



ComEd Assessments Program Impact Evaluation Report

Energy Efficiency/Demand Response Plan:
Program Year 2022 (CY2022)
(1/1/2022-12/31/2022)

Prepared for:

ComEd

FINAL

March 24, 2023

Prepared by:

Dustin Bailey
Guidehouse

[guidehouse.com](https://www.guidehouse.com)

Submitted to:

ComEd
2011 Swift Drive
Oak Brook, IL 60523

Submitted by:

Guidehouse Inc.
150 N. Riverside Plaza, Suite 2100
Chicago, IL 60606

Contact:

Charles Maglione, Partner
703.431.1983
cmaaglione@guidehouse.com

Jeff Erickson, Director
608.616.4962
jeff.erickson@guidehouse.com

Adam Knickelbein, Director
303.493.5483
adam.knickelbein@guidehouse.com

Nishant Mehta, Associate Director
608.616.5823
nishant.mehta@guidehouse.com

This report was prepared by Guidehouse for ComEd. The work presented in this report represents Guidehouse's professional judgment based on the information available at the time this report was prepared. Use of this report by any other party for whatever purpose should not, and does not, absolve such party from using due diligence in verifying the report's contents. Neither Guidehouse nor any of its subsidiaries or affiliates assumes any liability or duty of care to such parties, and hereby disclaims any such liability.

Table of Contents

Introduction	1
Program Savings Detail	1
CPAS Savings	2

List of Figures and Tables

Figure 1. Verified Net Savings by End Use Type – Electric	2
Table 1. Total Annual Incremental Electric Savings - Total.....	1
Table 2. Cumulative Persisting Annual Savings (CPAS) – Electric	3
Table 3. Cumulative Persisting Annual Savings (CPAS) – Gas	4
Table 4. Cumulative Persisting Annual Savings (CPAS) – Total.....	5

Introduction

This report presents the results of the impact evaluation of the Assessments program for the program year January 1 to December 31, 2022 (CY2022).

The Assessments program consists of low cost/no cost and operational measures identified during ComEd engineering commercial and industrial facility assessments. These measures focus on existing equipment and apply maintenance and operational best practices to realize energy savings with little or no investment from the customer. The measures claimed in the Assessments Program are not covered by the Incentives Program because of their no-cost or low-cost nature, but they are identified during customer audits completed by ComEd. Implementation of identified measures can occur at the time of the audit. If not implemented then, program outreach staff follows up with the customer to check on progress.

ComEd staff developed a calculator for each measure to estimate program savings. The measures and operational efficiencies identified through this program include turning off lights and equipment when not needed, addressing air compressor leaks and system pressure, adjusting space temperatures setpoints, and simple heating, ventilation, and air conditioning (HVAC) maintenance.

Program Savings Detail

Table 1 summarizes the incremental energy and demand savings the Assessments program achieved in CY2022. The gas savings are only those that ComEd may be able to claim, which excludes savings the gas utilities claim, either via joint or non-joint programs.¹

Table 1. Total Annual Incremental Electric Savings - Total

Savings Category	Units	Ex Ante Gross Savings*	Program Gross Realization Rate	Verified Gross Savings*	Program Net-to-Gross Ratio (NTG)	CY2020 Net Carryover Savings	CY2021 Net Carryover Savings	Verified Net Savings †
Electric Energy Savings - Direct‡	kWh	4,049,502	0.95	3,855,713	0.94	N/A	N/A	3,624,370
Electric Energy Savings - Converted from Gas§	kWh	13,160	1.00	13,160	0.94	N/A	N/A	12,371
Electric Energy Savings - Indirect from Fuel Switching (through Electrification)	kWh	0	N/A	0	N/A	N/A	N/A	0
Total Electric Energy Savings##	kWh	4,062,662	0.95	3,868,873	0.94	N/A	N/A	3,636,741
Secondary Water Savings	kWh	0	N/A	0	N/A	N/A	N/A	0
Summer Peak*† Demand Savings	kW	0	N/A	0	N/A	N/A	N/A	0

N/A = not applicable (refers to a piece of data that cannot be produced or does not apply).

* Ex ante and verified gross savings exclude gross carryover savings from CY2020 and CY2021.

† The “Verified Net Savings” in row one (Electric Energy Savings - Direct) excludes carryover savings as they do not apply to this program.

‡ The Electric Energy Savings - Direct includes primary kWh savings from efficient measures (includes efficiency savings from fuel switching measures but excludes the fuel switching savings), secondary kWh savings from wastewater treatment, and electric heating penalties.

§ Gas savings converted to kWh by multiplying therms * 29.31 (which is based on 100,000 Btu/therm and 3,412 Btu/kWh). The evaluation team will determine which gas savings will be converted to kWh and counted toward ComEd’s electric savings goal while producing the portfolio-wide Summary Report.

