

ComEd® Energy Efficiency Program



CY2019 FOURTH QUARTER REPORT



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Portfolio Summary

1,710,038

Actual Net MWh YTD

1,703,737

CY2019 MWh Forecast

1,629,783

CY2019 MWh Filed Goal

\$351,381,796

Actual Spend YTD

\$351,334,190

CY2019 Spending Cap

PORTFOLIO

- Through Q4, the portfolio has achieved 100% of its CY2019 forecast of 1,703,737 MWh and 105% of its CY2019 filed goal of 1,629,783 MWh.
- Since its inception in 2008, the ComEd Energy Efficiency Program has saved ComEd customers over \$4.5 billion on their electric bills.

RESIDENTIAL PROGRAMS

- Through Q4, residential programs have achieved 101% of its combined CY2019 forecast of 313,576 MWh.
- Customers have received over 324,390 rebates, recycled over 52,371 appliances, and over 39,000 homeowners and tenants have received free direct install products from assessments through Q4.
- ComEd has collected and responsibly recycled more than 493,700 refrigerators and freezers since ComEd began to offer this service to our customers in June 2008.

INCOME ELIGIBLE PROGRAMS

- Through Q4, income eligible programs have achieved 110% of their combined CY2019 forecast of 76,261 MWh, not including MWh savings from converted Therm.
- Over 75,450 income eligible households have participated through Q4.

BUSINESS PROGRAMS

- Through Q4, business private sector programs have achieved 102% of its combined CY2019 forecast of 696,530 MWh; business public sector programs have achieved 101% of its combined CY2019 forecast of 158,780 MWh.
- Over 10,000 business private sector projects and 7,000 business public sector projects have been completed through Q4.

THIRD PARTY PROGRAMS

- Through Q4, third party programs have achieved 95% of their combined CY2019 forecast of 109,974 MWh.

Residential Programs

Home Energy Reports

Overview: The Home Energy Report provides select residential customers with information on how they use energy within their households. Reports and the online portal include usage comparison to that of similar, nearby households, personalized energy efficiency advice, program promotions, and application of behavioral principles and social norms to drive adoption of energy efficient behaviors.

- **59,292 MWh savings achieved (101% of forecast)**

Total customers per product*:

- Home Energy Reports (Paper – mailed): 1,455,000
- Home Energy Reports (emailed – monthly): 720,311
- High Usage Alerts (total unique customers): 297,713
- Weekly Usage Report: 49,519
- Target Rank Pilot wrapped at the end of Q4. The pilot treated 28,000 income eligible customers replacing their usual Neighbor Comparison with a numerical rank between 1 – 100. Customers were provided a short-term goal (target) for reducing energy consumption during the pilot. To assist with meeting the target, participants received tips highlighting energy efficient actions. The final report is anticipated at the end of Q1, 2020.
- Bill Shock Pilot – ComEd began working on messaging to remind existing budget bill customers their monthly payment amount may change every six months allowing customers time to reduce their usage. The pilot will launch in Q2, 2020.

Lighting Discounts

Overview: The Lighting Discounts Program provides instant in-store discounts to ComEd residential customers at participating retail stores on select ENERGY STAR® certified lighting: LEDs, LED trim kits, and LED integrated fixtures.

- **149,592 MWh savings achieved (102% of forecast) based on 4,653,287 bulbs/fixtures discounted**
- The program saw great success this year which resulted in overachieving on the energy savings goal by 2%.

- Nearly 350 in-store consumer events and over 4,900 in-store trainings were held by our Field Rep team in 2019

Appliance Rebates

Overview: Appliance Rebates offers rebates to ComEd residential customers on the purchase of new, select ENERGY STAR® certified appliances/products including: air purifier, clothes washer, electric clothes dryer, refrigerator, freezer, dehumidifier, variable speed pool pump, room air conditioner, smart thermostat, and advanced power strip.

- **36,754 MWh savings achieved (98% of forecast) based on 295,645 rebated appliances**
- Executed process improvements in rebate processing center which reduced our rebate application rejection rate from 20% down to 14%.
- Black Friday/Cyber Monday participation was lower than anticipated and as a result the program did not achieve its energy savings goal for the year.

