



Memorandum

To: Erin Daughton, Kimberly Brown, Kimberly Swan, Elder Calderon, James Fay, ComEd

CC: Jeff Erickson, Adam Knickelbein, Christiana Gurgick, Guidehouse

From: Mike Frischmann, Christopher Frye, Kristy Thronson, Annie Yang e

Date: June 25, 2024

Re: ComEd CY2023 Energy Efficiency Program Economic and Employment Impacts - Final

Introduction

This memo presents the results of Guidehouse’s analysis of economic and employment impacts produced by ComEd’s CY2023 energy efficiency portfolio and voltage optimization.

This analysis was conducted in alignment with Version 3.0 of the Illinois Energy Efficiency Policy Manual¹ (“the Policy Manual”), requiring that each program administrator in Illinois annually report estimates of the economic development and employment impacts of its EE programs.

The Economic Impact Assessment methodology used in this analysis (described in the next section) is consistent with that developed by consensus with the Illinois Stakeholder Advisory Group Non-Energy Impacts Working Group and used in the previously submitted CY2018 – CY2022 economic analyses.

Results

The results from the CY2023 Economic Non-Energy Impact (NEI) analysis indicate that the ComEd energy efficiency portfolio and voltage optimization generated 18,715 job-years², \$1,300 M in total labor income, and \$5,028 M in industry output.

¹ [IL EE Policy Manual Version 3.0 Final 11-3-2023.pdf \(ilsag.info\)](#)

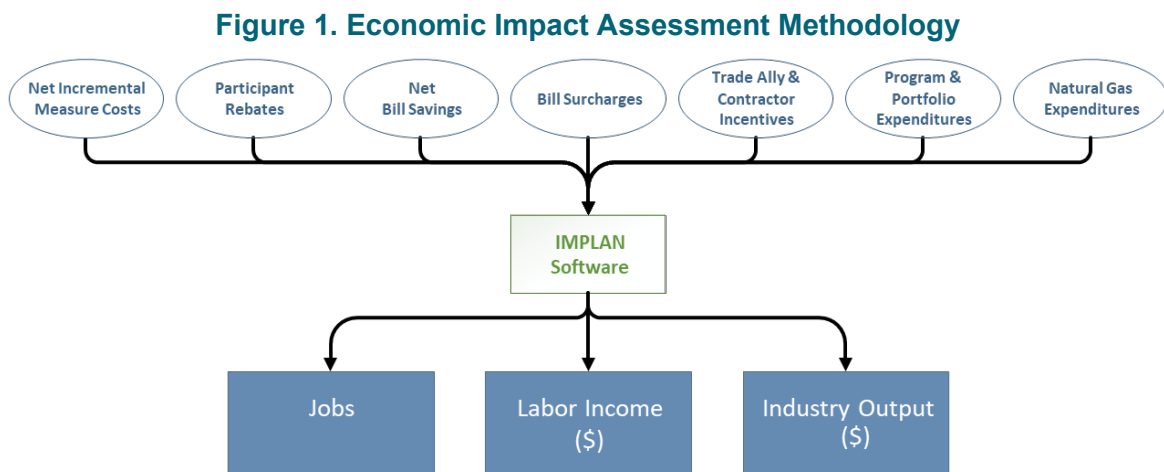
² Job years are a headcount of industry-specific mix of full-time, part-time, and seasonal employment jobs for one year, simply put, one job for one year is one “job year”. <https://support.implan.com/hc/en-us/articles/360044986593-Glossary>

Process

Economic Impact Assessment Methodology

The economic impact assessment for ComEd's EE programs follows a three-step process approved by the Illinois Energy Efficiency Stakeholder Advisory Group Non-Energy Impacts Working Group³ in November 2019, depicted in Figure 1 and described below:

- 1) Collect data for the economic activities associated with the energy efficiency programs
- 2) Use multipliers and ratios from the IMPLAN economic model to estimate the economic impacts of ComEd's energy efficiency portfolio
- 3) Analyze the results, including summarizing, comparing, and assessing the economic measures (e.g., industry output, labor income, and jobs)



Source: Guidehouse

Following this three-step process, Guidehouse was able to provide reliable estimates on how the ComEd energy efficiency programs are forecasted to affect the Illinois economy.

