



Memorandum

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CC: Jennifer Morris, ICC, Jeff Erickson, Charlie Maglione, Shaun Fernando, Guidehouse

From: Patricia Plympton, Adam Winston, Christian Bergland, Guidehouse

Date: October 13, 2021

Re: ComEd CY2019 Energy Efficiency Portfolio Economic and Employment Impacts

Introduction

This memo presents the results of the evaluation team's analysis of economic and employment impacts produced by ComEd's CY2019 energy efficiency portfolio. This analysis was conducted in alignment with Version 2.0 of the Illinois Energy Efficiency Policy Manual (the Policy Manual), requiring that each program administrator in Illinois annually report estimates of the economic development and employment impacts of its energy efficiency programs.

The methodology used in this analysis is consistent with that developed by consensus with the Illinois Stakeholder Advisory Group Non-Energy Impacts Working Group, which was used in the previously prepared CY2018 analysis. The evaluation team made minor refinements to the analysis as process improvements from the CY2018 analysis.

Results

Summary of Input Data

Table 1 presents a summary of input data used for the CY2019 economic and employment impact analysis.

Table 1. Summary of ComEd's CY2019 Economic and Employment Impact Analysis Input Data

Impact Category	Amount (\$M's)	Description of Impact	Time Period
Bill Savings	\$1.67 B	Positive economic effect on ratepayers	2019-2044
Program Funding	-\$311 M	Negative economic effect on ratepayers	Over WAML period (Electric: 2019-2031)
Net Ratepayer Bill Savings	\$1.36 B	Net economic effect on ratepayers	2019-2044
Lost Utility Fuel and Transportation Expenditures	-\$652 M	Negative economic impact on fuel production and transportation	2019-2044
Incentives and Rebates	\$215 M	Positive economic effect on ratepayers	2019
Net Incremental Measure Costs	\$408 M	Negative economic effect on ratepayers; positive economic effect on retailers and suppliers	2019
Program Administration Costs	\$97 M	Positive economic effect on utilities	2019
Voltage Optimization (Capital Expenditures)	\$63 M	Positive economic effect on utilities	2019

Source: Evaluation team analysis of ComEd CY2019 tracking data

Descriptions in more depth of each impact category are as follows:

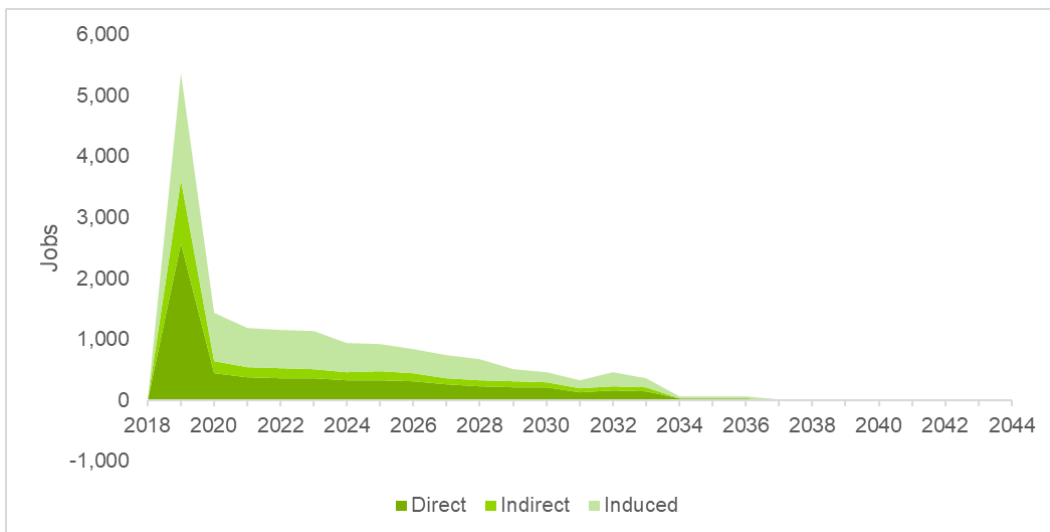
- **Bill Savings:** This flow represents the monetized savings program participants realize from their energy efficiency improvements through the utility program. Bill savings are monetized by multiplying the net verified savings values by each customers' applicable unit energy cost. Bill savings are realized through the lifetime of the measure as a positive cash flow to the participants.
- **Program Funding:** This flow represents the bill surcharges realized by participants to fund the utility programs. This flow occurs over the weighted average measure life (WAML) of the measure for traditional electric energy efficiency measures and in the year the measures are implemented for gas energy efficiency measures.
- **Net Ratepayer Bill Savings:** This flow is the net positive bill savings realized by all ratepayers with bill savings that are less than the program funding charges.
- **Lost Utility Fuel and Transportation Expenditures:** This flow represents decreased expenditures on fuel and transportation (and therefore decreased job creation) due to decreased electric generation as a result of energy efficiency measures.
- **Incentives and Rebates:** These flows represent payments made by the utility to program allies and contractors as part of the installation of energy efficiency measures in CY2019 and rebate payments made by the utility to program participants in CY2019.

