Income Eligible	Multi-Family IHWAP	13.3	628,175	1.00	6,363,624	628,175	628,175	628,175	530,904	414,905	393,805	365,365
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	10.6	3,824,064	1.00	37,754,362	3,824,064	3,568,331	3,568,331	3,414,026	3,402,182	3,009,641	2,483,579
Income Eligible	Retail (Lighting) Discounts - Income Eligible	9.5	46,515,815	1.00	339,264,033	46,515,815	46,515,815	46,515,815	29,207,797	27,883,670	26,155,433	25,511,019
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	16.1	2,041,077	1.00	31,612,202	2,041,077	2,041,077	2,039,213	1,856,795	1,856,795	1,847,046	1,840,430
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	15.5	979,006	1.00	12,005,328	979,006	979,006	979,006	770,771	709,563	707,199	591,453
Income Eligible	UIC ERC Low Income Kits	9.0	10,538,650	1.00	70,565,807	10,538,650	10,538,650	10,538,650	6,885,587	6,885,587	6,885,587	6,885,587
Pilot Business	Smart Building Operations	7.5	895,325	1.00	6,714,938	895,325	895,325	895,325	895,325	895,325	895,325	895,325
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	15.0	197,487	0.70	2,073,614	138,241	138,241	138,241	138,241	138,241	138,241	138,241
Pilot Residential	Ductless Heat Pump and Building Envelope	18.0	316,484	1.00	5,529,735	316,484	316,484	316,484	316,484	316,484	316,484	302,569
Pilot Residential	HVAC SAVE	18.0	18,234	0.80	262,570	14,587	14,587	14,587	14,587	14,587	14,587	14,587
Pilot Residential	Nest Seasonal Savings (Cooling Season)	1.0	0		3,035,416	3,035,416						
Pilot Residential	Nest Seasonal Savings (Heating Season)	1.0	0		2,566,785	2,566,785						
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Cooling Season)		0		0							
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Heating Season)		0		0							
All	Voltage Optimization	15.0	66,014,049	1.00	990,210,735	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049
<b>CY2018 Portfolio Total Electric CPAS</b>			<b>1,929,684,673</b>	<b>0.77</b>	<b>14,719,408,118</b>	<b>1,765,460,187</b>	<b>1,632,436,736</b>	<b>1,549,164,168</b>	<b>1,273,379,117</b>	<b>1,207,892,844</b>	<b>1,132,103,622</b>	<b>1,106,156,693</b>
<b>CY2018 Portfolio Cumulative Expiring Electric Savings\$</b>							<b>133,023,450</b>	<b>216,296,018</b>	<b>492,081,069</b>	<b>557,567,342</b>	<b>633,356,565</b>	<b>659,303,493</b>
<b>CY2018 Portfolio Incremental Expiring Electric Savings\$</b>								<b>83,272,568</b>	<b>275,785,051</b>	<b>65,486,273</b>	<b>75,789,223</b>	<b>25,946,928</b>

Verified Net kWh Savings												
Sector	Program	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Business	Air Care Plus	1,508,455	1,506,415	1,505,064	88,126	88,032	88,032	88,032	88,032	23	23	23
Business	Custom	15,249,998	15,249,998	15,249,998	15,249,998	15,249,998	15,249,998	5,526,699	5,526,699	1,947,004	1,843,969	1,843,969
Business	Data Centers	16,055,222	16,055,222	16,055,222	15,979,250	15,979,250	15,979,250	15,979,250	15,962,041	6,491,576	6,491,576	6,491,576
Business	Energy Advisor Monitoring-Based Commissioning											
Business	Industrial Systems Optimization	11,918,391	11,918,391	11,918,391	11,918,391	11,918,391	11,918,391	5,901,156	5,901,156			
Business	Instant Discounts	134,785,528	111,589,300	102,907,640	92,447,931	74,704,928	69,298,467	62,939,915	57,891,384	3,842,148		
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	22,239,823	22,239,823	22,239,823	22,239,823	22,239,823	22,239,823	22,239,823	22,239,823	22,239,823	22,239,823	8,895,929
Business	Operational Efficiency / Facility Assessments											
Business	Public Housing Authority (Joint/Nicor)	2,041,126	1,480,557	1,385,283	401,328	165,053	164,092	164,092	164,092	164,092	125,897	125,897
Business	Public Small Facilities (PSF)	4,306,498	3,964,010	3,938,981	2,345,749	1,688,555	1,666,456	1,537,739	1,258,329	80,065		
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)	17,259,880										
Business	Rural Small Business Kits	1,205,944	1,204,851	1,041,271	1,034,840	1,028,410	1,027,883	1,011,654	1,002,410	529,066		
Business	Small Business (Private Sector)	162,083,758	152,575,771	152,494,058	146,605,424	146,605,424	35,121,246	8,661,447	8,661,447	282,274	10,846	10,846
Business	Standard	180,725,099	174,470,956	152,906,095	86,174,475	59,543,539	52,756,939	51,770,225	49,634,403	5,495,242	5,423,728	5,423,728
Business	Strategic Energy Management (Joint/Nicor Gas)											
Business	Street Lighting	83,238,412	83,238,412	83,238,412	83,238,412	83,238,412						
Residential	Appliance Rebates	27,875,704	27,875,704	23,818,500	2,666,487	2,635,409	1,114,833	1,114,833	135,809	135,809	135,809	135,809
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	3,958,787	3,958,787	2,945,576								
Residential	Fridge and Freezer Recycling	21,519,377										
Residential	Heating and Cooling (HVAC) Rebates	8,640,310	8,635,915	8,635,915	7,507,822	7,507,822	7,507,822	7,495,036	7,495,036	7,495,036	7,495,036	7,495,036
Residential	Holiday Light Exchange											
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	17,274,032	17,274,032	17,247,860	563,628	563,628	563,628	563,628	563,628			
Residential	Home Energy Reports											
Residential	Lighting Discounts	146,460,578	146,460,578	146,460,578	34,061,690	34,061,690	34,061,690	32,925,721	28,749,940			
Residential	Middle School Take-Home Kits	575,168	575,168	433,678								
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL-NSG)	8,482,472	5,525,231	4,589,568	1,543,294	710,495	710,495	710,495	697,715	655,104		
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	232,516	232,516	232,516	232,516	232,516	232,516	232,516	232,516	232,516	232,516	232,516
Residential	Weatherization - Market Rate	796,737	796,737	796,737	796,737	796,737	796,737	796,737	796,737	380,956	380,956	380,956
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	1,707,148	1,707,148	980,483	710,028	662,599	633,157	629,608	622,690	347,899	347,899	347,899
Income Eligible	Food Bank LED Distribution	11,218,166	11,218,166	11,218,166								
Income Eligible	Multi-Family IHWAP	364,890	364,890	360,784	287,351	287,351	271,987	271,987	271,987	53,531	53,531	53,531
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	2,435,478	1,861,538	1,737,258	1,249,169	1,168,178	1,156,113	1,156,113	1,156,113	462,946	247,212	247,212
Income Eligible	Retail (Lighting) Discounts - Income Eligible	24,506,813	24,506,813	24,506,813	3,813,380	3,813,380	3,423,673	3,193,899	3,193,899			
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	1,784,758	1,784,758	1,784,590	1,382,165	1,382,165	1,382,165	1,382,165	1,382,165	665,289	665,289	665,289
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	590,942	590,942	589,507	484,571	482,851	475,647	475,647	475,647	361,217	361,217	361,217
Income Eligible	UIC ERC Low Income Kits	4,405,315	3,773,402	3,228,790								
Pilot Business	Smart Building Operations	447,663										
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	138,241	138,241	138,241	138,241	138,241	138,241	138,241	138,241			
Pilot Residential	Ductless Heat Pump and Building Envelope	302,569	302,569	302,569	302,569	302,569	302,569	302,569	302,569	302,569	302,569	302,569
Pilot Residential	HVAC SAVE	14,587	14,587	14,587	14,587	14,587	14,587	14,587	14,587	14,587	14,587	14,587
Pilot Residential	Nest Seasonal Savings (Cooling Season)											
Pilot Residential	Nest Seasonal Savings (Heating Season)											
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Cooling Season)											
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Heating Season)											
All	Volume Optimization	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049			
<b>CY2018 Portfolio Total Electric CPAS</b>		<b>1,002,364,435</b>	<b>919,105,478</b>	<b>880,917,003</b>	<b>599,492,032</b>	<b>553,224,082</b>	<b>344,310,486</b>	<b>293,237,863</b>	<b>280,573,145</b>	<b>52,178,773</b>	<b>46,372,485</b>	<b>33,028,591</b>
<b>CY2018 Portfolio Cumulative Expiring Electric Savings\$</b>		<b>763,095,752</b>	<b>846,354,708</b>	<b>884,543,183</b>	<b>1,165,968,155</b>	<b>1,212,236,105</b>	<b>1,421,149,701</b>	<b>1,472,222,324</b>	<b>1,484,887,042</b>	<b>1,713,281,413</b>	<b>1,719,087,702</b>	<b>1,732,431,596</b>
<b>CY2018 Portfolio Incremental Expiring Electric Savings\$</b>		<b>103,792,258</b>	<b>83,258,957</b>	<b>38,188,475</b>	<b>281,424,971</b>	<b>46,267,950</b>	<b>208,913,596</b>	<b>51,072,623</b>	<b>12,664,718</b>	<b>228,394,372</b>	<b>5,806,289</b>	<b>13,343,894</b>

		Verified Net kWh Savings									
Sector	Program	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Business	Air Care Plus	23	23	23	23	23	23	23	15		
Business	Custom	1,843,969	1,843,969	289,254	289,254	289,254					
Business	Data Centers	6,491,576	6,491,576								
Business	Energy Advisor Monitoring-Based Commissioning										
Business	Industrial Systems Optimization										
Business	Instant Discounts										
Business	New Construction (Joint/Nicor Gas & PGL-NSG)										
Business	Operational Efficiency / Facility Assessments										
Business	Public Housing Authority (Joint/Nicor)	125,897	125,897	4,181	4,181	4,181	4,181	4,181			
Business	Public Small Facilities (PSF)										
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)										
Business	Rural Small Business Kits										
Business	Small Business (Private Sector)	10,846	10,846								
Business	Standard	5,423,728	5,423,728								
Business	Strategic Energy Management (Joint/Nicor Gas)										
Business	Street Lighting										
Residential	Appliance Rebates	135,809									
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)										
Residential	Fridge and Freezer Recycling										
Residential	Heating and Cooling (HVAC) Rebates	5,096,999	5,096,999	46,325	46,325	46,325	46,325	46,325			
Residential	Holiday Light Exchange										
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)										
Residential	Home Energy Reports										
Residential	Lighting Discounts										
Residential	Middle School Take-Home Kits										
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)										
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)										
Residential	Weatherization - Market Rate	380,956	380,956	110,972	110,972	110,972	110,972	110,972			
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	321,472	301,101	44,129	44,129	44,129	44,129	44,129			
Income Eligible	Food Bank LED Distribution										
Income Eligible	Multi-Family IHWAP	45,474	14,471	14,471	14,471	14,471	14,471	14,471			
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	243,148	243,148	224,116	224,116	224,116	224,116	224,116			
Income Eligible	Retail (Lighting) Discounts - Income Eligible										
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	665,289	527,281	527,281	527,281	527,281	527,281	527,281			
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	320,640	288,840	86,088	86,088	86,088	86,088	86,088			
Income Eligible	UIC ERC Low Income Kits										
Pilot Business	Smart Building Operations										
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers										
Pilot Residential	Ductless Heat Pump and Building Envelope										
Pilot Residential	HVAC SAVE										
Pilot Residential	Nest Seasonal Savings (Cooling Season)										
Pilot Residential	Nest Seasonal Savings (Heating Season)										
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Cooling Season)										
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Heating Season)										
All	Voltage Optimization										
<b>CY2018 Portfolio Total Electric CPAS</b>		<b>21,105,826</b>	<b>20,748,836</b>	<b>1,346,842</b>	<b>1,346,842</b>	<b>1,346,842</b>	<b>1,057,588</b>	<b>1,057,588</b>	<b>15</b>		
<b>CY2018 Portfolio Cumulative Expiring Electric Savings§</b>		<b>1,744,354,360</b>	<b>1,744,711,351</b>	<b>1,764,113,345</b>	<b>1,764,113,345</b>	<b>1,764,113,345</b>	<b>1,764,402,599</b>	<b>1,765,460,172</b>	<b>1,765,460,187</b>	<b>1,765,460,187</b>	
<b>CY2018 Portfolio Incremental Expiring Electric Savings‡§</b>		<b>11,922,764</b>	<b>356,990</b>	<b>19,401,994</b>			<b>289,254</b>		<b>1,057,573</b>	<b>15</b>	

Note: The green highlighted cell shows Portfolio total first year electric savings. Verified net savings from the Total Connected Savings Wi-Fi Thermostat Optimization program is zero because the savings were not statistically significant.

\* WAML is the weighted average measure life across all measures and savings in the program.

† A deemed value. Source: ComEd\_NTG\_History\_and\_PY10\_Recommendations\_2017-03-01\_Final.xlsx, which is to be found on the IL SAG web site here: <http://ilsag.info/net-to-gross-framework.html>. Some programs have deemed measure-level NTG values. In those cases, the NTG value shown in this table is calculated as (verified net kWh)/(verified gross kWh).

‡ Lifetime savings are the sum of CPAS savings through the program WAML.

§ Cumulative Expiring savings are equal to CPAS  $Y_{n-1}$  - CPAS  $Y_n$  + Expiring Savings  $Y_{n-1}$ .

‡§ Incremental Expiring savings are equal to Cumulative Expiring Savings  $Y_n$  - Cumulative Expiring Savings  $Y_{n-1}$ .

Source: ComEd tracking data and Navigant team analysis.

## Table 2-4. CPAS by Program – Gas

Sector	Program	CY2018 Verified Gross			Verified Net Therms Savings							
		EUL*	Savings (Therms)	NTG†	Lifetime Net Savings‡	2018	2019	2020	2021	2022	2023	2024
Business	Air Care Plus	5.8	302,814	0.90	1,586,408	272,532	272,532	271,170	271,170	211,635	57,474	57,474
Business	Custom	13.0	4,162	0.58	31,381	2,414	2,414	2,414	2,414	2,414	2,414	2,414
Business	Data Centers		0		0							
Business	Energy Advisor Monitoring-Based Commissioning		0		0							
Business	Industrial Systems Optimization		0		0							
Business	Instant Discounts		0		0							
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	20.6	43,501	0.77	582,827	33,496	33,496	33,496	33,496	33,496	33,496	33,496
Business	Operational Efficiency / Facility Assessments	4.2	57,074	0.91	217,348	51,937	51,937	51,937	30,768	30,768		
Business	Public Housing Authority (Joint/Nicor)	14.9	2,318	1.00	20,474	2,318	2,318	2,283	1,994	1,994	1,842	829
Business	Public Small Facilities (PSF)		0		0							
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)	7.5	97,237	1.02	743,866	99,182	99,182	99,182	99,182	99,182	99,182	99,182
Business	Rural Small Business Kits	6.9	39,521	0.90	245,344	35,569	35,569	35,569	35,569	35,569	16,875	16,875
Business	Small Business (Private Sector)	12.1	367,229	0.91	4,030,000	334,179	334,179	334,179	334,179	328,407	328,407	328,407
Business	Standard	14.9	2,547,652	0.70	26,499,624	1,783,356	1,783,356	1,783,356	1,783,356	1,783,356	1,783,356	1,783,356
Business	Strategic Energy Management (Joint/Nicor Gas)		0		0							
Business	Street Lighting		0		0							
Residential	Appliance Rebates		2,121,385	0.97	20,972,723	2,067,516	2,067,516	2,067,516	2,067,516	2,067,516	2,067,516	2,067,516
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	9.2	175,957	1.00	1,621,436	175,957	175,957	165,092	165,092	165,092	165,092	165,092
Residential	Fridge and Freezer Recycling		0		0							
Residential	Heating and Cooling (HVAC) Rebates	13.2	351,791	0.87	3,763,421	307,434	307,434	307,434	307,434	307,434	307,434	301,526
Residential	Holiday Light Exchange		0		0							
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	10.0	563	1.00	5,628	563	563	563	563	563	563	563
Residential	Home Energy Reports		0		0							
Residential	Lighting Discounts		0		0							
Residential	Middle School Take-Home Kits		0		0							
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL-NSG)		0		0							
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)		0		0							
Residential	Weatherization - Market Rate	18.8	46,889	1.01	892,331	47,358	47,358	47,358	47,358	47,358	47,358	47,358
Income Eligible	Affordable Housing New Construction (Joint/Nicor)		0		0							
Income Eligible	Food Bank LED Distribution		0		0							
Income Eligible	Multi-Family IHWAP	20.0	4,247	1.00	85,109	4,247	4,247	4,247	4,247	4,247	4,247	4,247
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	14.7	437,904	1.00	6,439,498	437,904	437,904	437,904	433,124	433,124	427,996	337,721
Income Eligible	Retail (Lighting) Discounts - Income Eligible		0		0							
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	19.9	231,926	1.00	4,622,878	231,926	231,926	231,552	231,552	231,552	228,003	228,003
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	18.9	49,934	1.00	789,128	49,934	49,934	49,934	49,934	48,467	47,318	37,991
Income Eligible	UIC ERC Low Income Kits		0		0							
Pilot Business	Smart Building Operations		0		0							
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers		0		0							
Pilot Residential	Ductless Heat Pump and Building Envelope		0		0							
Pilot Residential	HVAC SAVE		0		0							
Pilot Residential	Nest Seasonal Savings (Cooling Season)		0		0							
Pilot Residential	Nest Seasonal Savings (Heating Season)	1.0	0		1,461,619	1,461,619						
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization (Cooling Season)		0		0							
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization (Heating Season)		0		0							
All	Voltage Optimization		0		0							
<b>CY2018 Portfolio Total Gas CPAS (Therms)</b>			<b>6,882,105</b>	<b>0.86</b>	<b>74,611,047</b>	<b>7,399,442</b>	<b>5,937,823</b>	<b>5,925,186</b>	<b>5,898,948</b>	<b>5,832,174</b>	<b>5,618,571</b>	<b>5,512,049</b>
<b>CY2018 Portfolio Total Gas CPAS (kWh Equivalent)§</b>			<b>201,714,493</b>	<b>1.08</b>	<b>2,186,849,782</b>	<b>216,877,650</b>	<b>174,037,589</b>	<b>173,667,211</b>	<b>172,898,176</b>	<b>170,941,029</b>	<b>164,680,325</b>	<b>161,558,168</b>
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (Therms)¶§</b>							<b>1,461,619</b>	<b>1,474,256</b>	<b>1,500,494</b>	<b>1,567,268</b>	<b>1,780,871</b>	<b>1,887,393</b>
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (kWh Equivalent)</b>							<b>42,840,061</b>	<b>43,210,439</b>	<b>43,979,474</b>	<b>45,936,621</b>	<b>52,197,325</b>	<b>55,319,481</b>
<b>CY2018 Portfolio Incremental Expiring Gas Savings (Therms)**</b>							<b>1,461,619</b>	<b>12,637</b>	<b>26,238</b>	<b>66,774</b>	<b>213,603</b>	<b>106,522</b>
<b>CY2018 Portfolio Incremental Expiring Gas Savings (kWh Equivalent)</b>							<b>42,840,061</b>	<b>370,378</b>	<b>769,035</b>	<b>1,957,147</b>	<b>6,260,704</b>	<b>3,122,156</b>