The analysis includes direct effects, indirect effects, and induced demand in the economy. Direct effects are the initial effects in energy supply and energy efficiency related industries due to the ComEd portfolio. They include changes in employment and demand for regional production triggered by the implementation and management of ComEd's EE programs. Indirect effects are effects from business-to-business purchasing in the supply chain, or changes in spending for households directly impacted by the EE programs. They include increased purchases from program suppliers who must in turn increase purchases from their suppliers and so forth as the initial expenditure ripples through interconnected industries. Induced effects include secondary impacts generated from household to business spending

³ https://ilsag.s3.amazonaws.com/IL_SAG_NEI_Presentation_06-NOV-2019_Final.pdf

as labor income changes that result from both direct and indirect activity affect the local economy.⁴

The analysis presents economic impacts in terms of job years, labor income, and industry output. Labor income is comprised of employee compensation, including wages and benefits, and proprietor income. Labor income is representative of the total value of all forms of employment income paid throughout the Illinois economy for 2023.⁵ Industry output is the total annual production value of each industry; it can be described as business sales or revenues. In terms of retail output and wholesale trade, these industry output values are equal to gross margin or marginal revenue, not total revenue.⁶

Summary of Input Data

Table 1 presents a summary of input data used for the CY2023 economic and employment impact analysis.

Table 1. Summary of ComEd’s CY2023 Economic and Employment Impact Analysis Input Data

Impact Category	Amount (\$M's)	Description of Impact	Time Period
Bill Savings	\$2,415 M	Positive economic effect on ratepayers	2023-2047
Program Funding	-\$484 M	Negative economic effect on ratepayers	Over WAML ⁷ period (Electric: 2023 – 2035)
Net Ratepayer Bill Savings	\$1,931 M	Net economic effect on ratepayers	2023-2047
Lost Utility Fuel & Transp. Expenditures	-\$37 M	Negative economic impact on fuel production and transportation	2023-2047
Incentives and Rebates	\$272 M	Positive economic effect on ratepayers	2023
Net Incremental Measure Costs	\$311 M	Negative economic effect on ratepayers; positive economic effect on retailers and suppliers	2023
Program Administration Costs	\$127 M	Positive economic effect from utility spending	2023
Voltage Optimization (Capital Expenditures)	\$86 M	Positive economic effect from utility spending	2023

Source: Guidehouse analysis of ComEd CY2023 Data

⁴ Direct, indirect, and induced effects are defined more fully in Section 6.7 of the Illinois Energy Efficiency Policy Manual Version 3.0.

⁵ <https://support.implan.com/hc/en-us/articles/360024509374-Understanding-Labor-Income-LI-Employee-Compensation-EC-and-Proprietor-Income-PI->

⁶ <https://support.implan.com/hc/en-us/articles/360044986593-Glossary>

⁷ WAML refers to weighted average measure life; the measure life for each program is based on the measure life of each measure weighted proportionally to its net savings contribution to that particular program.

Each impact category is described in more depth below.

Bill Savings: This category represents the monetized savings that program participants realize from their energy efficiency improvements. Bill savings are monetized by multiplying the net verified savings values⁸ by each customers' applicable unit energy cost.⁹ Bill savings are realized through the lifetime of the measure as a positive cash flow to the participants.

- **Program Funding:** This category represents the bill surcharges¹⁰ collected from all ratepayers to fund the utility programs.

Net Ratepayer Bill Savings: This is the net positive bill savings realized by all ratepayers: bill savings less program funding charges.

Lost Utility Fuel and Transportation Expenditures: This category represents decreased expenditures on fuel and transportation (and therefore decreased job creation) due to decreased electric generation as a result of energy efficiency measures.¹¹

Incentives and Rebates: These categories represent payments made by the utility to program energy efficiency service providers and contractors as part of the installation of energy efficiency measures in CY2023 and rebate payments made by the utility to program participants in CY2023.¹²

Net Incremental Measure Costs: This category is the sum of all incremental measure costs that program participants expended on energy efficiency projects through ComEd's portfolio in CY2023. As in verified cost-effectiveness analysis, incremental measure costs used in this analysis are net costs calculated using SAG-approved net-to-gross (NTG) values. From the perspective of the participants, this is a negative cash flow as they expend money implementing a project. From the perspective of contractors, energy efficiency service providers, and distributors this is a positive cash flow as they receive income from sales of energy efficiency products and services.

Program Administration Costs: This category models a positive economic impact generated from utility expenditures on program administration.¹³

Voltage Optimization: This flow represents utility expenditures on voltage optimization measures; costs are reported in the year circuits are adjusted for voltage optimization and on an ongoing basis for operations and maintenance.