¹ The evaluation will determine which gas savings will be counted toward goal while producing the portfolio-wide Summary Report. 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 total savings requirement as defined in paragraph (7.5) of subsection (g) of this Section be met through savings of fuels other than electricity.”

|| Electrification savings from fuel switching measures excluding direct efficiency savings. Calculated from net electric savings from increase in kWh consumption and decrease in gas consumption from fuel switching (kWh equivalent).

Total Electric Energy Savings is the sum of the Electric Energy Savings - Direct, the Electric Energy Savings Converted from Gas, and the Electrification Savings from fuel switching.

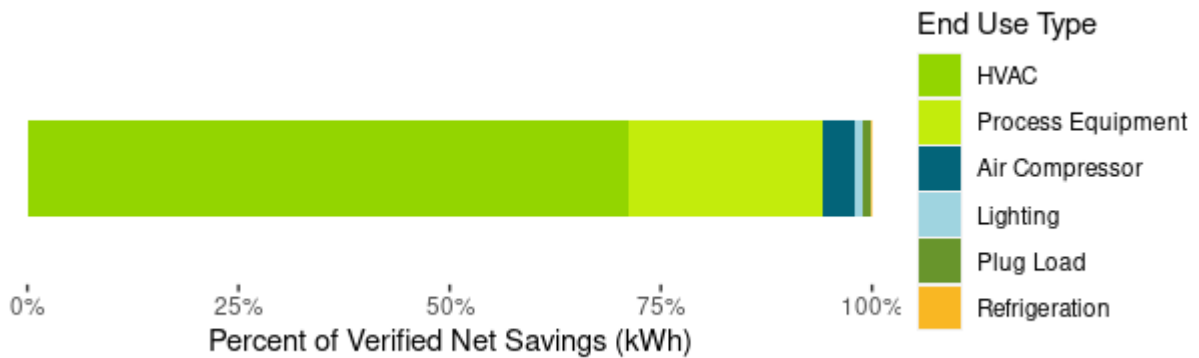
*† The Peak Demand Savings are savings occurring at coincident Summer Peak period, defined as 1:00 p.m. -5:00 p.m. Central Prevailing Time on non-holiday weekdays, June through August. This definition is in accordance with PJM requirement.

- The program-level NTG values are calculated as Verified Net/Verified Gross. The program-level analysis typically used measure-level deemed NTG values, which are listed here: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2022>.

Source: Evaluation team analysis

Figure 1 shows the electric energy savings by measure end use. It includes measure efficiency savings, carryover kWh, secondary water kWh, and electrification savings. It does not include gas savings converted to kWh.

Figure 1. Verified Net Savings by End Use Type – Electric



Source: Evaluation team analysis

CPAS Savings

Table 2 to Table 4 show the cumulative persisting annual savings (CPAS) for the measures installed in CY2022. The electric CPAS across all measures installed in 2022 is shown in Table 2. The gas contribution to CPAS (converted to equivalent electricity) is shown in Table 3. The combined savings are shown in Table 4.

Table 2. Cumulative Persisting Annual Savings (CPAS) – Electric

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	CPAS Verified Net kWh Savings											
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
CY2022 Program Total Contribution to CPAS	3,855,713	15,471,718					3,624,370	3,624,370	3,337,032	2,944,961	1,938,253	2,732	0	
Historic Program Total Contribution to CPAS‡		52,887,361	3,282,694	6,646,478	10,315,942	11,405,698	8,852,251	6,579,851	3,338,542	2,464,677	1,228	0	0	
Program Total CPAS	3,855,713	68,359,079	3,282,694	6,646,478	10,315,942	11,405,698	12,476,621	10,204,222	6,675,573	5,409,638	1,939,481	2,732	0	
CY2022 Program Incremental Expiring Savings§									0	287,339	392,071	1,006,708	1,935,521	2,732
Historic Program Incremental Expiring Savings							2,553,447	2,272,399	3,241,310	873,865	2,463,449	1,228	0	
Program Total Incremental Expiring Savings#							2,553,447	2,272,399	3,528,649	1,265,935	3,470,157	1,936,749	2,732	

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	CPAS Verified Net kWh Savings											
			2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	
CY2022 Program Total Contribution to CPAS	3,855,713	15,471,718	0	0	0	0	0	0	0	0	0	0	0	0
Historic Program Total Contribution to CPAS‡		52,887,361	0	0	0	0	0	0	0	0	0	0	0	0
Program Total CPAS	3,855,713	68,359,079	0	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Savings§			0	0	0	0	0	0	0	0	0	0	0	0
Historic Program Incremental Expiring Savings			0	0	0	0	0	0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#			0	0	0	0	0	0	0	0	0	0	0	0

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

‡ Historical savings go back to CY2018.