Verified Net Therms Savings												
Sector	Program	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Business	Air Care Plus	57,474	57,474	57,474								
Business	Custom	2,414	2,414	2,414	2,414	2,414	2,414					
Business	Data Centers											
Business	Energy Advisor Monitoring-Based Commissioning											
Business	Industrial Systems Optimization											
Business	Instant Discounts											
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	33,496	33,496	33,496	33,496	33,496	33,496	33,496	33,496	33,496	33,496	13,398
Business	Operational Efficiency / Facility Assessments											
Business	Public Housing Authority (Joint/Nicor)	829	829	781	550	550	550	550	550	250	250	250
Business	Public Small Facilities (PSF)											
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)	49,591										
Business	Rural Small Business Kits	16,875	16,875									
Business	Small Business (Private Sector)	328,407	328,407	328,407	120,294	120,294	120,294	120,294	120,294	24,275	24,275	24,275
Business	Standard	1,783,356	1,783,356	1,783,356	1,733,212	1,733,212	1,733,212	1,733,212	1,733,212			
Business	Strategic Energy Management (Joint/Nicor Gas)											
Business	Street Lighting											
Residential	Appliance Rebates	2,067,516	2,067,516	2,067,516	74,390	74,390	74,390	74,390				
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	165,092	165,092	113,880								
Residential	Fridge and Freezer Recycling											
Residential	Heating and Cooling (HVAC) Rebates	301,526	301,526	301,526	87,470	87,470	87,470	87,470	87,470	87,470	87,470	87,470
Residential	Holiday Light Exchange											
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	563	563	563								
Residential	Home Energy Reports											
Residential	Lighting Discounts											
Residential	Middle School Take-Home Kits											
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)											
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)											
Residential	Weatherization - Market Rate	47,358	47,358	47,358	47,358	47,358	47,358	47,358	47,358	30,988	30,988	30,988
Income Eligible	Affordable Housing New Construction (Joint/Nicor)											
Income Eligible	Food Bank LED Distribution											
Income Eligible	Multi-Family IHWAP	4,247	4,247	4,230	4,230	4,230	4,230	4,230	4,230	2,151	2,151	2,151
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	337,721	337,721	328,074	280,893	280,893	280,893	280,893	280,893	147,481	147,481	147,481
Income Eligible	Retail (Lighting) Discounts - Income Eligible											
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	228,003	228,003	227,779	217,834	217,834	217,834	217,834	217,834	123,541	123,541	123,541
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	37,991	37,316	37,152	33,547	33,547	33,547	32,835	32,835	22,121	22,121	22,121
Income Eligible	UIC ERC Low Income Kits											
Pilot Business	Smart Building Operations											
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers											
Pilot Residential	Ductless Heat Pump and Building Envelope											
Pilot Residential	HVAC SAVE											
Pilot Residential	Nest Seasonal Savings (Cooling Season)											
Pilot Residential	Nest Seasonal Savings (Heating Season)											
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Cooling Season)											
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Heating Season)											
All	Voltage Optimization											
<b>CY2018 Portfolio Total Gas CPAS (Therms)</b>		<b>5,462,458</b>	<b>5,412,192</b>	<b>5,334,005</b>	<b>2,635,687</b>	<b>2,635,687</b>	<b>2,635,687</b>	<b>2,632,561</b>	<b>2,558,171</b>	<b>471,773</b>	<b>471,773</b>	<b>451,676</b>
<b>CY2018 Portfolio Total Gas CPAS (kWh Equivalent)\$</b>		<b>160,104,654</b>	<b>158,631,353</b>	<b>156,339,698</b>	<b>77,251,997</b>	<b>77,251,997</b>	<b>77,251,997</b>	<b>77,160,367</b>	<b>74,980,000</b>	<b>13,827,677</b>	<b>13,827,677</b>	<b>13,238,619</b>
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (Therms)†‡</b>		<b>1,936,984</b>	<b>1,987,250</b>	<b>2,065,437</b>	<b>4,763,755</b>	<b>4,763,755</b>	<b>4,763,755</b>	<b>4,766,881</b>	<b>4,841,271</b>	<b>6,927,669</b>	<b>6,927,669</b>	<b>6,947,766</b>
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (kWh Equivalent)</b>		<b>56,772,996</b>	<b>58,246,297</b>	<b>60,537,952</b>	<b>139,625,653</b>	<b>139,625,653</b>	<b>139,625,653</b>	<b>139,717,283</b>	<b>141,897,650</b>	<b>203,049,973</b>	<b>203,049,973</b>	<b>203,639,031</b>
<b>CY2018 Portfolio Incremental Expiring Gas Savings (Therms)**</b>		<b>49,591</b>	<b>50,266</b>	<b>78,187</b>	<b>2,698,318</b>			<b>3,126</b>	<b>74,390</b>	<b>2,086,398</b>		<b>20,097</b>
<b>CY2018 Portfolio Incremental Expiring Gas Savings (kWh Equivalent)</b>		<b>1,453,515</b>	<b>1,473,300</b>	<b>2,291,655</b>	<b>79,087,701</b>			<b>91,631</b>	<b>2,180,367</b>	<b>61,152,323</b>		<b>589,058</b>

		Verified Net Therms Savings									
Sector	Program	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Business	Air Care Plus										
Business	Custom										
Business	Data Centers										
Business	Energy Advisor Monitoring-Based Commissioning										
Business	Industrial Systems Optimization										
Business	Instant Discounts										
Business	New Construction (Joint/Nicor Gas & PGL-NSG)										
Business	Operational Efficiency / Facility Assessments										
Business	Public Housing Authority (Joint/Nicor)	250	250	91	91	91	91	91			
Business	Public Small Facilities (PSF)										
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)										
Business	Rural Small Business Kits										
Business	Small Business (Private Sector)	24,275	24,275								
Business	Standard										
Business	Strategic Energy Management (Joint/Nicor Gas)										
Business	Street Lighting										
Residential	Appliance Rebates										
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)										
Residential	Fridge and Freezer Recycling										
Residential	Heating and Cooling (HVAC) Rebates	1,851	1,851	1,851	1,851	1,851	1,851	1,851			
Residential	Holiday Light Exchange										
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)										
Residential	Home Energy Reports										
Residential	Lighting Discounts										
Residential	Middle School Take-Home Kits										
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)										
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)										
Residential	Weatherization - Market Rate	30,988	30,988	5,403	5,403	5,403	5,403	5,403			
Income Eligible	Affordable Housing New Construction (Joint/Nicor)										
Income Eligible	Food Bank LED Distribution										
Income Eligible	Multi-Family IHWAP	2,151	2,151	2,151	2,151	2,151	2,151	2,151			
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	147,481	147,481	69,687	69,687	69,687	69,687	69,687			
Income Eligible	Retail (Lighting) Discounts - Income Eligible										
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	123,541	123,541	123,541	123,541	123,541	123,541	123,541			
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	22,121	22,121	13,248	13,248	13,248	13,248	13,248			
Income Eligible	UIC ERC Low Income Kits										
Pilot Business	Smart Building Operations										
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers										
Pilot Residential	Ductless Heat Pump and Building Envelope										
Pilot Residential	HVAC SAVE										
Pilot Residential	Nest Seasonal Savings (Cooling Season)										
Pilot Residential	Nest Seasonal Savings (Heating Season)										
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization (Cooling Season)										
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization (Heating Season)										
All	Voltage Optimization										
<b>CY2018 Portfolio Total Gas CPAS (Therms)</b>		<b>352,659</b>	<b>352,659</b>	<b>215,972</b>	<b>215,972</b>	<b>215,972</b>	<b>215,972</b>	<b>215,972</b>			
<b>CY2018 Portfolio Total Gas CPAS (kWh Equivalent)§</b>		<b>10,336,434</b>	<b>10,336,434</b>	<b>6,330,146</b>	<b>6,330,146</b>	<b>6,330,146</b>	<b>6,330,146</b>	<b>6,330,146</b>			
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (Therms)†‡</b>		<b>7,046,783</b>	<b>7,046,783</b>	<b>7,183,470</b>	<b>7,183,470</b>	<b>7,183,470</b>	<b>7,183,470</b>	<b>7,183,470</b>	<b>7,399,442</b>	<b>7,399,442</b>	<b>7,399,442</b>
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (kWh Equivalent)</b>		<b>206,541,216</b>	<b>206,541,216</b>	<b>210,547,504</b>	<b>210,547,504</b>	<b>210,547,504</b>	<b>210,547,504</b>	<b>210,547,504</b>	<b>216,877,650</b>	<b>216,877,650</b>	<b>216,877,650</b>
<b>CY2018 Portfolio Incremental Expiring Gas Savings (Therms)**</b>		<b>99,017</b>		<b>136,687</b>					<b>215,972</b>		
<b>CY2018 Portfolio Incremental Expiring Gas Savings (kWh Equivalent)</b>		<b>2,902,185</b>		<b>4,006,288</b>					<b>6,330,146</b>		

Note: The green highlighted cell shows Portfolio total first year electric (equivalent) savings.

\* EUL is a combination of technical measure life and persistence.

† A deemed value. Source: ComEd\_NTG\_History\_and\_PY10\_Recommendations\_2017-03-01\_Final.xlsx, which is to be found on the IL SAG web site here: <http://ilsag.info/net-to-gross-framework.html>.

‡ Lifetime savings are the sum of CPAS savings through the EUL.

§ kWh equivalent savings are calculated by multiplying therm savings by 29.31.

‡§ Cumulative expiring savings (therm) are equal to CPAS Yn-1 - CPAS Yn + Expiring Savings Yn-1. Multiply by 29.31 gives kWh Equivalent cumulative expiring savings.

\*\* Incremental expiring savings (therm) are equal to Cumulative Expiring Savings Yn - Cumulative Expiring Savings Yn-1. Multiply by 29.31 gives kWh Equivalent incremental expiring savings.

Source: ComEd tracking data and Navigant team analysis.

### Table 2-5. CPAS from Gas Counting Toward ComEd Goal

Sector	CY2018 Verified Gross Savings (Therms)	Lifetime Net Savings (Therms)*	Verified Net Therms Savings									
			2018	2019	2020	2021	2022	2023	2024	2025	2026	
Income Eligible Gas (Therms)	724,010	11,936,614	724,010	724,010	723,637	718,857	717,390	707,563	607,961	607,961	607,286	
All Other Gas (Therms)	3,364,795	35,879,339	2,494,034	2,494,034	2,494,034	2,494,034	2,494,034	2,494,034	2,487,115	2,487,115	2,487,115	
Income Eligible Gas (kWh Equivalent)†	21,220,745	349,862,155	21,220,745	21,220,745	21,209,787	21,069,703	21,026,704	20,738,680	17,819,340	17,819,340	17,799,555	
All Other Gas (kWh Equivalent)‡	98,622,136	1,051,623,433	73,100,143	73,100,143	73,100,143	73,100,143	73,100,143	73,100,143	72,897,327	72,897,327	72,897,327	
<b>CY2018 Portfolio Total Gas CPAS (Therms)</b>	<b>4,088,805</b>	<b>47,815,953</b>	<b>3,218,045</b>	<b>3,218,045</b>	<b>3,217,671</b>	<b>3,212,891</b>	<b>3,211,424</b>	<b>3,201,598</b>	<b>3,095,076</b>	<b>3,095,076</b>	<b>3,094,401</b>	
<b>CY2018 Portfolio Total Gas CPAS (kWh Equivalent)§</b>	<b>119,842,882</b>	<b>1,401,485,587</b>	<b>94,320,888</b>	<b>94,320,888</b>	<b>94,309,930</b>	<b>94,169,845</b>	<b>94,126,846</b>	<b>93,838,823</b>	<b>90,716,667</b>	<b>90,716,667</b>	<b>90,696,881</b>	
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (Therms)‡§</b>	<b>0</b>	<b>0</b>			<b>374</b>	<b>5,153</b>	<b>6,620</b>	<b>16,447</b>	<b>122,969</b>	<b>122,969</b>	<b>123,644</b>	
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (kWh Equivalent)</b>	<b>0</b>	<b>0</b>			<b>10,958</b>	<b>151,043</b>	<b>194,042</b>	<b>482,065</b>	<b>3,604,221</b>	<b>3,604,221</b>	<b>3,624,007</b>	
<b>CY2018 Portfolio Incremental Expiring Gas Savings (Therms)**</b>	<b>0</b>	<b>0</b>			<b>374</b>	<b>4,779</b>	<b>1,467</b>	<b>9,827</b>	<b>106,522</b>		<b>675</b>	
<b>CY2018 Portfolio Incremental Expiring Gas Savings (kWh Equivalent)</b>	<b>0</b>	<b>0</b>			<b>10,958</b>	<b>140,085</b>	<b>42,999</b>	<b>288,023</b>	<b>3,122,156</b>		<b>19,785</b>	

Sector	CY2018 Verified Gross Savings (Therms)	Lifetime Net Savings (Therms)*	Verified Net Therms Savings										
			2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Income Eligible Gas (Therms)	724,010	11,936,614	597,235	536,504	536,504	536,504	535,791	535,791	295,294	295,294	295,294	295,294	295,294
All Other Gas (Therms)	3,364,795	35,879,339	2,487,115	2,082,814	2,082,814	2,082,814	2,080,400	2,006,010	176,479	176,479	156,382	57,365	57,365
Income Eligible Gas (kWh Equivalent)†	21,220,745	349,862,155	17,504,946	15,724,920	15,724,920	15,724,920	15,704,042	15,704,042	8,655,076	8,655,076	8,655,076	8,655,076	8,655,076
All Other Gas (kWh Equivalent)‡	98,622,136	1,051,623,433	72,897,327	61,047,275	61,047,275	61,047,275	60,976,522	58,796,155	5,172,601	5,172,601	4,583,543	1,681,358	1,681,358
<b>CY2018 Portfolio Total Gas CPAS (Therms)</b>	<b>4,088,805</b>	<b>47,815,953</b>	<b>3,084,349</b>	<b>2,619,317</b>	<b>2,619,317</b>	<b>2,619,317</b>	<b>2,616,191</b>	<b>2,541,801</b>	<b>471,773</b>	<b>471,773</b>	<b>451,676</b>	<b>352,659</b>	<b>352,659</b>
<b>CY2018 Portfolio Total Gas CPAS (kWh Equivalent)§</b>	<b>119,842,882</b>	<b>1,401,485,587</b>	<b>90,402,272</b>	<b>76,772,195</b>	<b>76,772,195</b>	<b>76,772,195</b>	<b>76,680,564</b>	<b>74,500,197</b>	<b>13,827,677</b>	<b>13,827,677</b>	<b>13,238,619</b>	<b>10,336,434</b>	<b>10,336,434</b>
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (Therms)‡§</b>	<b>0</b>	<b>0</b>	<b>133,696</b>	<b>598,727</b>	<b>598,727</b>	<b>598,727</b>	<b>601,853</b>	<b>676,243</b>	<b>2,746,271</b>	<b>2,746,271</b>	<b>2,766,369</b>	<b>2,865,386</b>	<b>2,865,386</b>
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (kWh Equivalent)</b>	<b>0</b>	<b>0</b>	<b>3,918,616</b>	<b>17,548,693</b>	<b>17,548,693</b>	<b>17,548,693</b>	<b>17,640,324</b>	<b>19,820,691</b>	<b>80,493,211</b>	<b>81,082,269</b>	<b>83,984,454</b>	<b>83,984,454</b>	<b>83,984,454</b>
<b>CY2018 Portfolio Incremental Expiring Gas Savings (Therms)**</b>	<b>0</b>	<b>0</b>	<b>10,051</b>	<b>465,032</b>			<b>3,126</b>	<b>74,390</b>	<b>2,070,028</b>		<b>20,097</b>	<b>99,017</b>	
<b>CY2018 Portfolio Incremental Expiring Gas Savings (kWh Equivalent)</b>	<b>0</b>	<b>0</b>	<b>294,609</b>	<b>13,630,077</b>			<b>91,631</b>	<b>2,180,367</b>	<b>60,672,520</b>		<b>589,058</b>	<b>2,902,185</b>	

Sector	CY2018 Verified Gross Savings (Therms)	Lifetime Net Savings (Therms)*	Verified Net Therms Savings								
			2038	2039	2040	2041	2042	2043	2044	2045	
Income Eligible Gas (Therms)	724,010	11,936,614	208,628	208,628	208,628	208,628	208,628	208,628			
All Other Gas (Therms)	3,364,795	35,879,339	7,345	7,345	7,345	7,345	7,345	7,345			
Income Eligible Gas (kWh Equivalent)†	21,220,745	349,862,155	6,114,877	6,114,877	6,114,877	6,114,877	6,114,877	6,114,877			
All Other Gas (kWh Equivalent)‡	98,622,136	1,051,623,433	215,269	215,269	215,269	215,269	215,269	215,269			
<b>CY2018 Portfolio Total Gas CPAS (Therms)</b>	<b>4,088,805</b>	<b>47,815,953</b>	<b>215,972</b>	<b>215,972</b>	<b>215,972</b>	<b>215,972</b>	<b>215,972</b>	<b>215,972</b>			
<b>CY2018 Portfolio Total Gas CPAS (kWh Equivalent)§</b>	<b>119,842,882</b>	<b>1,401,485,587</b>	<b>6,330,146</b>	<b>6,330,146</b>	<b>6,330,146</b>	<b>6,330,146</b>	<b>6,330,146</b>	<b>6,330,146</b>			
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (Therms)‡§</b>	<b>0</b>	<b>0</b>	<b>3,002,072</b>	<b>3,002,072</b>	<b>3,002,072</b>	<b>3,002,072</b>	<b>3,002,072</b>	<b>3,002,072</b>	<b>3,218,045</b>	<b>3,218,045</b>	<b>3,218,045</b>
<b>CY2018 Portfolio Cumulative Expiring Gas Savings (kWh Equivalent)</b>	<b>0</b>	<b>0</b>	<b>87,990,742</b>	<b>87,990,742</b>	<b>87,990,742</b>	<b>87,990,742</b>	<b>87,990,742</b>	<b>87,990,742</b>	<b>94,320,888</b>	<b>94,320,888</b>	<b>94,320,888</b>
<b>CY2018 Portfolio Incremental Expiring Gas Savings (Therms)**</b>	<b>0</b>	<b>0</b>	<b>136,687</b>						<b>215,972</b>		
<b>CY2018 Portfolio Incremental Expiring Gas Savings (kWh Equivalent)</b>	<b>0</b>	<b>0</b>	<b>4,006,288</b>						<b>6,330,146</b>		

Note: The green highlighted cell shows Portfolio total first year electric savings.

