



ComEd[®]
Energy Efficiency Program

NEIs & Cost Effectiveness

June 16, 2020

Summary

- » **ComEd updates its avoided costs for EE each June**
- » **June, 2020, Avoided Cost Update will be used for Plan 6**
- » **ComEd moving to annual average avoided cost values for TRC analysis for Plan 6**
- » **NEI's**
 - **Today: Water, Other Fuel, O&M & CO2**
 - **Plan 6: Water, Other Fuel, O&M & CO2 and TBD Results of Evaluator Research that All Agree Upon**

Avoided Cost Inputs and Sources

- » **Avoided Electric Supply/Generation** (\$ per kWh) – ATC price calculated with data from CME Group website, Northern Illinois PJM Hub prices; trending downward
- » **Avoided Ancillary Charges** (\$ per kWh) – Sum of select Schedule 10 and Schedule 9 fees, available on the PJM website; minimal variation across years
- » **Avoided Capacity** (\$ per kW) – Calculated with data from PJM’s Base Residual Auction report; minimal variation across years
- » **Avoided Transmission and Distribution** (\$ per kW) – Calculated with internal confidential data by ComEd Capacity Group; significant variation across years

Avoided Cost Inputs and Sources

- » **Line Losses (%)** – Calculated with inputs from filed ComEd distribution and transmission loss studies; minimal variation across years
- » **Escalators** – Calculated with data from U.S. Energy Information Administration *Annual Energy Outlook* reference case and inflation rate above; minimal variation across years

Avoided Cost Inputs and Sources

- » **Inflation Rate (%)** – Calculated with 20-year Treasury Note data from U.S. Department of Treasury’s Resource Center website; minimal variation across years
- » **Discount Rate (%)** – Provided in Illinois Technical Reference Manual; minimal variation across years

Discount Rate Update

TRM Versions	Nominal Discount Rate	Real Discount Rate	Inflation Rate
V9.0 to V11.0	2.40%	0.42% (10yr Treasury bond rates)	1.98%
V6.0 to V8.0	2.38%	0.46% (10yr Treasury bond rates)	1.91%
V5.0	Not specified	5.34% (WACC)	1.91%
Up to and including V4.0	Not specified	5.23% (WACC)	Not specified

<https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=realyieldAll>

Daily Treasury Yield Curve Rate, Daily Treasury Real Yield Curve Rate;
10 year average (1/1/2010 - 12/31/2019) for 10 year bond

Avoided Cost Changes for Plan 6

- » Transitioning from DSMore to Analytica for calculating TRC values
- » Previous ComEd EE plans used hourly avoided costs, but we plan to use annual average avoided costs for Plan 6. This change offers:
 - Consistency with Guidehouse's existing methodology for ComEd's TRC test
 - Consistency with other Illinois utilities' existing methodology
 - Streamlined process with minimal difference on average between resulting benefits
 - Greater flexibility and transparency, needed post-FEJA

Annual Average vs. Hourly Avoided Costs

End Use	Lifetime	NPV of Avoided Costs per MWh (Annual Avg)	NPV of Avoided Costs per MWh (Hourly)	Benefit Difference
Central Air Conditioning CAC	18	\$274	\$301	9.8%
Clothes Dryer	16	\$249	\$244	-1.9%
Clothes Washer	14	\$223	\$219	-1.6%
Dishwasher	11	\$181	\$180	-0.8%
Heating	16	\$249	\$238	-4.4%
Lighting	2	\$36	\$37	0.1%
Refrigerator	17	\$262	\$265	1.3%
Water Heating	15	\$236	\$234	-0.8%

Non-Energy Impacts

- » Benefits must exceed costs on a lifetime basis for the EE portfolio (TRC>1.0).
- » Total Benefits include avoided energy cost and *quantifiable* Non-Energy Impacts (NEI's)
- » NEI's can improve TRC cost-effectiveness, but
- » A measure must compete for program resources on the basis of the cost of energy saved (\$/kWh).
 - The measure must improve the ability of the portfolio to meet its goals
 - NEI's are not enough

Non-Measure Inputs and Sources

- » **Avoided Gas Production** (\$ per therm) – Provided by gas utilities
- » **Avoided Water & Sewage** (\$ per 1,000 Gallons) – Calculated with data from City of Chicago Water Utility website; trending upward over last several years
- » **Carbon Adder** (\$ per kWh) - Calculated as difference between EIA Annual Energy Outlook 2018 reference case with and without Clean Power Plan compliance; minimal variation across years
- » **Current Evaluator NEI Research**

Summary

»» Avoided Cost Updates

- Standard annual update process
- Freeze 2020 update for Plan 6

»» ComEd moving to aggregate TRC analysis for Plan 6

»» NEI's

- Today: Water, Other Fuel, O&M & CO2
- Plan 6: Water, Other Fuel, O&M & CO2 and TBD Results of Evaluator Research that All Agree Upon