- **Net Incremental Measure Costs:** This flow is the sum of all incremental measure costs that program participants expended on energy efficiency projects through the utility's programs in CY2019. As in verified cost-effectiveness analysis, incremental measure costs used in this analysis are net costs calculated using Illinois SAG-approved net-to-gross (NTG) values. From the perspective of the participants, this flow is a negative as they expend money implementing a project. From the perspective of contractors, trade allies, and equipment providers, this flow is cash positive as they receive income from sales of energy efficiency products and services.
- **Program Administration Costs:** This flow models program administration expenditures incurred as part of portfolio operations.
- **Voltage Optimization:**¹ This flow represents utility expenditures on voltage optimization measures; costs are reported in the year circuits are constructed for voltage optimization measures and on an ongoing basis for operations and maintenance.

Employment Impacts

Figure 1 presents a visual summary of the employment impacts of the CY2019 energy efficiency portfolio investments over time, separated into direct, indirect, and induced impacts. Because the portfolio produces long-term economic effects as a result of persisting energy savings, employment impacts produced are not confined to a particular year but occur over the 2019-2044 time period.

Figure 1. ComEd Portfolio Employment Impacts (2019-2044)*



*Backup data for this figure is provided in the Appendix to this memo.

Source: Evaluation team analysis of ComEd CY2019 tracking data

¹ Due to a lack of portfolio-level data reflecting costs and energy savings associated with voltage optimization, these were assigned to Commercial, Residential, and Income Eligible customer portfolios in a 50%-25%-25% split, respectively, roughly approximating costs and energy savings associated with each portfolio.

The large spike in impacts seen in 2019 results from initial spending triggered by the implementation and management of ComEd's CY2019 energy efficiency programs, including but not limited to program incentives, administrative spending, and incremental measure spending resulting from the effects of the portfolio. The impacts beyond 2019 are derived almost entirely from the persisting effects of ComEd's CY2019 energy efficiency programs in the form of net ratepayer bill savings realized by those who participated in ComEd's CY2019 programs. Impacts persist over a similar period as the cumulative persisting annual savings produced by the ComEd CY2019 portfolio.²