\* Lifetime savings are the sum of CPAS savings through the EUL.

† Income Eligible kWh equivalent savings are calculated by multiplying therm savings by 29.31.

‡ All others kWh equivalent savings are calculated by multiplying therm savings by 29.31.

§ Portfolio kWh equivalent savings are calculated by multiplying therm savings by 29.31.

‡§ Cumulative expiring savings (therm) are equal to CPAS Yn-1 - CPAS Yn + Expiring Savings Yn-1. Multiply by 29.31 gives kWh Equivalent cumulative expiring savings.

\*\* Incremental expiring savings (therm) are equal to Cumulative Expiring Savings Yn - Cumulative Expiring Savings Yn-1. Multiply by 29.31 gives kWh Equivalent incremental expiring savings.

Source: ComEd tracking data and Navigant team analysis.

Below is the list of programs and measures with gas savings which were counted towards ComEd CPAS goal. Navigant identified and flagged some measures where it was possible to confirm the gas companies were not also claiming gas savings (e.g. gas companies purchase therms from ComEd on advanced thermostats, but they did not claim gas savings on clothes washers, ductless mini-split heat pumps, and EMS). There were other measures where it was not possible to state definitively that gas companies were not also counting the gas savings (e.g. kitchen DCV, programmable thermostats, air sealing, and pipe insulation). Some of those measures were sorted to the bottom of the data so they were not counted in the calculation of the savings ComEd can claim toward goal (e.g. programmable thermostats). Navigant reviewed the gas utilities' data for other measures and determined that the gas utilities claimed no savings for those measures. Therefore, Navigant did not sort them to the bottom of the list and left them as available for counting toward ComEd's goal.

**Table 2-6. Measure List and Savings from Gas Counting Toward ComEd Goal**

Sector	Program	CY2018 Verified Gross Savings (Therms)	CY2018 Verified Gross Savings (kWh Equivalent)	CY2018 Verified Net Savings (Therms)	CY2018 Verified Net Savings (kWh Equivalent)	Counted Measures (EUL)
Income Eligible	Income Eligible (All)	724,010	21,220,745	724,010	21,220,745	All Income Eligible Measure and EUL were counted
Residential	Appliance Rebates	475,085	13,924,750	421,217	12,345,864	Clothes Washer (14), Advanced Thermostat (10)
Residential	Heating and Cooling (HVAC) Rebates	137,734	4,036,997	93,377	2,736,882	Ground Source Heat Pump - ER (25), Ground Source Heat Pump - TOS (25), Ductless Heat Pump - ER (18), Ductless Heat Pump - TOS (18)
Residential	Weatherization - Market Rate	30,682	899,279	30,988	908,272	Attic Insulation (25), Basement / Sidewall Insulation (25), Wall Insulation (25), Duct Sealing (20), Air Sealing (15)
Business	Air Care Plus	63,860	1,871,728	57,474	1,684,555	DCV (10)
Business	Custom	4,162	121,988	2,414	70,753	HVAC (13)
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	43,501	1,275,017	33,496	981,763	Whole Home (Therms removing interactive effects), (20.6)
Business	Public Housing Authority (Joint/Nicor)	1,563	45,798	1,563	45,798	Insulation (25), Space Heating (20), Weatherization (15)
Business	Small Business (Private Sector)	132,191	3,874,526	120,294	3,525,819	Weather Stripping (20), Kitchen Fan with DCV (15)
Business	Standard	2,476,017	72,572,054	1,733,212	50,800,438	Building Energy Management System (15), High Performance Low Flow Fume Hood (15)
<b>Total</b>		<b>4,088,805</b>	<b>119,842,882</b>	<b>3,218,045</b>	<b>94,320,888</b>	

Source: ComEd tracking data and Navigant team analysis.

## Table 2-7. Total CPAS Counting Toward ComEd Goal

Sector	Program	WAML*	CY2018 Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	Verified Net kWh Savings (Including Those Converted from Gas Savings)							
					2018	2019	2020	2021	2022	2023	2024	
Business	Air Care Plus	4.8	24,926,995	103,787,796	22,434,296	22,434,296	19,746,615	18,084,203	4,683,425	3,196,098	3,194,761	
Business	Custom	14.4	26,472,790	220,480,739	15,354,218	15,354,218	15,320,751	15,320,751	15,320,751	15,320,751	15,320,751	
Business	Data Centers	16.1	25,473,522	279,696,102	17,321,995	17,321,995	17,321,995	17,321,995	17,321,995	16,291,773	16,291,773	
Business	Energy Advisor Monitoring-Based Commissioning	5.0	8,148,664	40,743,321	8,148,664	8,148,664	8,148,664	8,148,664	8,148,664			
Business	Industrial Systems Optimization	10.5	22,488,399	184,662,186	17,990,719	17,990,719	17,694,526	11,918,391	11,918,391	11,918,391	11,918,391	
Business	Instant Discounts	9.7	321,683,597	2,303,689,284	253,222,349	245,411,842	245,411,842	220,796,835	216,725,305	210,847,104	200,866,765	
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	17.5	38,341,389	404,055,598	23,221,586	23,221,586	23,221,586	23,221,586	23,221,586	23,221,586	23,221,586	
Business	Operational Efficiency / Facility Assessments	4.3	3,607,356	14,195,258	3,282,694	3,282,694	3,282,694	2,173,588	2,173,588			
Business	Public Housing Authority (Joint/Nicor)	10.3	2,517,896	23,404,902	2,517,896	2,517,896	2,516,294	2,374,204	2,308,499	2,245,767	2,091,122	
Business	Public Small Facilities (PSF)	9.6	8,816,014	71,700,150	8,022,573	7,399,306	7,399,306	7,361,833	7,361,833	7,361,833	6,007,084	
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)	7.5	36,336,589	258,898,196	34,519,759	34,519,759	34,519,759	34,519,759	34,519,759	34,519,759	34,519,759	
Business	Rural Small Business Kits	12.7	2,277,336	20,926,054	2,049,602	2,049,602	1,987,233	1,568,626	1,568,626	1,353,768	1,262,267	
Business	Small Business (Private Sector)	12.1	220,317,638	2,047,311,669	200,489,051	167,924,438	167,413,289	167,413,289	166,950,090	166,111,600	166,111,600	
Business	Standard	12.2	345,367,124	2,901,898,975	243,838,993	236,855,371	236,751,769	236,751,769	236,486,455	235,919,000	233,720,233	
Business	Strategic Energy Management (Joint/Nicor Gas)	5.0	14,778,772	70,199,167	14,039,833	14,039,833	14,039,833	14,039,833	14,039,833			
Business	Street Lighting	12.0	86,043,658	1,010,081,927	86,043,658	86,043,658	86,043,658	86,043,658	83,238,412	83,238,412	83,238,412	
Residential	Appliance Rebates	10.0	52,482,489	459,849,575	46,615,715	46,615,715	46,615,715	46,615,715	46,615,715	46,615,715	46,615,715	
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	9.3	6,104,453	44,755,039	6,104,453	6,104,453	5,847,835	3,958,787	3,958,787	3,958,787	3,958,787	
Residential	Fridge and Freezer Recycling	8.0	41,903,899	172,869,432	21,697,981	21,697,981	21,697,981	21,697,981	21,519,377	21,519,377	21,519,377	
Residential	Heating and Cooling (HVAC) Rebates	18.4	17,135,264	208,072,912	11,991,939	11,991,939	11,991,939	11,991,939	11,991,939	11,991,939	11,204,043	
Residential	Holiday Light Exchange	7.0	54,842	307,115	43,874	43,874	43,874	43,874	43,874	43,874	43,874	
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	9.6	29,622,475	206,110,468	24,149,880	24,149,880	23,928,139	20,007,644	20,007,644	19,813,957	19,439,261	
Residential	Home Energy Reports	5.0	0	692,109,172	279,539,772	200,821,372	121,727,875	62,752,974	27,267,179			
Residential	Lighting Discounts	9.1	503,823,727	2,158,085,569	301,534,004	301,534,004	301,534,004	176,209,185	168,972,262	157,383,937	147,675,707	
Residential	Middle School Take-Home Kits	8.5	1,483,137	10,036,649	1,483,137	1,483,137	1,483,137	1,000,806	1,000,806	1,000,806	1,000,806	
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)	9.4	12,396,380	95,324,236	11,768,297	11,303,190	11,300,406	9,444,652	9,444,652	9,299,982	9,138,185	
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	18.0	357,717	4,185,293	232,516	232,516	232,516	232,516	232,516	232,516	232,516	
Residential	Weatherization - Market Rate	19.6	1,688,127	33,367,893	1,705,009	1,705,009	1,705,009	1,705,009	1,705,009	1,705,009	1,705,009	
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	12.2	1,935,089	22,173,638	1,935,089	1,935,089	1,935,089	1,707,148	1,707,148	1,707,148	1,707,148	
Income Eligible	Food Bank LED Distribution	9.2	39,753,102	200,943,126	39,753,102	39,753,102	39,753,102	12,007,480	12,007,480	12,007,480	12,006,881	
Income Eligible	Multi-Family IHWAP	14.4	752,640	8,858,179	752,640	752,640	752,640	655,369	539,370	518,270	489,830	
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	13.8	16,651,237	226,496,058	16,659,024	16,403,290	16,403,290	16,108,900	16,097,057	15,554,206	12,382,181	
Income Eligible	Retail (Lighting) Discounts - Income Eligible	9.5	46,515,815	339,264,033	46,515,815	46,515,815	46,515,815	29,207,797	27,883,670	26,155,433	25,511,019	
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	19.0	8,838,818	167,108,763	8,838,818	8,838,818	8,825,996	8,643,579	8,643,579	8,529,803	8,523,188	
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	17.5	2,442,585	35,134,671	2,442,585	2,442,585	2,442,585	2,234,350	2,130,143	2,094,092	1,704,969	
Income Eligible	UIC ERC Low Income Kits	9.0	10,538,650	70,565,807	10,538,650	10,538,650	10,538,650	6,885,587	6,885,587	6,885,587	6,885,587	
Pilot Business	Smart Building Operations	7.5	895,325	6,714,938	895,325	895,325	895,325	895,325	895,325	895,325	895,325	
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	15.0	197,487	2,073,614	138,241	138,241	138,241	138,241	138,241	138,241	138,241	
Pilot Residential	Ductless Heat Pump and Building Envelope	18.0	316,484	5,529,735	316,484	316,484	316,484	316,484	316,484	316,484	302,569	
Pilot Residential	HVAC SAVE	18.0	18,234	262,570	14,587	14,587	14,587	14,587	14,587	14,587	14,587	
Pilot Residential	Nest Seasonal Savings (Cooling Season)	1.0	0	3,035,416	3,035,416							
Pilot Residential	Nest Seasonal Savings (Heating Season)	1.0	0	2,566,785	2,566,785							
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization (Cooling Season)		0	0	0							
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization (Heating Season)		0	0	0							
All	Voltage Optimization	15.0	66,014,049	990,210,735	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	
<b>CY2018 Portfolio Total CPAS (kWh)</b>			<b>2,049,519,768</b>	<b>16,121,742,744</b>	<b>1,859,781,075</b>	<b>1,726,757,624</b>	<b>1,643,474,098</b>	<b>1,367,548,963</b>	<b>1,302,019,691</b>	<b>1,225,942,445</b>	<b>1,196,873,360</b>	
<b>CY2018 Portfolio Cumulative Expiring Savings‡</b>						<b>133,023,450</b>	<b>216,306,976</b>	<b>492,232,112</b>	<b>557,761,384</b>	<b>633,838,630</b>	<b>662,907,715</b>	
<b>CY2018 Portfolio Incremental Expiring Savings§</b>						<b>133,023,450</b>	<b>83,283,526</b>	<b>275,925,136</b>	<b>65,529,272</b>	<b>76,077,246</b>	<b>29,069,085</b>	
<b>Legacy Savings (kWh)‡§</b>						<b>4,558,842,920</b>	<b>4,087,238,480</b>	<b>3,537,033,300</b>	<b>3,144,029,600</b>	<b>2,751,025,900</b>	<b>2,436,622,940</b>	<b>2,200,820,720</b>
<b>Legacy Cumulative Expiring Savings</b>						<b>628,805,920</b>	<b>1,100,410,360</b>	<b>1,650,615,540</b>	<b>2,043,619,240</b>	<b>2,436,622,940</b>	<b>2,751,025,900</b>	<b>2,986,828,120</b>
<b>Legacy Incremental Expiring Savings</b>						<b>628,805,920</b>	<b>471,604,440</b>	<b>550,205,180</b>	<b>393,003,700</b>	<b>314,402,960</b>	<b>235,802,220</b>	<b>235,802,220</b>
<b>CY2018 Portfolio Grand Total CPAS (kWh)</b>			<b>2,049,519,768</b>	<b>47,011,833,564</b>	<b>6,418,623,995</b>	<b>5,813,996,104</b>	<b>5,180,507,398</b>	<b>4,511,578,563</b>	<b>4,053,045,591</b>	<b>3,662,565,385</b>	<b>3,397,694,080</b>	
<b>Grand Total Cumulative Expiring Savings</b>						<b>628,805,920</b>	<b>1,233,433,810</b>	<b>1,866,922,516</b>	<b>2,535,851,352</b>	<b>2,994,384,324</b>	<b>3,384,864,530</b>	<b>3,649,735,835</b>
<b>Grand Total Incremental Expiring Savings</b>						<b>628,805,920</b>	<b>604,627,890</b>	<b>633,488,706</b>	<b>668,928,836</b>	<b>458,532,972</b>	<b>390,480,206</b>	<b>264,871,305</b>
<b>Progress towards Applicable Annual Incremental Goal (AAlG)**</b>						<b>1,230,975,155</b>						

