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|  |  |
| Date: | April 26, 2024 |
|  |  |
| Re: | Preliminary ComEd CY2023 Energy Efficiency Program Economic and Employment Impacts |

# Introduction

This memo presents the preliminary results of Guidehouse’s analysis of economic and employment impacts produced by ComEd’s CY2023 Business, Residential / Income Eligible, Pilot, and Market Transformation programs (collectively, the “energy efficiency (EE) programs") with a total of $1,170M of labor income and $4,343M of industry output. In addition, these sectors produced employment impacts of 5,520 direct job years, 1,880 indirect job years, and 9,640 induced job years.[[1]](#footnote-2) ComEd’s continued commitment to serving their customers has multiple benefits including non-energy impacts such as improved societal health, improved participant health and productivity, and as described in this memo, beneficial economic impacts.

This report was based on information available at the time of writing. Guidehouse will issue an updated economic impact memorandum in Q2 including final measure costs and Voltage Optimization[[2]](#footnote-3) program benefits and costs. This analysis was conducted in alignment with Version 3.0 of the Illinois Energy Efficiency Policy Manual[[3]](#footnote-4) (“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. The Illinois Climate and Equitable Jobs Act [[4]](#footnote-5) includes an annual deadline of April 30 for the economic and employments impact results. For CY2023, the team used CY2023 draft summary report savings and preliminary TRC report program cost information.[[5]](#footnote-6)

# 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 Group[[6]](#footnote-7) 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)

Figure 1. Economic Impact Assessment Methodology

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 as labor income changes that result from both direct and indirect activity affect the local economy.[[7]](#footnote-8)

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.[[8]](#footnote-9) 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.[[9]](#footnote-10)

## Summary of Input Data

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

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

| Impact Category | Amount ($M’s) | Description of Impact | Time Period |
| --- | --- | --- | --- |
| Bill Savings | $2,064 M | Positive economic effect on ratepayers | 2023-2047 |
| Program Funding | -$364 M | Negative economic effect on ratepayers | Over WAML[[10]](#footnote-11) period (Electric: 2023 – 2035) |
| Net Ratepayer Bill Savings | $1,700 M | Net economic effect on ratepayers | 2023-2047 |
| Lost Utility Fuel & Transp. Expenditures | -$38 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 | $364 M | Negative economic effect on ratepayers; positive economic effect on retailers and suppliers | 2023 |
| Program Administration Costs | $91 M | Positive economic effect from utility spending | 2023 |
| Voltage Optimization (Capital Expenditures)[[11]](#footnote-12) | TBD | Positive economic effect from utility spending | 2023 |

Source: Guidehouse analysis of ComEd CY2023 Summary Report Tables 2024-04-22.docx [[12]](#footnote-13)

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 values[[13]](#footnote-14) by each customers’ applicable unit energy cost.[[14]](#footnote-15) 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 surcharges[[15]](#footnote-16) 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.[[16]](#footnote-17)
* **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.[[17]](#footnote-18)
* **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.[[18]](#footnote-19)
* **Program Administration Costs:** This category models a positive economic impact generated from utility expenditures on program administration.[[19]](#footnote-20)
* **Voltage Optimization [[20]](#footnote-21):** **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 the non-Voltage Optimization 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.

**Table 2. Preliminary Cumulative 2023-2047 Employment Impacts**

|  |  |  |
| --- | --- | --- |
| Impact Type | Job Years (2023-2047)  | % Of Total |
| Direct |  5,520  | 32% |
| Indirect |  1,880  | 11% |
| Induced |  9,640  | 57% |
| **Total** |  17,040  | 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 preliminary summary of the cumulative industry labor income and industry output impacts from the CY2023 non-Voltage Optimization sectors (from 2023 to 2047).