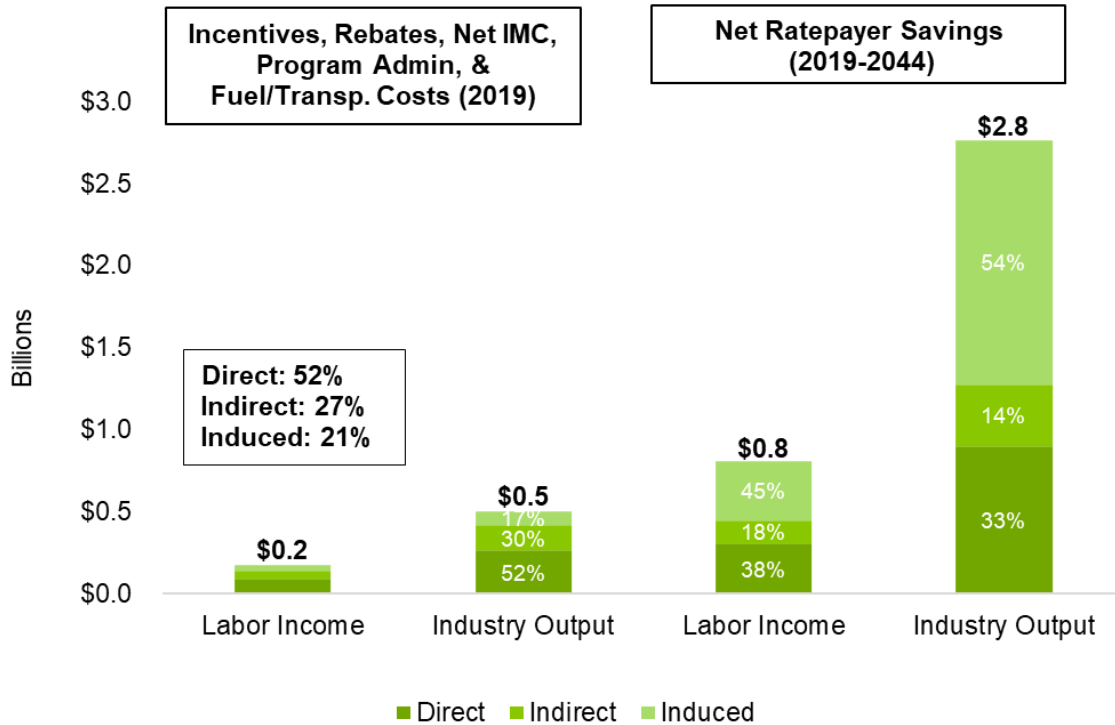
Industry Labor Income and Business Sales

Figure 2 presents direct, indirect, and induced effects on labor income and industry output from the CY2019 ComEd energy efficiency portfolio. The figure also separates these effects into those resulting from:

1. Program spending and program-induced spending (incentives, rebates, net incremental costs, program administration, fuel/transportation expenditures, etc.)
2. Net ratepayer bill savings

² Direct effects may include, but are not limited to, the initial changes in employment and demand for regional production triggered by the implementation and management of utility Energy Efficiency Programs. Indirect effects may include, but are not limited to, secondary impacts generated from business-to-business spending as firms and households directly impacted by the Energy Efficiency Programs increase purchases from their suppliers, who must, in turn, increase purchases from their suppliers and so forth as the initial expenditure ripples through interconnected industries. Induced effects may include, but are not limited to, secondary impacts generated from household-to-business spending as labor income changes that result from both direct and indirect activity affect the local economy. Direct, indirect, and induced effects are defined more fully in Section 6.8 of the Illinois Energy Efficiency Policy Manual Version 2.0.

Figure 2. ComEd CY2019 Energy Efficiency Portfolio Labor Income and Industry Output Impacts (2019-2044)



Source: Evaluation team analysis of ComEd CY2019 tracking data

Table 2 presents a summary of the cumulative industry labor income and industry output impacts (economic impacts) of the 2019 energy efficiency portfolio investments (2019-2044).

Table 2. Cumulative 2019-2044 Industry Labor Income and Industry Output Impacts from ComEd’s CY2019 Energy Efficiency Portfolio Investments

Impact Type	Labor Income	Industry Output
Direct	\$400 M	\$1,168 M
Indirect	\$190 M	\$ 531 M
Induced	\$399 M	\$1,578 M
Total	\$990 M	\$3,277 M

Source: Evaluation team analysis of ComEd CY2019 tracking data

Appendix

Table 3 and Table 4 provide cumulative economic impacts and employment impacts in a format similar to that presented in the CY2018 analysis for the purpose of comparison. The evaluation team advises against the use of employment impacts reported in job-years for ongoing reporting moving forward. Employment impacts are long-term effects not confined

to a particular year and reporting in job-years can mislead readers as to the effects produced.