Verified Net kWh Savings (Including Those Converted from Gas Savings)												
Sector	Program	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Business	Air Care Plus	3,193,010	3,190,970	3,189,619	88,126	88,032	88,032	88,032	88,032	23	23	23
Business	Custom	15,320,751	15,320,751	15,320,751	15,320,751	15,320,751	15,320,751	5,526,699	5,526,699	1,947,004	1,843,969	1,843,969
Business	Data Centers	16,055,222	16,055,222	16,055,222	15,979,250	15,979,250	15,979,250	15,979,250	15,962,041	6,491,576	6,491,576	6,491,576
Business	Energy Advisor Monitoring-Based Commissioning											
Business	Industrial Systems Optimization	11,918,391	11,918,391	11,918,391	11,918,391	11,918,391	11,918,391	5,901,156	5,901,156			
Business	Instant Discounts	134,785,528	111,589,300	102,907,640	92,447,931	74,704,928	69,298,467	62,939,915		3,842,148		
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	23,221,586	23,221,586	23,221,586	23,221,586	23,221,586	23,221,586	23,221,586	23,221,586	23,221,586	23,221,586	9,288,634
Business	Operational Efficiency / Facility Assessments											
Business	Public Housing Authority (Joint/Nicor)	2,057,257	1,496,687	1,401,414	417,459	181,184	180,223	180,223	180,223	171,420	133,226	133,226
Business	Public Small Facilities (PSF)	4,306,498	3,964,010	3,938,981	2,345,749	1,688,555	1,666,456	1,537,739	1,258,329	80,065		
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)	17,259,880										
Business	Rural Small Business Kits	1,205,944	1,204,851	1,041,271	1,034,840	1,028,410	1,027,883	1,011,654	1,002,410	529,066		
Business	Small Business (Private Sector)	165,609,577	156,101,590	156,019,877	150,131,243	150,131,243	38,647,066	12,187,266	12,187,266	993,779	722,351	722,351
Business	Standard	231,525,536	225,271,393	203,706,533	136,974,913	110,343,976	103,557,377	102,570,662	100,434,840	5,495,242	5,423,728	5,423,728
Business	Strategic Energy Management (Joint/Nicor Gas)											
Business	Street Lighting	83,238,412	83,238,412	83,238,412	83,238,412	83,238,412						
Residential	Appliance Rebates	40,221,567	40,221,567	36,164,363	4,846,854	4,815,776	3,295,200	3,295,200	135,809	135,809	135,809	135,809
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	3,958,787	3,958,787	2,945,576								
Residential	Fridge and Freezer Recycling	21,519,377										
Residential	Heating and Cooling (HVAC) Rebates	11,204,043	11,199,648	11,199,648	10,071,554	10,071,554	10,071,554	10,058,769	10,058,769	10,058,769	10,058,769	10,058,769
Residential	Holiday Light Exchange											
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	17,274,032	17,274,032	17,247,860	563,628	563,628	563,628	563,628	563,628			
Residential	Home Energy Reports											
Residential	Lighting Discounts	146,460,578	146,460,578	146,460,578	34,061,690	34,061,690	34,061,690	32,925,721	28,749,940			
Residential	Middle School Take-Home Kits	575,168	575,168	433,678								
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL-NSG)	8,482,472	5,525,231	4,589,568	1,543,294	710,495	710,495	710,495	697,715	655,104		
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	232,516	232,516	232,516	232,516	232,516	232,516	232,516	232,516	232,516	232,516	232,516
Residential	Weatherization - Market Rate	1,705,009	1,705,009	1,705,009	1,705,009	1,705,009	1,705,009	1,705,009	1,289,228	1,289,228	1,289,228	1,289,228
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	1,707,148	1,707,148	980,483	710,028	662,599	633,157	629,608	622,690	347,899	347,899	347,899
Income Eligible	Food Bank LED Distribution	11,218,166	11,218,166	11,218,166								
Income Eligible	Multi-Family IHWAP	489,355	489,355	484,773	411,340	411,340	395,976	395,976	395,976	116,575	116,575	116,575
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	12,334,080	11,760,139	11,353,105	9,482,135	9,401,145	9,389,079	9,389,079	9,389,079	4,785,612	4,569,878	4,569,878
Income Eligible	Retail (Lighting) Discounts - Income Eligible	24,506,813	24,506,813	24,506,813	3,813,380	3,813,380	3,423,673	3,193,899	3,193,899	0	0	0
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	8,467,516	8,467,516	8,460,783	7,766,867	7,766,867	7,766,867	7,766,867	4,286,288	4,286,288	4,286,288	4,286,288
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	1,704,458	1,684,673	1,678,423	1,467,833	1,466,114	1,458,910	1,438,032	1,438,032	1,009,584	1,009,584	1,009,584
Income Eligible	UIC ERC Low Income Kits	4,405,315	3,773,402	3,228,790								
Pilot Business	Smart Building Operations	447,663										
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	138,241	138,241	138,241	138,241	138,241	138,241	138,241	138,241			
Pilot Residential	Ductless Heat Pump and Building Envelope	302,569	302,569	302,569	302,569	302,569	302,569	302,569	302,569	302,569	302,569	302,569
Pilot Residential	HVAC SAVE	14,587	14,587	14,587	14,587	14,587	14,587	14,587	14,587	14,587	14,587	14,587
Pilot Residential	Nest Seasonal Savings (Cooling Season)											
Pilot Residential	Nest Seasonal Savings (Heating Season)											
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization (Cooling Season)											
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization (Heating Season)											
All	Voltage Optimization	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049	66,014,049			
<b>CY2018 Portfolio Total CPAS (kWh)</b>		<b>1,093,081,102</b>	<b>1,009,802,359</b>	<b>971,319,275</b>	<b>676,264,227</b>	<b>629,996,277</b>	<b>421,082,681</b>	<b>369,918,427</b>	<b>355,073,342</b>	<b>66,006,450</b>	<b>60,200,162</b>	<b>46,267,210</b>
<b>CY2018 Portfolio Cumulative Expiring Savings†</b>		<b>766,699,973</b>	<b>849,978,715</b>	<b>888,461,799</b>	<b>1,183,516,848</b>	<b>1,229,784,798</b>	<b>1,438,698,394</b>	<b>1,489,862,648</b>	<b>1,504,707,733</b>	<b>1,793,774,625</b>	<b>1,799,580,913</b>	<b>1,813,513,865</b>
<b>CY2018 Portfolio Incremental Expiring Savings‡</b>		<b>103,792,258</b>	<b>83,278,742</b>	<b>38,483,084</b>	<b>295,055,049</b>	<b>46,267,950</b>	<b>208,913,596</b>	<b>51,164,254</b>	<b>14,845,085</b>	<b>289,066,892</b>	<b>5,806,289</b>	<b>13,932,952</b>
<b>Legacy Savings (kWh)‡§</b>		<b>1,965,018,500</b>	<b>1,807,817,020</b>	<b>1,650,615,540</b>	<b>1,414,813,320</b>	<b>1,336,212,580</b>						
<b>Legacy Cumulative Expiring Savings</b>		<b>3,222,630,340</b>	<b>3,379,831,820</b>	<b>3,537,033,300</b>	<b>3,772,835,520</b>	<b>3,851,436,260</b>						
<b>Legacy Incremental Expiring Savings</b>		<b>235,802,220</b>	<b>157,201,480</b>	<b>157,201,480</b>	<b>235,802,220</b>	<b>78,600,740</b>						
<b>CY2018 Portfolio Grand Total CPAS (kWh)</b>		<b>3,058,099,602</b>	<b>2,817,619,379</b>	<b>2,621,934,815</b>	<b>2,091,077,547</b>	<b>1,966,208,857</b>	<b>421,082,681</b>	<b>369,918,427</b>	<b>355,073,342</b>	<b>66,006,450</b>	<b>60,200,162</b>	<b>46,267,210</b>
<b>Grand Total Cumulative Expiring Savings</b>		<b>3,989,330,313</b>	<b>4,229,810,535</b>	<b>4,425,495,099</b>	<b>4,956,352,368</b>	<b>5,081,221,058</b>	<b>6,626,347,234</b>	<b>6,677,511,488</b>	<b>6,692,356,573</b>	<b>6,981,423,465</b>	<b>6,987,229,753</b>	<b>7,001,162,705</b>
<b>Grand Total Incremental Expiring Savings</b>		<b>339,594,478</b>	<b>240,480,222</b>	<b>195,684,564</b>	<b>530,857,269</b>	<b>124,868,690</b>	<b>1,545,126,176</b>	<b>51,164,254</b>	<b>14,845,085</b>	<b>289,066,892</b>	<b>5,806,289</b>	<b>13,932,952</b>
<b>Progress towards Applicable Annual Incremental Goal (AAIG)**</b>												

Verified Net kWh Savings (Including Those Converted from Gas Savings)											
Sector	Program	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Business	Air Care Plus	23	23	23	23	23	23	23	23	23	23
Business	Custom	1,843,969	1,843,969	289,254	289,254	289,254					
Business	Data Centers	6,491,576	6,491,576								
Business	Energy Advisor Monitoring-Based Commissioning										
Business	Industrial Systems Optimization										
Business	Instant Discounts										
Business	New Construction (Joint/Nicor Gas & PGL-NSG)										
Business	Operational Efficiency / Facility Assessments										
Business	Public Housing Authority (Joint/Nicor)	133,226	133,226	6,846	6,846	6,846	6,846	6,846			
Business	Public Small Facilities (PSF)										
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)										
Business	Rural Small Business Kits										
Business	Small Business (Private Sector)	722,351	722,351								
Business	Standard	5,423,728	5,423,728								
Business	Strategic Energy Management (Joint/Nicor Gas)										
Business	Street Lighting										
Residential	Appliance Rebates	135,809									
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)										
Residential	Fridge and Freezer Recycling										
Residential	Heating and Cooling (HVAC) Rebates	5,151,251	5,151,251	100,578	100,578	100,578	100,578	100,578			
Residential	Holiday Light Exchange										
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)										
Residential	Home Energy Reports										
Residential	Lighting Discounts										
Residential	Middle School Take-Home Kits										
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)										
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)										
Residential	Weatherization - Market Rate	1,289,228	1,289,228	269,325	269,325	269,325	269,325	269,325			
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	321,472	301,101	44,129	44,129	44,129	44,129	44,129			
Income Eligible	Food Bank LED Distribution										
Income Eligible	Multi-Family IHWAP	108,518	77,515	77,515	77,515	77,515	77,515	77,515			
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	4,565,814	4,565,814	2,266,654	2,266,654	2,266,654	2,266,654	2,266,654			
Income Eligible	Retail (Lighting) Discounts - Income Eligible										
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	4,286,288	4,148,280	4,148,280	4,148,280	4,148,280	4,148,280	4,148,280			
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	969,007	937,207	474,384	474,384	474,384	474,384	474,384			
Income Eligible	UIC ERC Low Income Kits										
Pilot Business	Smart Building Operations										
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers										
Pilot Residential	Ductless Heat Pump and Building Envelope										
Pilot Residential	HVAC SAVE										
Pilot Residential	Nest Seasonal Savings (Cooling Season)										
Pilot Residential	Nest Seasonal Savings (Heating Season)										
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Cooling Season)										
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Heating Season)										
All	Voltage Optimization										
<b>CY2018 Portfolio Total CPAS (kWh)</b>		<b>31,442,260</b>	<b>31,085,270</b>	<b>7,676,988</b>	<b>7,676,988</b>	<b>7,676,988</b>	<b>7,387,734</b>	<b>7,387,734</b>	<b>15</b>		
<b>CY2018 Portfolio Cumulative Expiring Savings†</b>		<b>1,828,338,814</b>	<b>1,828,695,805</b>	<b>1,852,104,087</b>	<b>1,852,104,087</b>	<b>1,852,104,087</b>	<b>1,852,393,341</b>	<b>1,852,393,341</b>	<b>1,859,781,060</b>	<b>1,859,781,075</b>	<b>1,859,781,075</b>
<b>CY2018 Portfolio Incremental Expiring Savings‡</b>		<b>14,824,950</b>	<b>356,990</b>	<b>23,408,282</b>			<b>289,254</b>		<b>7,387,719</b>	<b>15</b>	
<b>Legacy Savings (kWh)§§</b>											
<b>Legacy Cumulative Expiring Savings</b>											
<b>Legacy Incremental Expiring Savings</b>											
<b>CY2018 Portfolio Grand Total CPAS (kWh)</b>		<b>31,442,260</b>	<b>31,085,270</b>	<b>7,676,988</b>	<b>7,676,988</b>	<b>7,676,988</b>	<b>7,387,734</b>	<b>7,387,734</b>	<b>15</b>		
<b>Grand Total Cumulative Expiring Savings</b>		<b>7,015,987,654</b>	<b>7,016,344,645</b>	<b>7,039,752,927</b>	<b>7,039,752,927</b>	<b>7,039,752,927</b>	<b>7,040,042,181</b>	<b>7,040,042,181</b>	<b>7,047,429,900</b>	<b>7,047,429,915</b>	<b>7,047,429,915</b>
<b>Grand Total Incremental Expiring Savings</b>		<b>14,824,950</b>	<b>356,990</b>	<b>23,408,282</b>			<b>289,254</b>		<b>7,387,719</b>	<b>15</b>	
<b>Progress towards Applicable Annual Incremental Goal (AAIG)**</b>											

Note: The green highlighted cells show (1) portfolio total first year electric savings from CY2018, (2) the total CPAS to be counted in CY2018 and (3) progress towards AAIG

\* WAML is the weighted average measure life across all measures and savings in the program.

A deemed value. Source: ComEd\_NTG\_History\_and\_PY10\_Recommendations\_2017-03-01\_Final.xlsx, which is to be found on the IL SAG web site here: <http://ilsag.info/net-to-gross-framework.html>.

† Lifetime savings are the sum of CPAS savings through the WAML.

‡ Cumulative expiring savings are equal to CPAS Yn-1 - CPAS Yn + Expiring Savings Yn-1; in CY2018, there are only expiring legacy savings.

§ Incremental Expiring savings are equal to Cumulative Expiring Savings Yn - Cumulative Expiring Savings Yn-1.

§§ Legacy savings are cumulative persisting annual savings from energy efficiency measures implemented from January 1, 2012 - December 31, 2017, as deemed by the Future Energy Jobs Act.

\*\* § AAIG is equal to CPAS Yn-1 - CPAS Yn-1; in CY2018, the CPAS Yn-1 is the expiring legacy savings for 2018.

Source: ComEd tracking data and Navigant team analysis.

### 2.3 Weighted Average Measure Life

Navigant calculated the weighted average measure life (WAML) for the CY2018 programs as 9.9 (excluding voltage optimization) and 10.1 (including Voltage Optimization).

The equation to calculate the portfolio level WAML is shown in Equation 5 where the summation occurs across all programs with savings during CY2018, except for Voltage Optimization. The WAML calculation includes the electric-equivalent of the gas savings that ComEd can claim toward goal, as discussed in the previous section. It does not include all gas savings.

#### Equation 5. Portfolio Level WAML Calculation

$$WAML = \frac{\sum(\text{Program Level WAML} * \text{Program Level First Year Verified Gross Savings})}{\sum(\text{Program Level First Year Verified Gross Savings})}$$

Where

*Program Level WAML* is the program level WAML  
*Program Level Verified Gross Savings* is the ex post gross verified savings for the program that occurred during CY2018<sup>9</sup>

The program level WAML is calculated as shown in Equation 6 where the summation occurs across all the measures<sup>10</sup> in the program.

#### Equation 6. Program Level WAML Calculation

$$\text{Program WAML} = \frac{\sum(\text{Measure Level EUL} * \text{Measure Level First Year Verified Gross Savings})}{\sum(\text{Measure Level First Year Verified Gross Savings})}$$

Where

*Measure Level EUL* is the effective useful life (EUL) for each measure in the program<sup>11</sup>  
*Measure Level Verified Gross Savings* is the ex post gross verified savings during the period for each measure in the program

Table 2-8 shows savings for each program and the calculated WAML. The lifetime savings is estimated by multiplying the first year verified gross savings by the WAML.

<sup>9</sup> Including electric and claimable gas savings.

<sup>10</sup> Not all programs have measures (for example New Construction). In these cases, the EUL is aggregated from whatever level program savings are reported at (e.g. building, project, etc.).

<sup>11</sup> EUL values are either provided in the TRM or through Navigant research (Source: ComEd Effective Useful Life Research Report 2018-05-14.docx).

**Table 2-8. WAML and Lifetime Savings by Program**

Sector	Program	First Year Verified Gross Savings (kWh)	WAML	Lifetime Savings (Gross kWh)
<b>Business</b>				
Business	Air Care Plus	24,926,995	4.8	118,857,292
Business	Custom	26,472,790	14.4	380,773,931
Business	Data Centers	25,473,522	16.1	411,317,798
Business	Energy Advisor Monitoring-Based Commissioning	8,148,664	5.0	40,743,321
Business	Industrial Systems Optimization	22,488,399	10.5	235,156,354
Business	Instant Discounts	321,683,597	9.7	3,135,090,677
Business	New Construction (Coordinated w/Nicor Gas & PGL-NSG)	38,341,389	17.5	671,220,217
Business	Operational Efficiency / Facility Assessments	3,607,356	4.3	15,599,184
Business	Public Housing Authority (Joint/Nicor)	2,517,896	10.3	25,955,040
Business	Public Small Facilities (PSF)	8,816,014	9.6	84,826,595
Business	Retro-commissioning (Coordinated w/Nicor Gas & PGL-NSG)	36,336,589	7.5	272,524,417
Business	Rural Small Business Kits	2,277,336	12.7	28,825,085
Business	Small Business (Private Sector)	220,317,638	12.1	2,655,680,562
Business	Standard	345,367,124	12.2	4,212,283,560
Business	Strategic Energy Management (Joint/Nicor Gas)	14,778,772	5.0	73,893,860
Business	Street Lighting	86,043,658	12.0	1,032,523,897
<b>Business</b>	<b>Subtotal</b>	<b>1,187,597,741</b>	<b>11.3</b>	<b>13,395,271,790</b>
<b>Residential</b>				
Residential	Appliance Rebates	52,482,489	10.0	525,375,828
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	6,104,453	9.3	56,929,699
Residential	Fridge and Freezer Recycling	41,903,899	8.0	333,802,360
Residential	Heating and Cooling (HVAC) Rebates	17,135,264	18.4	315,402,800
Residential	Holiday Light Exchange	54,842	7.0	383,893
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	29,622,475	9.6	285,426,674
Residential	Home Energy Reports*	279,539,772	5.0	1,397,698,861
Residential	Lighting Discounts	503,823,727	9.1	4,603,081,238
Residential	Middle School Take-Home Kits	1,483,137	8.5	12,607,282
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)	12,396,380	9.4	116,597,796
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	357,717	18.0	6,438,912
Residential	Weatherization - Market Rate	1,688,127	19.6	33,037,518
<b>Residential</b>	<b>Subtotal</b>	<b>946,592,284</b>	<b>8.1</b>	<b>7,686,782,861</b>
<b>Income Eligible</b>				
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	1,935,089	12.2	23,564,076
Income Eligible	Food Bank LED Distribution	39,753,102	9.2	366,902,531
Income Eligible	Multi-Family IHWAP	752,640	14.4	10,867,609
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	16,659,024	13.8	229,222,643
Income Eligible	Retail (Lighting) Discounts - Income Eligible	46,515,815	9.5	441,985,143
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	8,838,818	19.0	168,337,355
Income Eligible	Single Family Retrofit - IHWAP	2,442,585	17.5	42,830,025
Income Eligible	UIC ERC Low Income Kits	10,538,650	9.0	94,711,406
<b>Income Eligible</b>	<b>Subtotal</b>	<b>127,435,723</b>	<b>10.8</b>	<b>1,378,420,789</b>
<b>Pilot Business</b>				
Pilot Business	Smart Building Operations	895,325	7.5	6,714,938
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	197,487	15.0	2,962,305
<b>Pilot Business</b>	<b>Subtotal</b>	<b>1,092,812</b>	<b>8.9</b>	<b>9,677,243</b>
<b>Pilot Residential</b>				
Pilot Residential	Ductless Heat Pump and Building Envelope	316,484	18.0	5,696,704
Pilot Residential	HVAC SAVE	18,234	18.0	328,212
Pilot Residential	Nest Seasonal Savings (Cooling Season)*	3,035,416	1.0	3,035,416
Pilot Residential	Nest Seasonal Savings (Heating Season)*	2,566,785	1.0	2,566,785
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Cooling Season)†	-	-	-
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Heating Season)†	-	-	-
<b>Pilot Residential</b>	<b>Subtotal</b>	<b>5,936,918</b>	<b>2.0</b>	<b>11,627,117</b>
<b>Portfolio</b>	<b>Grand Total (exclude VO)</b>	<b>2,268,655,478</b>	<b>9.9</b>	<b>22,481,779,799</b>
<b>All</b>				
All	Voltage Optimization	66,014,049	15.0	990,210,735
<b>All</b>	<b>Subtotal</b>	<b>66,014,049</b>	<b>15.0</b>	<b>990,210,735</b>
<b>Portfolio</b>	<b>Total Including VO</b>	<b>2,334,669,527</b>	<b>10.1</b>	<b>23,471,990,534</b>

Note: Verified Gross Savings include both electric savings and converted kWh equivalents from gas counted towards goal.