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

|  |  |  |
| --- | --- | --- |
| Impact Type | Labor Income | Industry Output |
| Direct | $380 M | $971 M |
| Indirect | $159 M | $475 M |
| Induced | $631 M | $2,898 M |
| **Total** | $1,170 M | $4,343 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 preliminary 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. Preliminary ComEd CY2023 Labor Income and Industry Output Impacts 2023-2047) [[21]](#footnote-22)

*Source: Guidehouse analysis of draft ComEd CY2023 Summary Report Tables 2024-04-22.xlsx*

## Combined Results

Figure 3 provides the preliminary CY2023 cumulative economic impacts for all sectors except Voltage Optimization, 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: Preliminary Estimate of Cumulative Economic Impacts (2023-2047)

 

**Employment:**

17,040Job Years

**Labor Income:**

$1,170 M

**Industry Output:** $4,343 M

Source: Guidehouse analysis of Draft ComEd CY2023 Summary Report Tables 2024-04-22.xlsx [[22]](#footnote-23)

1. 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 [↑](#footnote-ref-2)
2. This memo, released in April 2024, is prior to finalization of Voltage Optimization costs. Guidehouse did not include the costs or benefits from Voltage Optimization in this preliminary analysis and will include them in a revised memo in Q2 2024 once Voltage Optimization cost are available from ComEd. [↑](#footnote-ref-3)
3. [IL\_EE\_Policy\_Manual\_Version\_3.0\_Final\_11-3-2023.pdf (ilsag.info)](https://www.ilsag.info/wp-content/uploads/IL_EE_Policy_Manual_Version_3.0_Final_11-3-2023.pdf) [↑](#footnote-ref-4)
4. CEJA (Illinois Climate and Equitable Jobs Act). Public Act 102-0662. https://www.ilga.gov/legislation/publicacts/102/PDF/102-0662.pdf. (Passed September 15, 2021). [↑](#footnote-ref-5)
5. Draft ComEd CY2023 Summary Report Tables 2024-04-22.xlsx, and ComEd CY2023 Preliminary CE Results Table 2024-04-01.xlsx. [↑](#footnote-ref-6)
6. https://ilsag.s3.amazonaws.com/IL\_SAG\_NEI\_Presentation\_06-NOV-2019\_Final.pdf [↑](#footnote-ref-7)
7. Direct, indirect, and induced effects are defined more fully in Section 6.7 of the Illinois Energy Efficiency Policy Manual Version 3.0. [↑](#footnote-ref-8)
8. https://support.implan.com/hc/en-us/articles/360024509374-Understanding-Labor-Income-LI-Employee-Compensation-EC-and-Proprietor-Income-PI- [↑](#footnote-ref-9)
9. https://support.implan.com/hc/en-us/articles/360044986593-Glossary [↑](#footnote-ref-10)
10. 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. [↑](#footnote-ref-11)
11. Guidehouse did not include Voltage Optimization in this preliminary analysis as the final costs for Voltage Optimization were not available from ComEd as of the date of this memo. [↑](#footnote-ref-12)
12. This CY2023 Economic Impact Memorandum, issued in April 2024, includes analysis for all sectors except Voltage Optimization. An updated memorandum including Voltage Optimization will be issued in Q2 2024. [↑](#footnote-ref-13)
13. Net verified savings are the electricity, gas, and water savings presented in the draft ComEd CY2023 Summary Report Tables 2024-04-22.docx. [↑](#footnote-ref-14)
14. The relevant cost per unit for electricity, gas, and water (e.g., kWh, therms, and gallons) supplied by ComEd in March 2023. [↑](#footnote-ref-15)
15. Bill surcharges for CY2023 consist of Program Administration and Incentives/Rebates costs. [↑](#footnote-ref-16)
16. 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 [↑](#footnote-ref-17)
17. Incentives and rebates for CY2023 were estimated using the draft ComEd CY2023 Summary Report Tables 2024-04-22.xlsx and the CY2022 ComEd savings-cost ratios. [↑](#footnote-ref-18)
18. Net incremental measure costs for CY2023 were estimated using the draft ComEd CY2023 Summary Report Tables 2024-04-22.xlsx and the CY2022 ComEd savings-cost ratios. [↑](#footnote-ref-19)
19. Program administration costs were based on program cost data provided by ComEd or the CY2022 savings-cost ratios. [↑](#footnote-ref-20)
20. The costs and benefits from Voltage Optimization were not included in this preliminary memo. An updated memo including the economic impacts of Voltage Optimization will be delivered in Q2 2024. [↑](#footnote-ref-21)
21. Employment impacts are for all sectors excluding Voltage Optimization. An updated memorandum including final Voltage Optimization will be issued in Q2 2024. [↑](#footnote-ref-22)
22. Employment impacts are for all sectors, excluding Voltage Optimization. An updated memorandum including final Voltage Optimization will be issued in Q2 2024. [↑](#footnote-ref-23)