Employment Impacts

Table 2 presents a summary of the employment impacts of the CY2023 investments for all programs separated into direct, indirect, and induced effects. Because the programs produce long-term economic impacts as a result of persisting energy savings, employment impacts produced are not confined to a particular year but occur over the 2023-2047 time period.

⁸ Net verified savings are the electricity, gas, and water savings presented in the ComEd CY2023 Summary Report Tables 2024-05-29.

⁹ The relevant cost per unit for electricity, gas, and water (e.g., kWh, therms, and gallons) supplied by ComEd in March 2023.

¹⁰ Bill surcharges for CY2023 consist of Program Administration, Sector and Portfolio Administration and Incentives/Rebates costs.

¹¹ The sum of avoided electric and gas fuel purchases in Illinois were calculated using estimated shares of revenues spent on fuel and transportation costs by the power generation sector in Illinois

¹² Incentives and rebates for CY2023 were estimated using the ComEd CY2023 Summary Report Tables 2024-05-29.

¹³ Program administration costs were based on program, sector, and portfolio cost data provided by ComEd.

Table 2. Cumulative 2023-2047 Employment Impacts

Impact Type	Job Years (2023-2047)	% Of Total
Direct	5,630	30%
Indirect	2,066	11%
Induced	11,020	59%
Total	18,715	100%

Note: Totals may not align due to rounding

Source: Guidehouse analysis of ComEd CY2023 tracking data

For the CY2023 report, economic impacts of ComEd’s EE programs (including employment impacts) are reported cumulatively for the entire state of Illinois. For impacts over time, the trend identified in previous years — expected to hold for this iteration as well— show large spikes in the initial program year triggered by the implementation and management of ComEd’s energy efficiency programs, including, but not limited to, program incentives, administrative spending, and incremental measure spending. The impacts beyond the given calendar year are derived almost entirely from net ratepayer bill savings generated from ComEd’s energy efficiency programs. These impacts persist over a similar period as the cumulative persisting annual savings (CPAS) produced by the ComEd energy efficiency portfolio.

Labor Income and Industry Output

Table 3 presents a summary of the cumulative industry labor income and industry output impacts from the CY2023 non-Voltage Optimization sectors (from 2023 to 2047).

Table 3. Cumulative 2023-2047 Industry Labor Income and Industry Output Impacts

Impact Type	Labor Income	Industry Output
Direct	\$398 M	\$1,147 M
Indirect	\$181 M	\$543 M
Induced	\$720 M	\$3,338 M
Total	\$1,300 M	\$5,028 M

Note: Totals may not align due to rounding

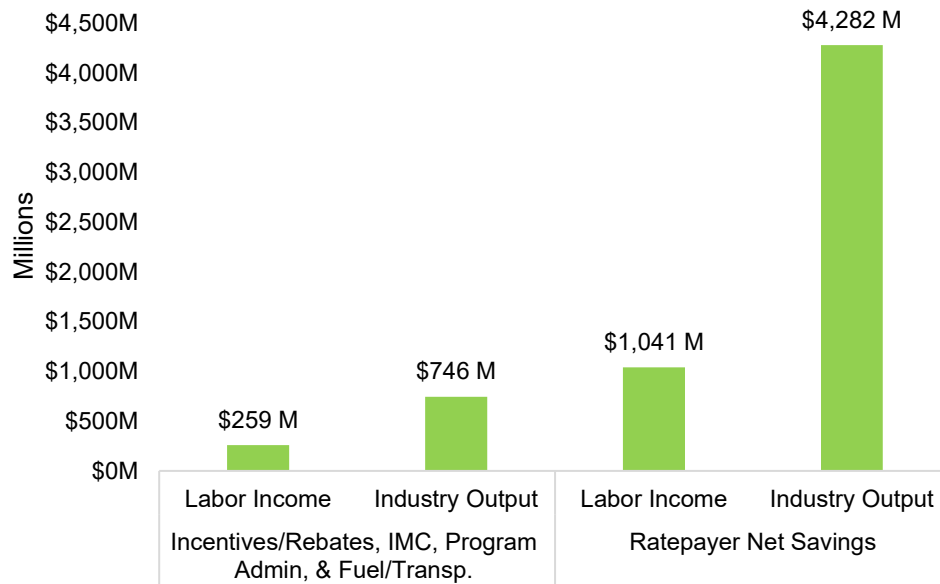
Source: Guidehouse analysis of ComEd CY2023 tracking data