\* No verified gross savings. Verified Net savings is used for WAML calculation.

† No counted verified gross and net savings in CY2018.

Source: ComEd tracking data and Navigant team analysis.

## 3. SAVINGS BY PROGRAM

The savings by program are shown in the following tables and figures.

**Table 3-1. Energy Savings by Program – Electric Only**

Sector	Program	Ex Ante Gross Savings (kWh)	Verified Gross Realization Rate	Verified Gross Savings (kWh)	NTG*	Verified Net Savings (kWh)
Business	Air Care Plus	23,055,926	1.00	23,055,268	0.90	20,749,741
Business	Custom	28,969,667	0.91	26,350,802	0.58	15,283,465
Business	Data Centers	30,745,276	0.83	25,473,522	0.68	17,321,995
Business	Energy Advisor Monitoring-Based Commissioning	8,137,514	1.00	8,148,664	1.00	8,148,664
Business	Industrial Systems Optimization	27,591,795	0.82	22,488,399	0.80	17,990,719
Business	Instant Discounts	296,418,741	1.09	321,683,597	0.79	253,222,349
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	40,732,277	0.91	37,066,372	0.60	22,239,823
Business	Operational Efficiency / Facility Assessments	4,437,413	0.81	3,607,356	0.91	3,282,694
Business	Public Housing Authority (Joint/Nicor)	2,296,730	1.08	2,472,099	1.00	2,472,099
Business	Public Small Facilities (PSF)	8,488,967	1.04	8,816,014	0.91	8,022,573
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)	39,558,104	0.92	36,336,589	0.95	34,519,759
Business	Rural Small Business Kits	2,923,373	0.78	2,277,336	0.90	2,049,602
Business	Small Business (Private Sector)	212,617,333	1.02	216,443,112	0.91	196,963,232
Business	Standard	300,546,524	0.91	272,795,071	0.71	193,038,555
Business	Strategic Energy Management (Joint/Nicor Gas)	14,151,028	1.04	14,778,772	0.95	14,039,833
Business	Street Lighting	86,056,163	1.00	86,043,658	1.00	86,043,658
<b>Business</b>	<b>Subtotal</b>	<b>1,126,726,829</b>	<b>0.98</b>	<b>1,107,836,631</b>	<b>0.81</b>	<b>895,388,763</b>
Residential	Appliance Rebates	38,615,596	1.00	38,557,739	0.89	34,269,851
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	6,022,325	1.01	6,104,453	1.00	6,104,453
Residential	Fridge and Freezer Recycling	40,898,693	1.02	41,903,899	0.52	21,697,981
Residential	Heating and Cooling (HVAC) Rebates	12,973,090	1.01	13,098,267	0.71	9,255,057
Residential	Holiday Light Exchange	47,962	1.14	54,842	0.80	43,874
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	29,783,400	0.99	29,622,475	0.82	24,149,880
Residential	Home Energy Reports	-	-	-	-	279,539,772
Residential	Lighting Discounts	518,684,542	0.97	503,823,727	0.60	301,534,004
Residential	Middle School Take-Home Kits	1,483,093	1.00	1,483,137	1.00	1,483,137
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)	12,186,368	1.02	12,396,380	0.95	11,768,297
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	470,194	0.76	357,717	0.65	232,516
Residential	Weatherization - Market Rate	649,511	1.21	788,848	1.01	796,737
<b>Residential</b>	<b>Subtotal</b>	<b>661,814,775</b>	<b>0.98</b>	<b>648,191,485</b>	<b>1.07</b>	<b>690,875,559</b>
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	2,054,612	0.94	1,935,089	1.00	1,935,089
Income Eligible	Food Bank LED Distribution	39,752,965	1.00	39,753,102	1.00	39,753,102
Income Eligible	Multi-Family IHWAP	633,268	0.99	628,175	1.00	628,175
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	3,885,398	0.98	3,824,064	1.00	3,824,064
Income Eligible	Retail (Lighting) Discounts - Income Eligible	48,214,604	0.96	46,515,815	1.00	46,515,815
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	2,188,736	0.93	2,041,077	1.00	2,041,077
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	980,385	1.00	979,006	1.00	979,006
Income Eligible	UIC ERC Low Income Kits	10,538,650	1.00	10,538,650	1.00	10,538,650
<b>Income Eligible</b>	<b>Subtotal</b>	<b>108,248,619</b>	<b>0.98</b>	<b>106,214,978</b>	<b>1.00</b>	<b>106,214,978</b>
Pilot Business	Smart Building Operations	916,261	0.98	895,325	1.00	895,325
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	163,070	1.21	197,487	0.70	138,241
<b>Pilot Business</b>	<b>Subtotal</b>	<b>1,079,331</b>	<b>1.01</b>	<b>1,092,812</b>	<b>0.95</b>	<b>1,033,566</b>
Pilot Residential	Ductless Heat Pump and Building Envelope	312,698	1.01	316,484	1.00	316,484
Pilot Residential	HVAC SAVE	19,575	0.93	18,234	0.80	14,587
Pilot Residential	Nest Seasonal Savings (Cooling Season)†	-	-	-	-	3,035,416
Pilot Residential	Nest Seasonal Savings (Heating Season)†	-	-	-	-	2,566,785
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Cooling Season)†	-	-	-	-	0
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Heating Season)†	-	-	-	-	0
<b>Pilot Residential</b>	<b>Subtotal</b>	<b>332,273</b>	<b>1.01</b>	<b>334,718</b>	<b>17.73</b>	<b>5,933,271</b>
All	Voltage Optimization	99,381,000	0.66	66,014,049	1.00	66,014,049
<b>All</b>	<b>Subtotal</b>	<b>99,381,000</b>	<b>0.66</b>	<b>66,014,049</b>	<b>1.00</b>	<b>66,014,049</b>
<b>Portfolio</b>	<b>Grand Total</b>	<b>1,997,582,827</b>	<b>0.97</b>	<b>1,929,684,673</b>	<b>0.91</b>	<b>1,765,460,187</b>

\* The program-level NTG values shown in this table is calculated as Verified Net/Verified Gross. The program-level analysis typically used measure-level deemed NTG values, which are listed here: ComEd\_NTG\_History\_and\_PY10\_Recommendations\_2017-03-01.xlsx, which is to be found on the IL SAG web site here: <http://ilsag.info/net-to-gross-framework.html>. Programs without ex ante gross or verified gross values were excluded from the calculation of the portfolio realization rate and NTG. These programs are typically those where consumption data analysis is used to calculate net savings directly.

† These programs did not report ex ante gross savings, and thus the evaluation did not calculate verified gross savings but only verified net savings. Verified net savings from the Total Connected Savings Wi-Fi Thermostat Optimization program is zero because the savings were not statistically significant.

Source: ComEd tracking data and Navigant team analysis.

Table 3-2 and Table 3-3 show total demand and summer peak demand savings by program.

**Table 3-2. Demand Savings by Program**

Sector	Program	Ex Ante Gross Savings (kW)	Verified Gross Realization Rate	Verified Gross Savings (kW)	NTG*	Verified Net Savings (kW)
Business	Air Care Plus	NR	NA	3,907	0.90	3,516
Business	Custom	NR	NA	NA	-	-
Business	Data Centers	NR	NA	0	-	-
Business	Energy Advisor Monitoring-Based Commissioning	NR	NA	0	-	-
Business	Industrial Systems Optimization	NR	NA	0	-	-
Business	Instant Discounts	80,224	0.98	78,331	0.79	61,575
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	8,821	0.81	7,145	0.60	4,287
Business	Operational Efficiency / Facility Assessments	NR	NA	0	-	-
Business	Public Housing Authority (Joint/Nicor)	NR	NA	327	1.00	327
Business	Public Small Facilities (PSF)	NR	NA	2,139	0.91	1,947
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)	1,069	1.45	1,550	0.95	1,472
Business	Rural Small Business Kits	NR	NA	3,274	0.90	2,946
Business	Small Business (Private Sector)	NR	NA	81,277	0.91	73,962
Business	Standard	NR	NA	40,891	0.71	28,979
Business	Strategic Energy Management (Joint/Nicor Gas)	NR	NA	0	-	-
Business	Street Lighting	19,999	1.00	19,996	1.00	19,996
<b>Business</b>	<b>Subtotal</b>	<b>110,113</b>	<b>2.17</b>	<b>238,837</b>	<b>0.83</b>	<b>199,008</b>
Residential	Appliance Rebates	NR	NA	31,237	0.90	28,093
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	NR	NA	18,985	1.00	18,985
Residential	Fridge and Freezer Recycling	NR	NA	6,422	0.51	3,296
Residential	Heating and Cooling (HVAC) Rebates	NR	NA	10,305	0.73	7,486
Residential	Holiday Light Exchange	NR	NA	148	0.80	118
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	NR	NA	32,365	0.81	26,215
Residential	Home Energy Reports	NR	NA	0	-	-
Residential	Lighting Discounts	NR	NA	461,558	0.60	275,876
Residential	Middle School Take-Home Kits	NR	NA	4,437	1.00	4,437
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)	NR	NA	7,918	0.95	7,552
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	NR	NA	41	0.65	26
Residential	Weatherization - Market Rate	NR	NA	513	1.01	518
<b>Residential</b>	<b>Subtotal</b>	<b>NR</b>	<b>NA</b>	<b>573,927</b>	<b>0.65</b>	<b>372,602</b>
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	2,365	0.92	2,182	1.00	2,182
Income Eligible	Food Bank LED Distribution	NR	NA	48,289	1.00	48,289
Income Eligible	Multi-Family IHWAP	NR	NA	468	1.00	468
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	NR	NA	921	1.00	921
Income Eligible	Retail (Lighting) Discounts - Income Eligible	NR	NA	42,805	1.00	42,805
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	NR	NA	1,960	1.00	1,960
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	NR	NA	1,022	1.00	1,022
Income Eligible	UIC ERC Low Income Kits	NR	NA	20,640	1.00	20,640
<b>Income Eligible</b>	<b>Subtotal</b>	<b>2,365</b>	<b>50.02</b>	<b>118,288</b>	<b>1.00</b>	<b>118,288</b>
Pilot Business	Smart Building Operations	NR	NA	0	-	-
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	NR	NA	0	-	-
<b>Pilot Business</b>	<b>Subtotal</b>	<b>NR</b>	<b>NA</b>	<b>0</b>	<b>-</b>	<b>-</b>
Pilot Residential	Ductless Heat Pump and Building Envelope	NR	NA	57	1.00	57
Pilot Residential	HVAC SAVE	NR	NA	0	-	-
Pilot Residential	Nest Seasonal Savings (Cooling Season)	NR	NA	0	-	-
Pilot Residential	Nest Seasonal Savings (Heating Season)	NR	NA	0	-	-
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Cooling Season)	NR	NA	0	-	-
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Heating Season)	NR	NA	0	-	-
<b>Pilot Residential</b>	<b>Subtotal</b>	<b>NR</b>	<b>NA</b>	<b>57</b>	<b>1.00</b>	<b>57</b>
All	Voltage Optimization	NR	NA	7,536	1.00	7,536
<b>All</b>	<b>Subtotal</b>	<b>NR</b>	<b>NA</b>	<b>7,536</b>	<b>1.00</b>	<b>7,536</b>
<b>Portfolio</b>	<b>Grand Total</b>	<b>112,478</b>	<b>8.35</b>	<b>938,646</b>	<b>0.74</b>	<b>697,491</b>

\* The program-level NTG values shown in this table is calculated as Verified Net/Verified Gross. The program-level analysis typically used measure-level deemed NTG values, which are listed here: ComEd\_NTG\_History\_and\_PY10\_Recommendations\_2017-03-01.xlsx, which is to be found on the IL SAG web site here: <http://ilsag.info/net-to-gross-framework.html>. Programs without ex ante gross or verified gross values were excluded from the calculation of the portfolio realization rate and NTG. These programs are typically those where consumption data analysis is used to calculate net savings directly.

NR – not reported

NA – not applicable or not calculated

Source: ComEd tracking data and Navigant team analysis.

**Table 3-3. Summer Peak Demand Savings by Program**

Sector	Program	Ex Ante Gross Savings (kW)	Verified Gross Realization Rate	Verified Gross Savings (kW)	NTG*	Verified Net Savings (kW)
Business	Air Care Plus	3,568	1.00	3,568	0.90	3,211
Business	Custom	3,046	1.23	3,750	-	2,625
Business	Data Centers	3,510	1.53	5,359	-	3,644
Business	Energy Advisor Monitoring-Based Commissioning	0	NA	0	-	0
Business	Industrial Systems Optimization	3,314	0.72	2,398	-	1,918
Business	Instant Discounts	0	NA	63,350	0.79	49,833
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	6,825	0.85	5,802	0.60	3,481
Business	Operational Efficiency / Facility Assessments	0	NA	0	-	0
Business	Public Housing Authority (Joint/Nicor)	146	1.14	166	1.00	166
Business	Public Small Facilities (PSF)	980	1.14	1,120	0.91	1,019
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)	1,069	1.45	1,550	0.95	1,472
Business	Rural Small Business Kits	441	0.91	400	0.90	360
Business	Small Business (Private Sector)	34,646	1.00	34,647	0.91	31,529
Business	Standard	37,617	0.95	35,649	0.71	25,257
Business	Strategic Energy Management (Joint/Nicor Gas)	0	NA	0	-	0
Business	Street Lighting	0	NA	0	NA	0
<b>Business</b>	<b>Subtotal</b>	<b>95,163</b>	<b>1.66</b>	<b>157,758</b>	<b>0.79</b>	<b>124,516</b>
Residential	Appliance Rebates	7,994	0.99	7,892	0.92	7,234
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	601	1.05	630	1.00	630
Residential	Fridge and Freezer Recycling	0	NA	5,600	0.52	2,890
Residential	Heating and Cooling (HVAC) Rebates	4,444	1.00	4,464	0.71	3,156
Residential	Holiday Light Exchange	0	NA	2	0.80	2
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	3,174	1.01	3,208	0.82	2,628
Residential	Home Energy Reports	0	NA	0	-	0
Residential	Lighting Discounts	0	NA	60,994	0.60	36,498
Residential	Middle School Take-Home Kits	197	0.97	190	1.00	190
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)	1,264	1.01	1,276	0.95	1,213
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	0	NA	148	0.65	96
Residential	Weatherization - Market Rate	493	0.48	239	1.01	241
<b>Residential</b>	<b>Subtotal</b>	<b>18,167</b>	<b>4.66</b>	<b>84,643</b>	<b>0.65</b>	<b>54,778</b>
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	385	0.82	318	1.00	318
Income Eligible	Food Bank LED Distribution	3,621	0.99	3,567	1.00	3,567
Income Eligible	Multi-Family IHWAP	112	1.00	112	1.00	112
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	316	1.09	345	1.00	345
Income Eligible	Retail (Lighting) Discounts - Income Eligible	0	NA	5,689	1.00	5,689
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	1,163	0.49	574	1.00	574
Income Eligible	Single Family Retrofit - IHWAP (Joint/Nicor Gas & PGL-NSG)	300	1.00	300	1.00	300
Income Eligible	UIC ERC Low Income Kits	805	1.41	1,133	1.00	1,133
<b>Income Eligible</b>	<b>Subtotal</b>	<b>6,702</b>	<b>1.80</b>	<b>12,038</b>	<b>1.00</b>	<b>12,038</b>
Pilot Business	Smart Building Operations	0	NA	99	-	99
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	0	NA	0	-	0
<b>Pilot Business</b>	<b>Subtotal</b>	<b>0</b>	<b>NA</b>	<b>99</b>	<b>-</b>	<b>99</b>
Pilot Residential	Ductless Heat Pump and Building Envelope	16	1.01	16	1.00	16
Pilot Residential	HVAC SAVE	43	0.44	19	-	15
Pilot Residential	Nest Seasonal Savings (Cooling Season)	0	-	0	-	3,328
Pilot Residential	Nest Seasonal Savings (Heating Season)	0	-	0	-	0
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization (Cooling Season)	0	-	0	-	0
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization (Heating Season)	0	-	0	-	0
<b>Pilot Residential</b>	<b>Subtotal</b>	<b>59</b>	<b>0.59</b>	<b>35</b>	<b>96.13</b>	<b>3,359</b>
All	Voltage Optimization	0	NA	0	NA	0
<b>All</b>	<b>Subtotal</b>	<b>0</b>	<b>NA</b>	<b>0</b>	<b>NA</b>	<b>0</b>
<b>Portfolio</b>	<b>Grand Total</b>	<b>120,090</b>	<b>2.12</b>	<b>254,573</b>	<b>0.77</b>	<b>194,790</b>

\* The program-level NTG values shown in this table is calculated as Verified Net/Verified Gross. The program-level analysis typically used measure-level deemed NTG values, which are listed here: ComEd\_NTG\_History\_and\_PY10\_Recommendations\_2017-03-01.xlsx, which is to be found on the IL SAG web site here: <http://ilsag.info/net-to-gross-framework.html>. Programs without ex ante gross or verified gross values were excluded from the calculation of the portfolio realization rate and NTG. These programs are typically those where consumption data analysis is used to calculate net savings directly.