§ Incremental expiring savings are equal to CPAS Yn-1 - CPAS Yn.

|| Historic incremental expiring savings are equal to Historic CPAS Yn-1 – Historic CPAS Yn.

Program total incremental expiring savings are equal to current year total incremental expiring savings plus historic total incremental expiring savings.

Source: Evaluation team analysis

Table 3. Cumulative Persisting Annual Savings (CPAS) – Gas

Savings Category	Verified Gross Savings (Therms)	Lifetime Net Savings (Therms)†	CPAS Verified Net Therms Savings										
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
CY2022 Program Total Gas Contribution to CPAS (Therms)	449	2,005					422	422	422	422	317	0	0
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	13,160	58,760					12,371	12,371	12,371	12,371	9,278	0	0
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§		14,575,344	1,522,282	2,478,545	2,748,951	2,590,634	2,489,603	1,587,785	636,768	520,777	0	0	0
Program Total Gas CPAS (kWh Equivalent)	13,160	5,293,693	1,522,282	2,478,545	2,748,951	2,590,634	2,501,974	1,600,156	649,139	533,147	9,278	0	0
CY2022 Program Incremental Expiring Gas Savings (Therms)								0	0	0	106	317	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)								0	0	0	3,093	9,278	0
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#							101,031	901,818	951,017	115,991	520,777	0	0
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†							101,031	901,818	951,017	115,991	523,869	9,278	0

Savings Category	Verified Gross Savings (Therms)	Lifetime Net Savings (Therms)†	CPAS Verified Net Therms Savings										
			2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
CY2022 Program Total Gas Contribution to CPAS (Therms)	449	2,005	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	13,160	58,760	0	0	0	0	0	0	0	0	0	0	0
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§		14,575,344	0	0	0	0	0	0	0	0	0	0	0
Program Total Gas CPAS (kWh Equivalent)	13,160	5,293,693	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (Therms)			0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)			0	0	0	0	0	0	0	0	0	0	0
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#			0	0	0	0	0	0	0	0	0	0	0
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†			0	0	0	0	0	0	0	0	0	0	0

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

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

§ Historical savings go back to CY2018.

|| Incremental expiring savings are equal to CPAS Yn-1 - CPAS Yn.

Historic incremental expiring savings are equal to Historic CPAS Yn-1 – Historic CPAS Yn.

*† Program total incremental expiring savings are equal to current year total incremental expiring savings plus historic total incremental expiring savings.

Source: Evaluation team analysis

Table 4. Cumulative Persisting Annual Savings (CPAS) – Total

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	CPAS Verified Net kWh Savings										
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
CY2022 Program Total Contribution to CPAS	3,868,873	15,530,478					3,636,741	3,636,741	3,349,402	2,957,331	1,947,531	2,732	0
Historic Program Total Contribution to CPAS‡		67,462,705	4,804,976	9,125,023	13,064,892	13,996,332	11,341,854	8,167,637	3,975,309	2,985,454	1,228	0	0
Program Total CPAS	3,868,873	82,993,183	4,804,976	9,125,023	13,064,892	13,996,332	14,978,595	11,804,377	7,324,712	5,942,785	1,948,759	2,732	0
CY2022 Program Incremental Expiring Savings§							0	287,339	392,071	1,009,800	1,944,799	2,732	
Historic Program Incremental Expiring Savings							2,654,479	3,174,217	4,192,327	989,856	2,984,226	1,228	0
Program Total Incremental Expiring Savings#							2,654,479	3,174,217	4,479,666	1,381,927	3,994,026	1,946,027	2,732

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	CPAS Verified Net kWh Savings											
			2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	
CY2022 Program Total Contribution to CPAS	3,868,873	15,530,478	0	0	0	0	0	0	0	0	0	0	0	0
Historic Program Total Contribution to CPAS‡		67,462,705	0	0	0	0	0	0	0	0	0	0	0	0
Program Total CPAS	3,868,873	82,993,183	0	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Savings§			0	0	0	0	0	0	0	0	0	0	0	0
Historic Program Incremental Expiring Savings			0	0	0	0	0	0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#			0	0	0	0	0	0	0	0	0	0	0	0

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

‡ Historical savings go back to CY2018.

§ Incremental expiring savings are equal to CPAS Yn-1 - CPAS Yn.

|| Historic incremental expiring savings are equal to Historic CPAS Yn-1 – Historic CPAS Yn.

Program total incremental expiring savings are equal to current year total incremental expiring savings plus historic total incremental expiring savings.

Source: Evaluation team analysis