Figure 2 breaks down labor income and industry output impact estimates further. It presents the direct, indirect, and induced impacts associated with labor income and industry output from the CY2023 ComEd non-Voltage Optimization sectors. The table and figure segment these impacts into two categories:

1. Program spending and program-induced spending (incentives, rebates, net incremental costs, program administration, fuel/transportation expenditures etc.) during CY2023, and

2. Net ratepayer bill savings (from 2023-2047).

Figure 2. ComEd CY2023 Labor Income and Industry Output Impacts 2023-2047)



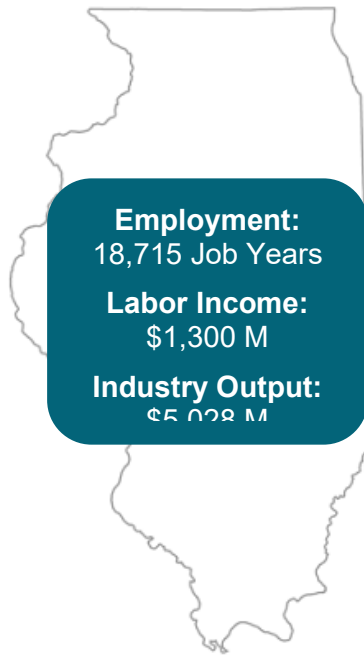
Source: Guidehouse analysis of ComEd CY2023 Data

Combined Results

Figure 3 provides the CY2023 cumulative economic impacts for all sectors, estimated at the state level.

Employment impacts are long-term effects and not confined to a particular year; job-years represent the cumulative employment impacts.

Figure 3: Estimate of Cumulative Economic Impacts (2023-2047)



Source: Guidehouse analysis of ComEd CY2023 Data

Table 4 and Table 5 provide cumulative economic impacts and employment impacts in a format similar to that presented previous analyses for the purpose of comparison.

Table 4. ComEd CY2023 Energy Efficiency Portfolio Cumulative Economic Impacts (2023-2047)

Time Period	Impact Type	Job Years	Labor Income	Industry Output
2023 – 2047	Direct	5,630	\$398 M	\$1,147 M
2023 – 2047	Indirect	2,066	\$181 M	\$543 M
2023 – 2047	Induced	11,020	\$720 M	\$3,338 M
2023 – 2047	Total	18,715	\$1,300 M	\$5,028 M
2022 – 2046	Direct	6,228	\$426M	\$1.18B
2022 – 2046	Indirect	2,178	\$187M	\$556M
2022 – 2046	Induced	8,049	\$527M	\$2.31B
2022 – 2046	Total	16,454	\$1.14B	\$4.05B
2021 – 2045	Direct	7,757	\$479M	\$1.4B
2021 – 2045	Indirect	3,114	\$222M	\$619M

Time Period	Impact Type	Job Years	Labor Income	Industry Output
2021 – 2045	Induced	9,309	\$503M	\$2.02B
2021 – 2045	Total	20,180	\$1.21B	\$4.04B
2020 – 2044	Direct	7,823	\$484M	\$1.41B
2020 – 2044	Indirect	3,145	\$224M	\$623M
2020 – 2044	Induced	9,278	\$501M	\$2.01B
2020 – 2044	Total	20,246	\$1.21B	\$4.04B
2019 – 2043	Direct	6,583	\$414M	\$1.23B
2019 – 2043	Indirect	2,706	\$195M	\$549M
2019 – 2043	Induced	7,458	\$403M	\$1.59B
2019 – 2043	Total	16,747	\$1.01B	\$3.37B
2018 – 2042	Direct	5,562	\$340M	\$965M
2018 – 2042	Indirect	2,241	\$161M	\$452M
2018 – 2042	Induced	6,904	\$375M	\$1.53B
2018 – 2042	Total	14,707	\$876M	\$2.94B

Table 5. ComEd Energy Efficiency Portfolio Economic Impacts by Periods (CY2018-CY2023)

Time Period	Impact Type	Job Years	Labor Income	Industry Output
2018 – 2042	Total	14,707	\$876M	\$2.94B
2019 – 2043	Total	16,747	\$1.01B	\$3.37B
2020 – 2044	Total	20,246	\$1.21B	\$4.04B
2021 – 2045	Total	20,180	\$1.21B	\$4.04B
2022 – 2046	Total	16,454	\$1.14B	\$4.05B
2023 – 2047	Total	18,715	\$1.30B	\$5.03B