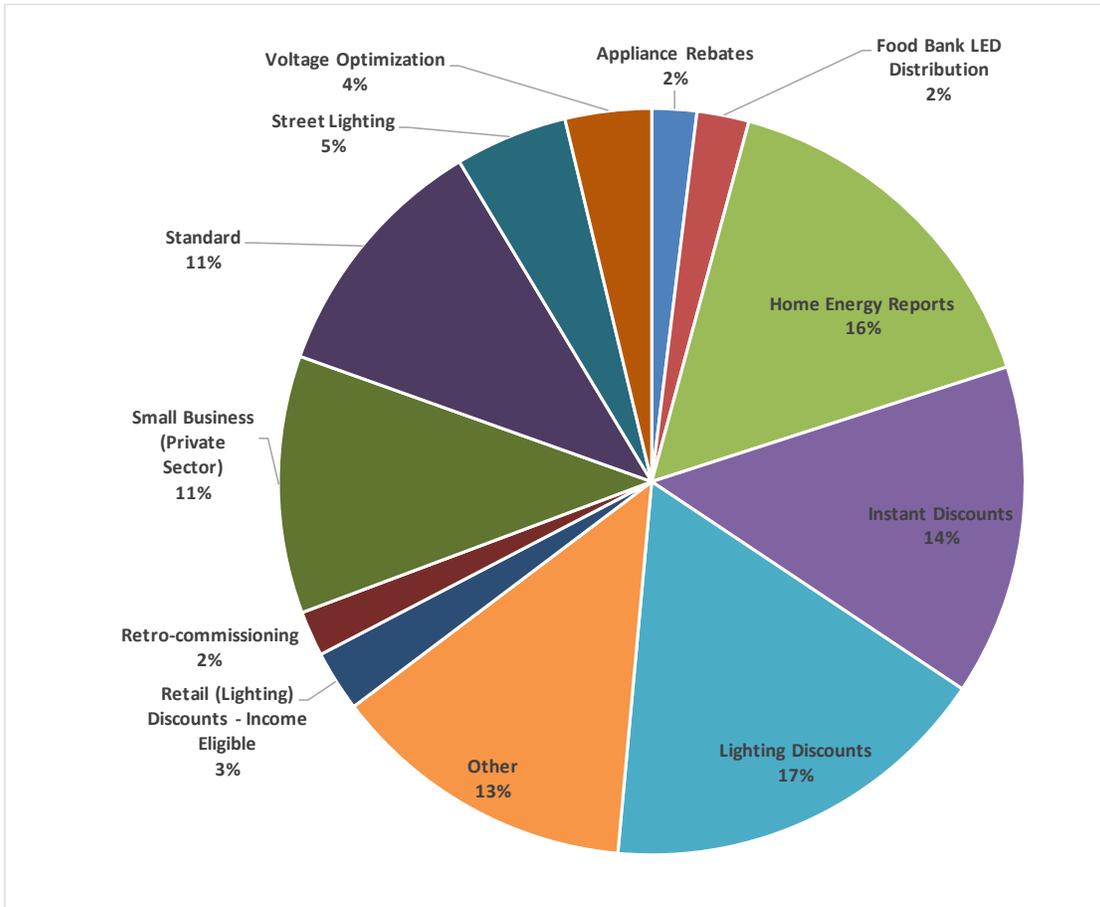
NR – not reported

NA – not applicable or not calculated

Source: ComEd tracking data and Navigant team analysis.

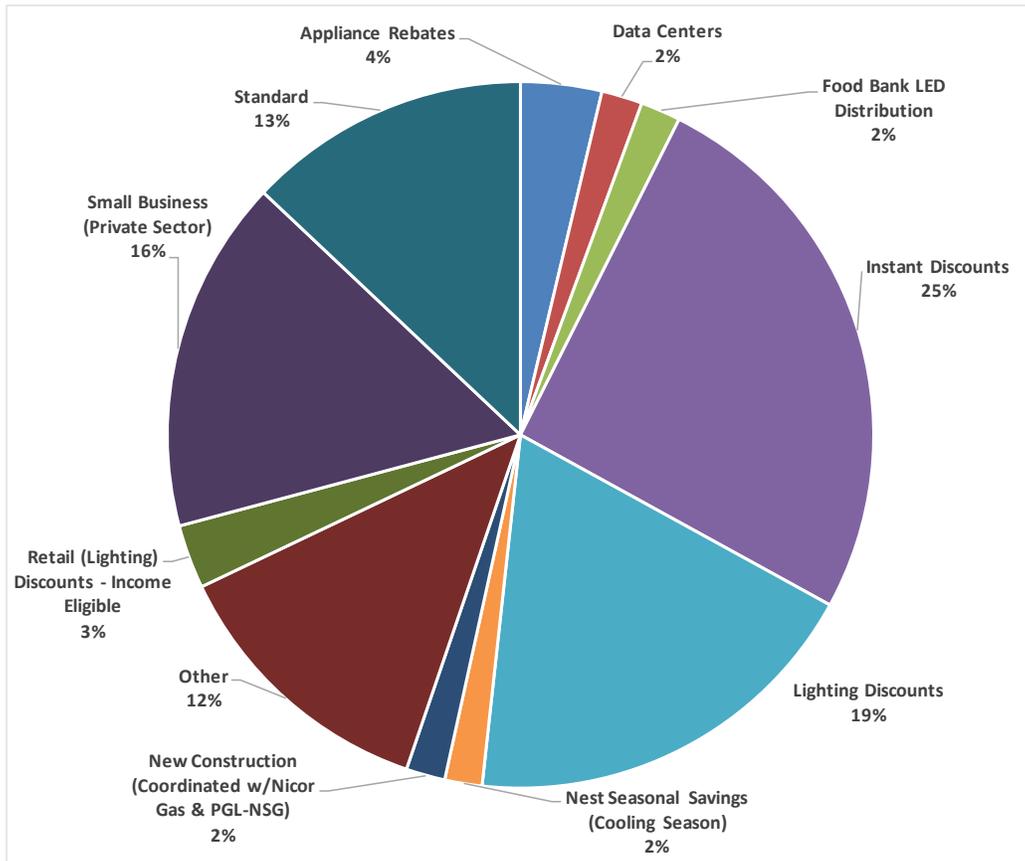
The following figures show energy and summer peak demand savings for the CY2018 programs with highest net savings impact.

Figure 3-1. Net Energy Savings by Program – Electric Only



Source: Evaluation Analysis

Figure 3-2. Net Peak Demand Savings by Program



Source: Evaluation Analysis

The following table shows the net savings compared to goal by CY2018 programs with highest net savings impact.

**Table 3-4. Comparing Electric Net Goals to Actual Achieved by CY2018 Program**

Sector	Program	Verified Net Electric Savings (kWh)	2018 Original Plan Savings Goal (kWh)	Implementation Plan Savings Goal (kWh)	Verified Net over Original Plan	Verified Net over Implementation Plan
Business	Air Care Plus	20,749,741	28,950,176	20,566,000	0.72	1.01
Business	Energy Advisor Monitoring-Based Commissioning	8,148,664	2,855,396	2,549,568	2.85	3.20
Business	Incentives	225,644,015	313,332,822	264,513,617	0.72	0.85
Business	Industrial Systems Optimization	17,990,719	25,930,890	25,984,854	0.69	0.69
Business	Instant Discounts	242,671,975	230,514,457	193,938,920	1.05	1.25
Business	New Construction (Joint/Nicor Gas & PGL-NSG)	22,239,823	28,612,501	20,689,345	0.78	1.07
Business	Operational Efficiency / Facility Assessments	3,282,694	1,654,145	1,656,000	1.98	1.98
Business	Public Housing Authority (Joint/Nicor)	2,472,099	1,825,514	2,734,538	1.35	0.90
Business	Retrocommissioning (Joint/Nicor Gas & PGL-NSG)	34,519,759	30,044,321	32,326,845	1.15	1.07
Business	Rural Small Business Kits	1,802,238	930,885	2,352,169	1.94	0.77
Business	Small Business (Private + Public)	204,985,805	172,007,255	194,451,000	1.19	1.05
Business	Strategic Energy Management (Joint/Nicor Gas)	14,039,833	27,977,500	12,000,000	0.50	1.17
Business	Street Lighting	86,043,658	95,019,972	83,865,077	0.91	1.03
<b>Business</b>	<b>Subtotal</b>	<b>884,591,025</b>	<b>959,655,835</b>	<b>857,627,933</b>	<b>0.92</b>	<b>1.03</b>
Residential	Appliance Rebates	34,269,851	28,977,173	39,809,000	1.18	0.86
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	5,627,782	2,074,269	7,702,000	2.71	0.73
Residential	Fridge and Freezer Recycling	21,697,981	21,702,515	24,179,972	1.00	0.90
Residential	Holiday Light Exchange	43,874			-	-
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	24,149,880	17,889,550	24,543,678	1.35	0.98
Residential	Home Energy Reports	279,539,772	275,502,000	286,100,000	1.01	0.98
Residential	Lighting Discounts	269,754,735	156,198,228	264,590,000	1.73	1.02
Residential	Middle School Take-Home Kits	1,368,039	1,267,308	1,121,000	1.08	1.22
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)	11,768,297	9,196,819	12,221,926	1.28	0.96
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	232,516	570,741	333,675	0.41	0.70
Residential	Residential HVAC & Weatherization	10,051,793	9,663,225	9,478,641	1.04	1.06
<b>Residential</b>	<b>Subtotal</b>	<b>658,504,522</b>	<b>523,041,829</b>	<b>670,079,892</b>	<b>1.26</b>	<b>0.98</b>
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	1,935,089	1,221,545	975,042	1.58	1.98
Income Eligible	Food Bank LED Distribution	35,041,513	15,241,167	34,528,000	2.30	1.01
Income Eligible	Multi-Family	4,452,239	4,877,421	4,488,538	0.91	0.99
Income Eligible	Retail (Lighting) Discounts - Income Eligible	46,515,815	16,493,664	30,666,000	2.82	1.52
Income Eligible	Single Family Retrofit	3,020,083	6,984,870	4,823,777	0.43	0.63
Income Eligible	UIC ERC Low Income Kits	9,749,328	9,012,126	6,659,280	1.08	1.46
<b>Income Eligible</b>	<b>Subtotal</b>	<b>100,714,067</b>	<b>53,830,792</b>	<b>82,140,636</b>	<b>1.87</b>	<b>1.23</b>
Pilot Business	Smart Building Operations	895,325	NA	NA	NA	NA
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	138,241	NA	NA	NA	NA
<b>Pilot Business</b>	<b>Subtotal</b>	<b>1,033,566</b>	<b>0</b>	<b>0</b>	<b>NA</b>	<b>NA</b>
Pilot Residential	Ductless Heat Pump and Building Envelope	316,484			NA	NA
Pilot Residential	HVAC SAVE	14,587			NA	NA
Pilot Residential	Nest Seasonal Savings	5,602,201			NA	NA
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization				NA	NA
<b>Pilot Residential</b>	<b>Subtotal</b>	<b>5,933,271</b>	<b>0</b>	<b>0</b>	<b>NA</b>	<b>NA</b>
All	Voltage Optimization	66,014,049	82,500,000	103,873,000	0.80	0.64
<b>All</b>	<b>Subtotal</b>	<b>66,014,049</b>	<b>82,500,000</b>	<b>103,873,000</b>	<b>0.80</b>	<b>0.64</b>
Other	Lighting Carryover	48,669,687		47,057,466	NA	1.03
Other	Therm Conversion	94,320,888	94,423,000	94,423,000	1.00	1.00
<b>Portfolio</b>	<b>Grand Total</b>	<b>1,859,781,075</b>	<b>1,713,451,456</b>	<b>1,855,201,927</b>	<b>1.09</b>	<b>1.00</b>

Source: Goals values are from the ComEd - CY2018 Q4 Statewide Quarterly Report (CORRECTED); ICC approved plan compliance filing (Commission's Final Order approving the EE Plan. For Section 8-104 programs); Evaluation Analysis

#### 4. SAVINGS BY MEASURE

Lighting measures contributed the most energy and demand savings to the portfolio by a substantial margin as shown in the end-use type categories in Table 4-1, Table 4-2, and Figure 4-1. Lighting measures contributed 63% of the portfolio net electric savings in CY2018. Behavioral programs follow with 16% of net electric savings from the Home Energy Reports and Nest Seasonal Savings, 5% from HVAC measures, 4% from Voltage Optimization, and 7% from all other measures.

**Table 4-1. Energy Savings by Measure Category – Electric Only**

End Use Type	Ex Ante Gross Savings (kWh)	Verified Gross Savings (kWh)	Verified Net Savings (kWh)	Lifetime Savings (Net kWh)
Lighting	1,463,441,502	1,467,174,390	1,109,650,755	10,439,671,609
Behavioral	-	-	282,575,188	1,400,734,276
Other	173,372,410	154,445,292	117,805,918	1,328,365,371
HVAC	115,848,933	103,068,689	88,328,128	953,268,789
Voltage Optimization	99,381,000	66,014,049	66,014,049	990,210,730
Appliances	50,461,931	51,494,481	28,481,235	245,261,488
Refrigeration	29,084,076	27,301,217	22,153,949	267,813,310
Compressed Air	32,775,215	28,117,082	21,423,623	196,180,372
Consumer Electronics	14,832,622	14,821,169	13,574,641	95,022,486
Industrial System	9,281,445	7,577,102	6,021,593	88,774,391
Hot Water	6,113,823	6,614,130	6,468,060	59,525,051
Shell	2,653,418	2,724,351	2,729,740	52,257,197
Food Service	336,454	332,722	233,308	3,057,324
Grand Total	1,997,582,827	1,929,684,673	1,765,460,187	14,719,408,118

Note: Lifetime savings at the end-use level is a simple aggregation of net savings multiplied by unweighted measure level EUL values.

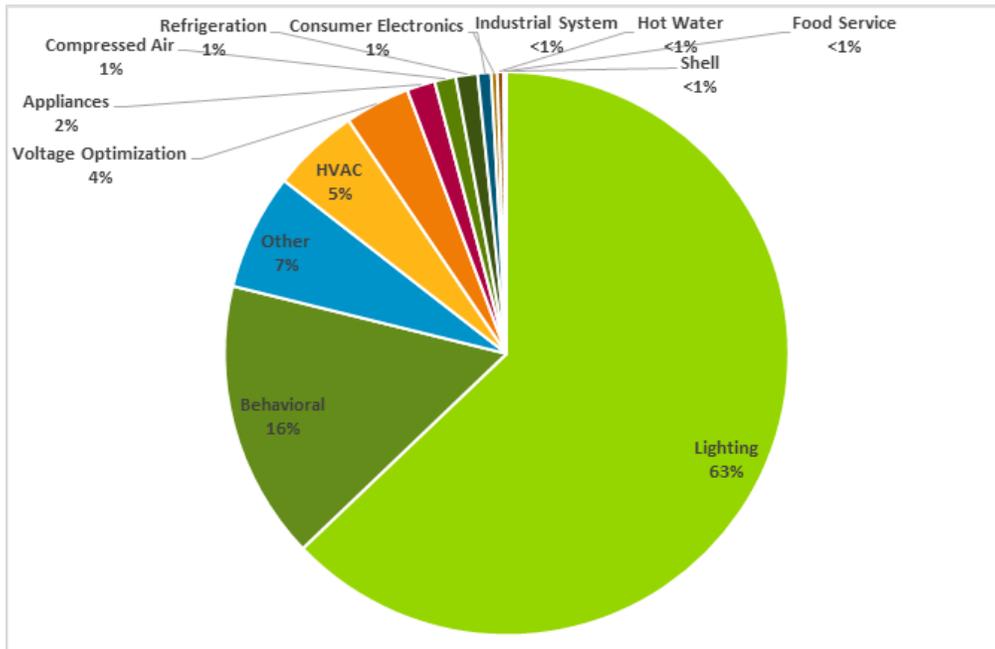
Source: ComEd tracking data and Navigant team analysis.

**Table 4-2. Summer Peak Demand Savings by Measure Category**

End Use Type	Ex Ante Gross Savings (kW)	Verified Gross Savings (kW)	Verified Net Savings (kW)
Lighting	67,850	201,959	151,428
HVAC	21,764	18,642	15,594
Other	14,103	16,120	11,066
Appliances	1,314	6,419	3,564
Compressed Air	6,717	5,143	4,274
Refrigeration	3,284	2,281	1,801
Consumer Electronics	1,606	1,595	1,461
Hot Water	858	930	916
Shell	1,697	867	870
Industrial System	856	599	476
Food Service	41	18	13
Behavioral	-	-	3,328
Voltage Optimization	-	-	-
Grand Total	120,090	254,573	194,790

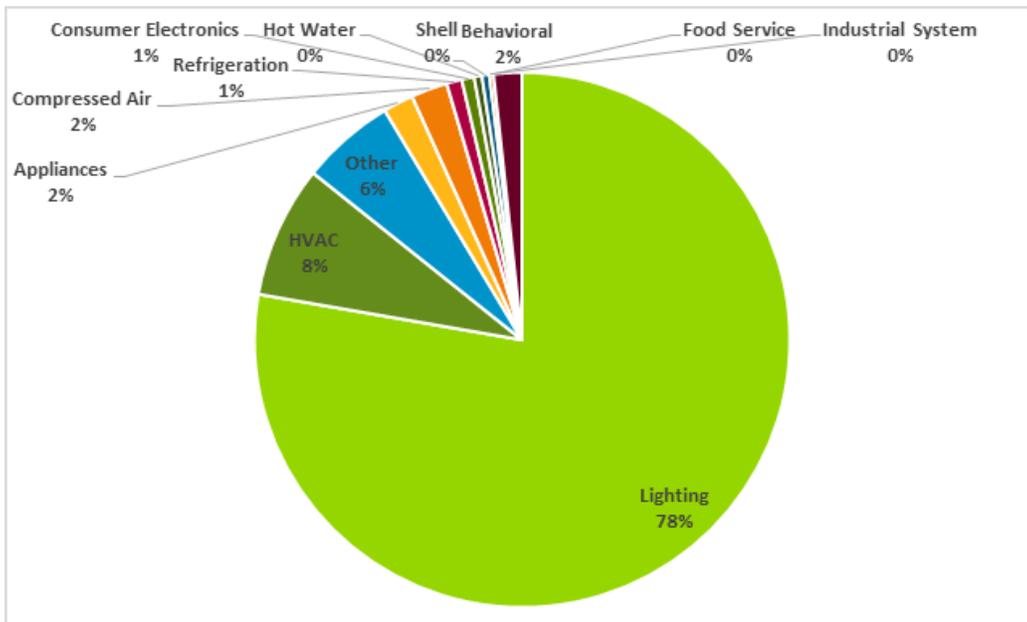
Source: ComEd tracking data and Navigant team analysis.