Table 3: ComEd CY2019 Energy Efficiency Portfolio Cumulative Economic Impacts (2019-2044)

Impact Category	Utility Territory	Rest of State	State Total
Job Years	16,670 Job Years	78 Job Years	16,747 Job Years
Labor Income	\$1,008 M	\$4 M	\$1,012 M
Industry Output	\$3,352 M	\$18 M	\$3,369 M

Source: Evaluation team analysis of ComEd CY2019 tracking data)

Table 4: ComEd CY2019 Energy Efficiency Portfolio Job-Year Impacts by Category (2019-2044)

Impact Type	Utility Territory	Rest of State	State Total
Direct	6,583	0	6,583
Indirect	2,664	42	2,706
Induced	7,423 J	36	7,458
Total	16,670	78	16,747

Source: Evaluation team analysis of ComEd CY2019 tracking data (2019)

Table 5 provides the supporting data for Tables 3 and 4 in tabular format.

Table 5. ComEd CY2019 Energy Efficiency Portfolio Employment Impacts (2019-2044)

Year	Direct	Induced	Indirect	Total
2019	2583	1029	1763	5375
2020	448	188	794	1430
2021	380	159	644	1183
2022	369	155	637	1161
2023	366	153	620	1140
2024	331	139	465	935
2025	331	139	456	926
2026	308	129	400	838
2027	259	109	370	738
2028	233	98	339	670
2029	220	92	203	514
2030	215	90	163	467
2031	139	58	136	333

Year	Direct	Induced	Indirect	Total
2032	165	69	221	456
2033	150	63	155	367
2034	25	11	25	60
2035	25	11	24	60
2036	25	11	23	59
2037	2	1	7	11
2038	2	1	7	10
2039	2	1	2	4
2040	2	1	2	4
2041	2	1	2	4
2042	0	0	1	1
2043	0	0	1	1
2044	0	0	0	0

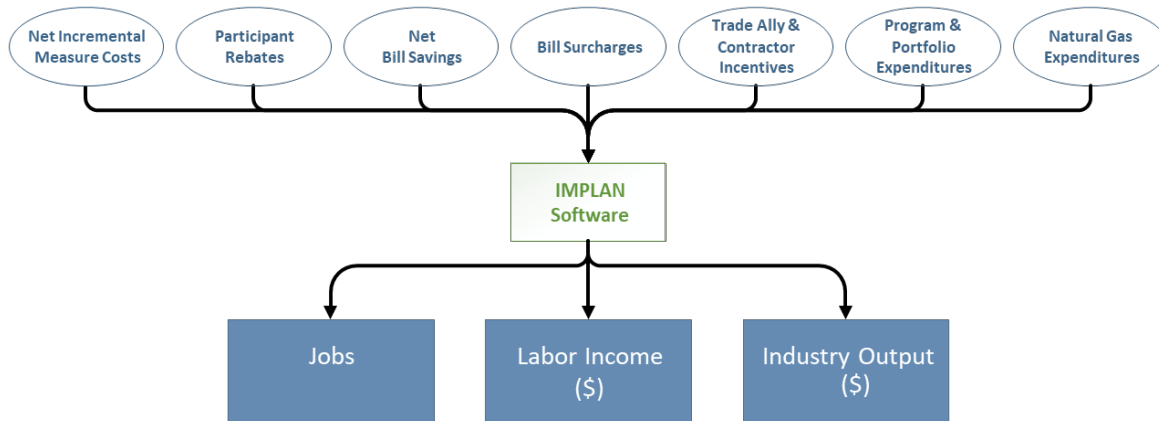
Source: Evaluation team analysis of ComEd CY2019 tracking data (2019)

Economic Impact Assessment Methodology

The economic impact assessment for energy efficiency programs follows a three-step process depicted in Figure 3:

- 1) Data collection of the economic activities of the energy efficiency programs
- 2) Economic modeling of these activities using IMPLAN
- 3) Analysis of the results: summarizing and assessing the economic measures (e.g., industry output, labor income, and jobs)

Figure 3. Economic Impact Assessment Methodology



Source: Guidehouse