Figure 4-1. Net Energy Savings by End-use Type – Electric Only



Source: Evaluation Analysis

Figure 4-2. Net Peak Demand Savings by End-use Type



Source: Evaluation Analysis

Table 4-3 shows the end use measure savings by magnitude of impact in the respective portfolio sector. Lighting measures contributed the majority 75% of net energy savings in the business sector, 49% in the residential sector and 91% in the income eligible sector. Next is the behavioral programs which contributed 40% in the net energy savings in the residential sector, 44% in the pilot residential sector.

**Table 4-3. Energy Savings by Measure Category and Sector – Electric Only**

Sector	End Use Type	Ex Ante Gross Savings (kWh)	Verified Gross Savings (kWh)	Verified Net Savings (kWh)	Percent Impact
Business	Lighting	804,705,966	825,266,084	675,855,330	75%
Business	Other (custom , RCx, etc.)	170,897,580	152,107,852	115,771,236	13%
Business	HVAC	78,448,772	65,792,537	52,704,019	6%
Business	Refrigeration	29,084,076	27,301,217	22,153,949	2%
Business	Compressed Air	32,775,215	28,117,082	21,423,623	2%
Business	Industrial System	9,281,445	7,577,102	6,021,593	1%
Business	Consumer Electronics	655,636	648,098	592,189	0%
Business	Hot Water	486,986	597,840	539,837	0%
Business	Food Service	334,841	331,109	231,776	0%
Business	Appliances	21,362	65,755	65,755	0%
Business	Shell	34,950	31,955	29,456	0%
<b>Business Subtotal</b>		<b>1,126,726,829</b>	<b>1,107,836,631</b>	<b>895,388,763</b>	<b>100%</b>
Residential	Lighting	559,781,373	544,741,831	336,628,950	49%
Residential	Behavioral	-	-	279,539,772	40%
Residential	HVAC	34,900,587	34,900,728	30,744,792	4%
Residential	Appliances	50,191,281	51,192,199	28,178,953	4%
Residential	Consumer Electronics	10,804,607	10,803,443	9,612,823	1%
Residential	Hot Water	4,127,821	4,517,320	4,429,253	1%
Residential	Other	1,357,983	1,245,505	942,746	0%
Residential	Shell	649,511	788,848	796,737	0%
Residential	Food Service	1,613	1,613	1,532	0%
<b>Residential Subtotal</b>		<b>661,814,775</b>	<b>648,191,485</b>	<b>690,875,559</b>	<b>100%</b>
Income Eligible	Lighting	98,954,163	97,166,475	97,166,475	91%
Income Eligible	Consumer Electronics	3,372,378	3,369,629	3,369,629	3%
Income Eligible	Shell	1,968,957	1,903,548	1,903,548	2%
Income Eligible	HVAC	2,004,231	1,843,220	1,843,220	2%
Income Eligible	Hot Water	1,499,016	1,498,970	1,498,970	1%
Income Eligible	Appliances	249,288	236,526	236,526	0%
Income Eligible	Other	200,586	196,610	196,610	0%
<b>Income Eligible Subtotal</b>		<b>108,248,619</b>	<b>106,214,978</b>	<b>106,214,978</b>	<b>100%</b>
Pilot Residential	Behavioral	-	-	3,035,416	44%
Pilot Residential	HVAC	332,273	334,718	2,897,856	42%
Pilot Business	Other	916,261	895,325	895,325	13%
Pilot Business	HVAC	163,070	197,487	138,241	2%
<b>Pilot Subtotal</b>		<b>1,411,604</b>	<b>1,427,530</b>	<b>6,966,837</b>	<b>100%</b>
All	Voltage Optimization	99,381,000	66,014,049	66,014,049	100%
<b>All (Votalge Optimization) Subtotal</b>		<b>99,381,000</b>	<b>66,014,049</b>	<b>66,014,049</b>	<b>100%</b>

Source: Evaluation Analysis

## 5. LIFETIME SAVINGS AND TOTAL RESOURCE COST SAVINGS SUMMARY

Table 5-1 provides the weighted average measure life and estimated lifetime savings from the verified first year gross and net savings (excluding converted gas savings measures). It includes the total cost by program and cost per unit. Table 5-2, below, shows the Total Resource Cost (TRC) table. It includes only the cost-effectiveness analysis savings inputs.

## Table 5-1. Verified First Year and Lifetime Savings and Acquisition Costs – Electric Only

Sector	ComEd CY2018 Program	Verified Gross Realization Rate	First Year Annual Energy Savings (kWh) - Gross	First Year Peak Demand Savings (kW) - Gross	Lifetime Savings (kWh) - Gross *	NTG	First Year Annual Energy Savings (kWh) - Net	First Year Peak Demand Savings (kW) - Net	Lifetime Savings (kWh) - Net *	First Year Cost per First year Net Annual Savings	First Year Cost per Net Lifetime Savings	Program Costs	Units #	Definition	Weighted Average Measure Life	
Business	Air Care Plus	100.0%	23,055,268	3,568	100,140,015	0.9	20,749,741	3,211	90,126,014	0.20	0.04	4,235,477	4,137	Measures	4.3	
Business	Energy Advisor Monitoring-Based Commissioning	100.1%	8,148,664		40,743,321	1.0	8,148,664		40,743,321	0.40	0.08	3,277,262	250	Projects	5.0	
Business	Incentives	90.1%	324,619,395	44,758	3,914,208,638	0.7	225,644,015	31,526	2,720,779,373	0.23	0.02	50,846,686	3,683	Projects	12.1	
Business	Industrial Systems Optimization	81.5%	22,488,399	2,398	235,156,354	0.8	17,990,719	1,918	188,125,084	0.29	0.03	5,212,544	109	Projects	10.5	
Business	Instant Discounts	108.5%	321,683,597	63,350	3,135,090,677	0.8	253,222,349	49,833	2,467,875,371	0.06	0.01	15,609,166	2,663,775	Lamps	9.7	
Business	New Construction (Coordinated w/Nicor Gas & PGL-NSG)	91.0%	37,066,372	5,802	644,954,874	0.6	22,239,823	3,481	386,972,924	0.34	0.02	7,567,312	75	Projects	17.4	
Business	Operational Efficiency / Facility Assessments	81.3%	3,607,356		15,599,184	0.9	3,282,694		14,195,258	1.02	0.24	3,353,856	259	Measures	4.3	
Business	Public Housing Authority (Joint/Nicor)	107.6%	2,472,099	166	25,069,775	1.0	2,472,099	166	25,069,775	0.70	0.07	1,732,064	105	Projects	10.1	
Business	Retro-commissioning (Coordinated w/Nicor Gas & PGL-NSG)	91.9%	36,336,589	1,550	272,524,417	0.9	34,519,759	1,472	258,898,196	0.26	0.03	9,008,014	160	Projects	7.5	
Business	Rural Small Business Kits	77.9%	2,277,336	400	28,825,085	0.9	2,049,602	360	25,942,576	0.43	0.03	878,509	30,591	Measures	12.7	
Business	Small Business (Private + Public)	101.9%	225,259,126	35,767	2,678,479,893	0.9	204,985,805	32,548	2,437,416,702	0.27	0.02	54,548,197	7,928	Projects	11.9	
Business	Strategic Energy Management (Joint/Nicor Gas)	104.4%	14,778,772		73,893,860	1.0	14,039,833		70,199,167	0.10	0.02	1,458,682	18	Participants	5.0	
Business	Street Lighting	100.0%	86,043,658		1,032,523,897	1.0	86,043,658		1,032,523,897	0.18	0.02	15,737,842	114,337	Lamps	12.0	
Business	<b>Subtotal</b>	<b>98.3%</b>	<b>1,107,836,631</b>	<b>157,758</b>	<b>12,197,209,990</b>	<b>0.8</b>	<b>895,388,763</b>	<b>124,516</b>	<b>9,758,867,658</b>	<b>0.19</b>	<b>0.02</b>	<b>173,465,610</b>			<b>11.0</b>	
Residential	Appliance Rebates	99.9%	38,557,739	7,892	371,091,311	0.9	34,269,851	7,234	329,823,385	0.52	0.05	17,802,416	218,761	Measures	9.6	
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	101.4%	6,104,453	630	56,929,699	1.0	6,104,453	630	56,929,699	0.25	0.03	1,505,367	52,229	Kits	9.3	
Residential	Fridge and Freezer Recycling	102.5%	41,903,899	5,600	333,802,360	0.5	21,697,981	2,890	172,843,994	0.46	0.06	9,907,298	53,155	Measures	8.0	
Residential	Holiday Light Exchange	114.3%	54,842	2	383,893	0.8	43,874	2	307,115				3,988	Measures	7.0	
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	99.5%	29,622,475	3,208	285,426,674	0.8	24,149,880	2,628	232,695,611	0.39	0.04	9,499,119	18,305	Projects	9.6	
Residential	Home Energy Reports				0		279,539,772		1,397,698,861	0.02	0.00	5,323,406	1,832,373	Household	5.0	
Residential	Lighting Discounts	97.1%	503,823,727	60,994	4,603,081,238	0.6	301,534,004	36,498	2,754,903,039	0.10	0.01	30,323,454	12,763,095	Lamps	9.1	
Residential	Middle School Take-Home Kits	100.0%	1,483,137	190	12,607,282	1.0	1,483,137	190	12,607,282	0.48	0.06	711,919	37,840	Measures	8.5	
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL/NSG)	101.7%	12,396,380	1,276	116,597,796	0.9	11,768,297	1,213	110,690,179				5,338,954			9.4
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	76.1%	357,717	148	6,438,912	0.7	232,516	96	4,185,293	1.69	0.09	391,935	30,976	Measures	18.0	
Residential	Residential HVAC & Weatherization	101.9%	13,887,115	4,703	256,361,200	0.7	10,051,793	3,397	185,559,763	0.74	0.04	7,388,466	19,172	Projects	18.5	
Residential	<b>Subtotal</b>	<b>97.9%</b>	<b>648,191,485</b>	<b>84,643</b>	<b>6,042,720,366</b>	<b>1.1</b>	<b>690,875,559</b>	<b>54,778</b>	<b>5,258,244,221</b>	<b>0.13</b>	<b>0.02</b>	<b>88,192,334</b>			<b>8.0</b>	
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	94.2%	1,935,089	318	23,564,076	1.0	1,935,089	318	23,564,076	0.92	0.08	1,788,156	706	Residential Units	12.2	
Income Eligible	Food Bank LED Distribution	100.0%	39,753,102	3,567	366,902,535	1.0	39,753,102	3,567	366,902,535	0.10	0.01	3,799,825	1,884,098	Lamps	9.2	
Income Eligible	Multi-Family	98.4%	4,452,239	457	48,832,264	1.0	4,452,239	457	48,832,264	1.82	0.13	8,107,180	708	Projects	11.0	
Income Eligible	Retail (Lighting) Discounts - Income Eligible	96.5%	46,515,815	5,689	441,985,143	1.0	46,515,815	5,689	441,985,143	0.09	0.01	4,303,984	1,141,533	Lamps	9.5	
Income Eligible	Single Family Retrofit	95.3%	3,020,083	873	47,990,848	1.0	3,020,083	873	47,990,848	3.72	0.20	11,237,047	3,087	Projects	15.9	
Income Eligible	UIC ERC Low Income Kits	100.0%	10,538,650	1,133	94,711,406	1.0	10,538,650	1,133	94,711,406	0.32	0.04	3,360,248	453,768	Measures	9.0	
Income Eligible	<b>Subtotal</b>	<b>98.1%</b>	<b>106,214,978</b>	<b>12,038</b>	<b>1,023,986,273</b>	<b>1.0</b>	<b>106,214,978</b>	<b>12,038</b>	<b>1,023,986,273</b>	<b>0.31</b>	<b>0.03</b>	<b>32,596,440</b>			<b>9.6</b>	
Pilot Business	Smart Building Operations	97.7%	895,325	99	6,714,938	1.0	895,325	99	6,714,938				1	Participant	7.5	
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	121.1%	197,487		2,962,305	0.7	138,241		2,073,614				16	Measures	15.0	
Pilot Business	<b>Subtotal</b>	<b>101.2%</b>	<b>1,092,812</b>	<b>99</b>	<b>9,677,243</b>	<b>0.9</b>	<b>1,033,566</b>	<b>99</b>	<b>8,788,551</b>						<b>8.9</b>	
Pilot Residential	Ductless Heat Pump and Building Envelope	101.2%	316,484	16	5,696,704	1.0	316,484	16	5,696,704				87	Measures	18.0	
Pilot Residential	HVAC SAVE	93.1%	18,234	19	328,212	0.8	14,587	15	262,570				126	Measures	18.0	
Pilot Residential	Nest Seasonal Savings				0		5,602,201	3,328	5,602,201				107,398	Measures	1.0	
Pilot Residential	Total Connected Savings W-Fi Thermostat Optimization				0				0				1,099	Measures		
Pilot Residential	<b>Subtotal</b>	<b>100.7%</b>	<b>334,718</b>	<b>35</b>	<b>6,024,916</b>	<b>1.0</b>	<b>5,933,271</b>	<b>3,359</b>	<b>11,561,475</b>						<b>2.0</b>	
Portfolio	<b>Grand Total (exclude VO)</b>	<b>98.2%</b>	<b>1,863,670,624</b>	<b>254,573</b>	<b>19,279,618,788</b>	<b>22</b>	<b>1,699,446,138</b>	<b>194,790</b>	<b>16,061,448,178</b>			<b>294,254,385</b>			<b>9.6</b>	
All	Voltage Optimization	66.4%	66,014,049		990,210,730	1.0	66,014,049		990,210,730					Other	15.0	
All	<b>Subtotal</b>	<b>66.4%</b>	<b>66,014,049</b>		<b>990,210,730</b>	<b>1.0</b>	<b>66,014,049</b>		<b>990,210,730</b>						<b>15.0</b>	
Portfolio	<b>Grand Total (include VO)</b>	<b>96.6%</b>	<b>1,929,684,673</b>	<b>254,573</b>	<b>20,269,829,518</b>	<b>0.9</b>	<b>1,765,460,187</b>	<b>194,790</b>	<b>17,051,658,908</b>	<b>0.17</b>	<b>0.02</b>	<b>294,254,385</b>			<b>9.8</b>	

Note: the following programs have combined savings and cost information. Incentives Program (Standard + Custom + Data Center); Small Business (Small Business Private + Public Small Facilities); Residential HVAC & Weatherization (Heating and Cooling Rebates + Weatherization - Market Rate); Multi-Family (Retrofits + IHWP); Single Family Retrofit (CBA + IHWP); Nest Connected Savings (Cooling + Heating).

\* Combined programs noted above have different EULs, hence the total lifetime savings shown in this table are different from Table 3-1.

Source: Evaluation Analysis

**Table 5-2. Total Resource Cost Savings Summary**

Sector	Program	Verified Gross Savings (kWh)	Verified Net Savings (kWh)	Verified Gross Peak Demand Reduction (kW)	Verified Net Peak Demand Reduction (kW)	Gross Heating Penalty (kWh)	Gross Heating Penalty (Therms)	Net Heating Penalty (kWh)	Net Heating Penalty (Therms)	WAML
Business	Air Care Plus	23,055,268	20,749,741	3,568	3,211	-	-	-	-	4.8
Business	Custom	26,350,802	15,283,465	3,750	2,625	-	-	-	-	14.4
Business	Data Centers	25,473,522	17,321,995	5,359	3,644	-	-	-	-	16.1
Business	Energy Advisor Monitoring-Based Commissioning	8,148,664	8,148,664	-	-	-	-	-	-	5.0
Business	Industrial Systems Optimization	22,488,399	17,990,719	2,398	1,918	-	-	-	-	10.5
Business	Instant Discounts	321,683,597	253,222,349	63,350	49,833	-	(3,926,978)	-	-	9.7
Business	New Construction (Coordinated w/Nicor Gas & PGL-NSG)	37,066,372	22,239,823	5,802	3,481	(1,445,147)	(5,094)	(867,088)	(3,923)	17.5
Business	Operational Efficiency / Facility Assessments	3,607,356	3,282,694	-	-	-	-	-	-	4.3
Business	Public Housing Authority (Joint/Nicor)	2,472,099	2,472,099	166	166	-	(22,896)	-	(22,896)	10.3
Business	Public Small Facilities (PSF)	8,816,014	8,022,573	1,120	1,019	-	(149,104)	-	(135,685)	9.6
Business	Retro-commissioning (Coordinated w/Nicor Gas & PGL-NSG)	36,336,589	34,519,759	1,550	1,472	-	-	-	-	7.5
Business	Rural Small Business Kits	2,277,336	2,049,602	400	360	-	(30,161)	-	(27,145)	12.7
Business	Small Business (Private Sector)	216,443,112	196,963,232	34,647	31,529	-	(2,195,337)	-	(1,997,756)	12.1
Business	Standard	272,795,071	193,038,555	35,649	25,257	-	(2,067,680)	-	(1,468,053)	12.2
Business	Strategic Energy Management (Joint/Nicor Gas)	14,778,772	14,039,833	-	-	-	-	-	-	5.0
Business	Street Lighting	86,043,658	86,043,658	-	-	-	-	-	-	12.0
Residential	Appliance Rebates	38,557,739	34,269,851	7,892	7,234	-	-	-	-	10.0
Residential	Elementary Education Kits (Joint/Nicor Gas & PGL-NSG)	6,104,453	6,104,453	630	630	(204,904)	(44,496)	(204,904)	(44,496)	9.3
Residential	Fridge and Freezer Recycling	41,903,899	21,697,981	5,600	2,890	-	-	-	-	8.0
Residential	Heating and Cooling (HVAC) Rebates	13,098,267	9,255,057	4,464	3,156	(435,529)	(167,104)	(293,740)	(113,040)	18.4
Residential	Holiday Light Exchange	54,842	43,874	2	2	-	-	-	-	7.0
Residential	Home Energy Assessment (Joint/Nicor Gas & PGL-NSG)	29,622,475	24,149,880	3,208	2,628	(232,380)	(499,154)	(185,904)	(399,324)	9.6
Residential	Home Energy Reports	-	279,539,772	-	-	-	-	-	-	5.0
Residential	Lighting Discounts	503,823,727	301,534,004	60,994	36,498	-	(18,545,458)	-	(11,029,316)	9.1
Residential	Middle School Take-Home Kits	1,483,137	1,483,137	190	190	-	(14,920)	-	(14,920)	8.5
Residential	Multi-Family Market Rate (Joint w/Nicor Gas & PGL-NSG)	12,396,380	11,768,297	1,276	1,213	(652,504)	(175,206)	(619,879)	(166,446)	9.4
Residential	New Construction (Joint/Nicor Gas & PGL-NSG)	357,717	232,516	148	96	-	-	-	-	18.0
Residential	Weatherization - Market Rate	788,848	796,737	239	241	-	-	-	-	19.6
Income Eligible	Affordable Housing New Construction (Joint/Nicor)	1,935,089	1,935,089	318	318	(23,328)	(20,029)	(23,328)	(20,029)	12.2
Income Eligible	Food Bank LED Distribution	39,753,102	39,753,102	3,567	3,567	-	(878,003)	-	(878,003)	9.2
Income Eligible	Multi-Family IHWAP	628,175	628,175	112	112	(2,146)	(3,816)	(2,146)	(3,816)	14.4
Income Eligible	Multi-Family Retrofits (Joint/Nicor Gas & PGL-NSG)	3,824,064	3,824,064	345	345	(149,561)	(40,299)	(149,561)	(40,299)	13.8
Income Eligible	Retail (Lighting) Discounts - Income Eligible	46,515,815	46,515,815	5,689	5,689	-	(1,026,360)	-	(1,026,360)	9.5
Income Eligible	Single Family Retrofit - CBA (Joint/Nicor Gas & PGL-NSG)	2,041,077	2,041,077	574	574	-	(16,057)	-	(16,057)	19.0
Income Eligible	Single Family Retrofit - IHWAP	979,006	979,006	300	300	(317)	(10,260)	(317)	(10,260)	17.5
Income Eligible	UIC ERC Low Income Kits	10,538,650	10,538,650	1,133	1,133	-	(130,728)	-	(130,728)	9.0
Pilot Business	Smart Building Operations	895,325	895,325	99	99	-	-	-	-	7.5
Pilot Business	Variable Speed Drive Energy Savings in Refrigeration Condensers	197,487	138,241	-	-	-	-	-	-	15.0
Pilot Residential	Ductless Heat Pump and Building Envelope	316,484	316,484	16	16	-	-	-	-	18.0
Pilot Residential	HVAC SAVE	18,234	14,587	19	15	-	-	-	-	18.0
Pilot Residential	Nest Seasonal Savings (Cooling Season)	-	3,035,416	-	3,328	-	-	-	-	1.0
Pilot Residential	Nest Seasonal Savings (Heating Season)	-	2,566,785	-	-	-	-	-	-	1.0
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Cooling Season)	-	-	-	-	-	-	-	-	-
Pilot Residential	Total Connected Savings Wi-Fi Thermostat Optimization (Heating Season)	-	-	-	-	-	-	-	-	-
All	Voltage Optimization	66,014,049	66,014,049	-	-	-	-	-	-	15.0

Note: The heating penalty kWh and therms values for Heating and Cooling (HVAC) Rebates Program are the fuel switch savings estimates for cost effectiveness analysis.

Source: Evaluation Analysis

## 6. HIGH IMPACT MEASURES

Tables 6-1, 6-2, and 6-3 provide the list of CY2018 high impact measures and the percentage of verified gross electric savings for the business, and income eligible sectors. These tables exclude converted gas savings measures.

**Table 6-1. Summary Table of CY2018 High Impact Measures – Business**

Sector	High Impact Measure	End Use Type	First year kWh Savings (Verified Gross)	Weighted Average Measure Life	Lifetime Gross kWh (Verified)	Percent kWh	Cumulative Percent
Business	LED Fixtures	Lighting	403,740,205	11.5	4,651,504,701	34%	34.4%
Business	LED Lamps	Lighting	267,400,802	10.0	2,663,781,850	23%	57.2%
Business	Other Non-lighting	Other	140,925,025	12.1	1,701,853,347	12%	69.2%
Business	Street Lights	Lighting	86,043,658	12.0	1,032,523,897	7%	76.5%
Business	Voltage Optimization	Voltage Optimization	66,014,049	15.0	990,210,730	6%	82.1%
Business	Other Non-lighting	HVAC	34,661,587	14.7	508,377,194	3%	85.1%
Business	Networked Lighting & Controls	Lighting	21,613,178	11.4	247,191,435	2%	86.9%
Business	Programmable/Reprogrammable Thermostat	HVAC	17,893,833	3.7	65,606,815	2%	88.5%
Business	Compressor system	Compressed Air	17,120,671	8.1	139,104,848	1%	89.9%
Business	Occupancy Sensor & Other Controls	Lighting	15,353,508	7.9	121,696,725	1%	91.2%
Business	Carryover Lighting	Lighting	13,863,377	8.7	120,660,697	1%	92.4%
Business	Other Non-lighting	Refrigeration	11,526,438	10.5	121,126,438	1%	93.4%
Business	Other Non-lighting	Compressed Air	10,121,589	11.0	111,758,130	1%	94.2%
Business	EMS	Other	10,067,150	15.0	151,007,253	1%	95.1%
Business	Other Non-lighting	Industrial System	7,577,102	14.8	111,938,116	1%	95.7%
Business	EC Motor for Cooler or Freezer	Refrigeration	7,526,564	15.0	112,898,460	1%	96.4%
Business	Kitchen Fan or Economizer with DCV	HVAC	6,400,333	10.1	64,574,424	1%	96.9%
Business	Other Lighting	Lighting	6,361,830	14.9	94,707,574	1%	97.5%
Business	Ant-Sweat Heater Controls for Glass Door Cooler or Refrigerator	Refrigeration	6,184,674	12.0	74,216,088	1%	98.0%
Business	LED Exit Signs, Channels & Traffic Signal	Lighting	6,164,246	15.7	96,479,218	1%	98.5%
Business	Fluorescent Retrofit/Relamp	Lighting	4,444,512	11.6	51,386,736	0%	98.9%
Business	Variable Speed Drive on HVAC	HVAC	2,378,234	15.0	35,673,513	0%	99.1%
Business	AC Tune-Up	HVAC	1,825,870	3.0	5,477,611	0%	99.3%
Business	Room & Central Air Conditioner	HVAC	1,129,031	15.0	16,935,465	0%	99.4%
Business	Battery Charger	Other	1,115,677	15.0	16,735,155	0%	99.5%
Business	HVAC Control System & Maintenance	HVAC	890,460	4.9	4,405,213	0%	99.5%
Business	Commercial Refrigeration	Refrigeration	819,919	13.0	10,658,953	0%	99.6%
Business	Advanced Power Strips Tier 1	Consumer Electronics	648,098	7.0	4,536,684	0%	99.7%
Business	High-Efficiency Air Nozzles	Compressed Air	485,669	15.0	7,285,035	0%	99.7%
Business	Strip Curtains for Cooler or Freezer	Refrigeration	459,516	4.0	1,838,064	0%	99.7%
Business	HVAC Economizer	HVAC	386,262	5.0	1,931,311	0%	99.8%
Business	No-Loss Condensate Drains	Compressed Air	385,652	10.0	3,856,520	0%	99.8%
Business	Auto Closer for Walk-in Cooler or Freezer	Refrigeration	339,868	8.0	2,718,944	0%	99.8%
Business	Other Non-lighting	Food Service	331,109	13.2	4,356,661	0%	99.9%
Business	Beverage, Snack and Cooler Machine Controls	Refrigeration	311,177	5.0	1,555,885	0%	99.9%
Business	High Efficiency Pre-Rinse Spray Valve	Hot Water	252,583	5.0	1,262,916	0%	99.9%
Business	Delamp Lights	Lighting	214,941	10.1	2,164,250	0%	99.9%
Business	Bathroom Faucet Aerator	Hot Water	200,799	9.0	1,807,188	0%	99.9%
Business	Night Covers	Refrigeration	90,388	5.0	451,940	0%	100.0%
Business	Exhaust Fan Hour Reduction	HVAC	80,078	5.0	400,390	0%	100.0%
Business	Cogged V-Belt	HVAC	72,128	4.1	299,281	0%	100.0%
Business	Kitchen Faucet Aerator	Hot Water	70,065	9.0	630,584	0%	100.0%
Business	Induction and MH Fixtures	Lighting	65,827	12.2	801,115	0%	100.0%
Business	Refrigerator	Appliances	65,755	12.0	789,066	0%	100.0%
Business	Battery Charger	HVAC	63,552	15.0	953,280	0%	100.0%
Business	Low Flow Showerhead	Hot Water	40,467	10.0	404,670	0%	100.0%
Business	Evaporator Fan Controls for walk-in or reach-in coolers	Refrigeration	33,944	16.0	543,104	0%	100.0%
Business	Water Heater Temperature Setback	Hot Water	33,926	5.0	169,632	0%	100.0%
Business	Window Blinds	Shell	20,336	5.0	101,679	0%	100.0%
Business	ENERGY STAR Solid or Glass Door Refrigerator or Freezer	Refrigeration	8,728	12.0	104,736	0%	100.0%
Business	Weather Stripping	Shell	7,438	20.0	148,760	0%	100.0%
Business	Building Repair	HVAC	6,688	5.0	33,440	0%	100.0%
Business	Cool Roof	HVAC	4,481	20.0	89,620	0%	100.0%
Business	Attic/Wall/Basement/Floor/Foundation Insulation	Shell	4,181	25.0	104,536	0%	100.0%
Business	Efficient Refrigerated CA Dryer	Compressed Air	3,501	10.0	35,010	0%	100.0%

Source: Evaluation Analysis

**Table 6-2. Summary Table of CY2018 High Impact Measures – Residential**

Sector	High Impact Measure	End Use Type	First year kWh Savings (Verified Gross)	Weighted Average Measure Life	Lifetime Gross kWh (Verified)	Percent kWh	Cumulative Percent
Residential	LED Lamps	Lighting	413,931,659	9.0	3,743,639,680	62%	62.0%
Residential	LED Fixtures	Lighting	79,362,293	12.8	1,018,089,679	17%	78.8%
Residential	Carryover Lighting	Lighting	51,388,327	4.7	242,114,510	4%	82.8%
Residential	Refrigerator	Appliances	38,320,158	8.2	312,544,533	5%	88.0%
Residential	Advanced Thermostat	HVAC	21,801,159	10.0	218,011,591	4%	91.6%
Residential	Advanced Power Strips Tier 1	Consumer Electronics	10,803,443	7.0	75,624,098	1%	92.8%
Residential	ECM Furnace Motor	HVAC	7,415,736	20.0	148,314,720	2%	95.3%
Residential	Air Purifier	Appliances	5,482,708	9.0	49,344,372	1%	96.1%
Residential	Freezer	Appliances	4,779,903	8.0	38,411,881	1%	96.7%
Residential	Room & Central Air Conditioner	HVAC	3,317,542	16.4	54,495,457	1%	97.6%
Residential	Low Flow Showerhead	Hot Water	2,964,787	10.0	29,647,874	0%	98.1%
Residential	Heat Pumps (ASHP, Ductless HP, GSHP, Others)	HVAC	1,613,844	18.4	29,650,966	0%	98.6%
Residential	Clothes Washer	Appliances	1,385,725	14.0	19,400,143	0%	99.0%
Residential	Kitchen Faucet Aerator	Hot Water	997,879	9.0	8,980,914	0%	99.1%
Residential	Heat Pumps (ASHP, Ductless HP, GSHP, Others)	Other	887,787	10.0	8,877,875	0%	99.2%
Residential	Dehumidifier	Appliances	826,828	12.0	9,921,932	0%	99.4%
Residential	Programmable/Reprogrammable Thermostat	HVAC	546,675	3.6	1,984,879	0%	99.4%
Residential	Air Sealing	Shell	411,664	15.0	6,174,960	0%	99.5%
Residential	Whole Building	Other	357,717	18.0	6,438,912	0%	99.7%
Residential	Clothes Dryer	Appliances	282,747	14.0	3,958,464	0%	99.7%
Residential	Duct Sealing	Shell	267,311	20.0	5,346,216	0%	99.8%
Residential	Bathroom Faucet Aerator	Hot Water	241,347	9.0	2,172,121	0%	99.8%
Residential	Shower Timer	Hot Water	223,187	2.0	446,374	0%	99.8%
Residential	Bathroom Exhaust Fan	HVAC	205,771	19.0	3,909,650	0%	99.9%
Residential	Water Cooler	Appliances	114,131	10.0	1,141,308	0%	99.9%
Residential	Attic/Wall/Basement/Floor/Foundation Insulation	Shell	109,873	25.0	2,746,836	0%	100.0%
Residential	Pipe Insulation	Hot Water	39,866	15.0	597,983	0%	100.0%
Residential	Holiday Light Exchange	Lighting	37,682	7.0	263,773	0%	100.0%
Residential	Water Heater Temperature Setback	Hot Water	33,431	2.0	66,862	0%	100.0%
Residential	Occupancy Sensor & Other Controls	Lighting	21,870	8.0	174,963	0%	100.0%
Residential	Heat Pumps (ASHP, Ductless HP, GSHP, Others)	Hot Water	16,823	13.0	218,693	0%	100.0%
Residential	Vending Miser	Food Service	1,613	5.0	8,065	0%	100.0%

Source: Evaluation Analysis

**Table 6-3. Summary Table of CY2018 High Impact Measures – Income Eligible**

Sector	High Impact Measure	End Use Type	First year kWh Savings (Verified Gross)	Weighted Average Measure Life	Lifetime Gross kWh (Verified)	Percent kWh	Cumulative Percent
Income Eligible	LED Lamps	Lighting	82,023,000	9.5	775,212,405	72.4%	72.4%
Income Eligible	LED Fixtures	Lighting	8,359,763	12.1	101,035,856	7.4%	79.8%
Income Eligible	Carryover Lighting	Lighting	5,500,911	4.0	22,003,644	4.9%	84.7%
Income Eligible	Advanced Power Strips Tier 1	Consumer Electronics	3,369,629	7.0	23,587,400	3.0%	87.6%
Income Eligible	Fluorescent Retrofit/Relamp	Lighting	1,272,490	9.3	11,840,515	1.1%	88.8%
Income Eligible	Other Non-lighting	Other	1,091,935	8.9	9,664,089	1.0%	89.7%
Income Eligible	Low Flow Showerhead	Hot Water	944,527	10.0	9,445,273	0.8%	90.6%
Income Eligible	Air Sealing	Shell	869,626	15.0	13,044,385	0.8%	91.3%
Income Eligible	Attic/Wall/Basement/Floor/Foundation Insulation	Shell	851,956	25.0	21,298,907	0.8%	92.1%
Income Eligible	PTAC/PTHP	HVAC	483,305	15.0	7,249,577	0.4%	92.5%
Income Eligible	Kitchen Faucet Aerator	Hot Water	483,253	9.0	4,349,273	0.4%	92.9%
Income Eligible	HVAC Control System & Maintenance	HVAC	420,354	18.0	7,566,364	0.4%	93.3%
Income Eligible	Heat Pumps (ASHP, Ductless HP, GSHP, Others)	HVAC	323,862	17.9	5,808,380	0.3%	93.6%
Income Eligible	Room & Central Air Conditioner	HVAC	238,500	17.1	4,086,024	0.2%	93.8%
Income Eligible	High Efficiency Furnace	HVAC	221,052	20.0	4,421,040	0.2%	94.0%
Income Eligible	Bathroom Exhaust Fan	HVAC	200,811	19.0	3,815,401	0.2%	94.2%
Income Eligible	Variable Speed Drive on HVAC	HVAC	197,487	15.0	2,962,305	0.2%	94.4%
Income Eligible	Refrigerator	Appliances	194,898	12.0	2,338,772	0.2%	94.5%
Income Eligible	Programmable/Reprogrammable Thermostat	HVAC	194,879	5.0	968,801	0.2%	94.7%
Income Eligible	Other Non-lighting	Shell	156,305	16.2	2,529,247	0.1%	94.8%
Income Eligible	Advanced Thermostat	HVAC	74,073	10.0	740,729	0.1%	94.9%
Income Eligible	Bathroom Faucet Aerator	Hot Water	68,476	9.0	616,282	0.1%	95.0%
Income Eligible	Other Non-lighting	Appliances	39,909	12.0	478,905	0.0%	95.0%
Income Eligible	High Performance Windows	Shell	25,661	25.0	641,530	0.0%	95.0%
Income Eligible	High Performance Fans	HVAC	20,371	19.0	387,050	0.0%	95.0%
Income Eligible	Occupancy Sensor & Other Controls	Lighting	10,312	8.0	82,497	0.0%	95.0%
Income Eligible	Pipe Insulation	Hot Water	2,428	15.0	36,417	0.0%	95.1%
Income Eligible	Freezer	Appliances	1,720	11.0	18,918	0.0%	95.1%
Income Eligible	ECM Furnace Motor	HVAC	732	20.0	14,640	0.0%	95.1%
Income Eligible	Water Heater Wrap	Hot Water	287	5.0	1,434	0.0%	95.1%

Source: Evaluation Analysis