Fridge and Freezer Recycling

Overview: The Fridge and Freezer Recycling Program provides ComEd customers free pickup and recycling of older, working refrigerators and freezers from residential customer homes. In addition to free pickup, customers receive a \$50 dollar incentive for fridge and freezer units and \$10 for AC units and dehumidifiers when collected in conjunction.

- **19,727 MWh savings achieved (105% of forecast) based on 52,371 units**
- 78% of Fridge and Freezer Recycling customers have opted to receive text messages instead of or in addition to the appointment reminder calls.
- Inception to date, the program has successfully taken off the grid and recycled more than 460,000 inefficient units.

Home Energy Assessment

Overview: Offered in partnership with Nicor Gas, North Shore Gas, and Peoples Gas, the Home Energy Assessment is a free walkthrough assessment with an energy advisor that determines the ways energy is used in the home. Customers

Residential Programs

receive personalized energy-efficiency recommendations, and the following energy-saving products are installed for free: ENERGY STAR® certified LEDs, programmable thermostats, WaterSense® certified showerheads, faucet aerators, and hot water pipe insulation. Advanced Power Strips are provided and left behind for the customer to install. Nest Learning and Nest E smart thermostats are also available for purchase at a discount and include free installation.

- **27,515 MWh savings achieved (100% of forecast) based on 20,715 Assessments Completed in 2019 through Q4**

Online scheduling started in June 2019 and by the end of 2019, more than 10% of all appointment were scheduled online. Customers who schedule appointments online had a higher completion rate (90%) compared with over phone scheduling (75%).

Multi-Family Energy Savings

Overview: In partnership with Nicor Gas, North Shore Gas, and Peoples Gas, the Multi-Family Energy Savings Program provides multi-family tenants and property owners and managers with a variety of ways to save electricity and natural gas. The program will serve as a “one stop shop” to generate energy savings throughout the property. After an initial assessment, immediate energy savings are generated by the direct installation of energy-saving products in both tenant and common area spaces. The program further provides Service Provider installs of common area lighting measures.

- **14,679 MWh savings achieved (104% of forecast)**
- Completed direct install work in 18,758 tenant units, 693 energy assessments
- The program reduced outreach and assessments in Q4 to reduce risk of over-subscription.

Heating & Cooling Rebates

Overview: The Heating & Cooling Rebates Program promotes investment in long-term savings by providing rebates for the purchase and installation of high

efficiency central air conditioners, air source heat pumps, ductless mini-split heat pumps, ECM furnace blower motors, smart thermostats, and ground source heat pumps.

- **9,550 MWh savings achieved (109% of forecast) based on 28,745 rebates**
- Hosted a fall forum for the Heating and Cooling Service Providers to announce 2020 program changes and collect feedback for program improvements. Approximately 150 Service Providers attended the forum.

Overview: The Weatherization Rebates Program promotes investment in long-term savings by providing rebates for the purchase and installation of weatherization measures including air sealing, duct sealing, and attic and wall insulation. The program is offered jointly with Nicor Gas, North Shore Gas and Peoples Gas.

- **644 MWh savings achieved (118% of forecast) based on 1,462 projects**
- After thorough investigation of Residential Weatherization program options, the decision was made to sunset this offering (effective December 31, 2019) due to low production and low cost-effectiveness. The gas utilities plan to continue the offering in 2020 without ComEd partnership.
- Communications to all Weatherization service providers was completed in Q4 via e-mail and phone calls to clarify the changes and application requirements. This caused a large influx of applications (as predicted) at end-of-year, for a strong end of program close-out.

Residential New Construction

Overview: In partnership with Nicor Gas, the Residential New Construction Program increases awareness and understanding among Home Energy Rating System (HERS) rating companies and home builders of the benefits of energy-efficient building practices with a focus on capturing energy efficiency opportunities available during the design and construction of new single-family homes. Incentives are provided to HERS-certified consultants that certify homes and builders who construct homes that are at least 20 percent more energy-efficient than what currently is required by the State of Illinois Energy Code.

Residential Programs

Incentives are also provided to RESNET/HERS-certified consultants for submitting homes to the program.

- **337 MWh savings achieved (159% of forecast) based on 827 (787 Joint, 35 Gas only and 5 electric only) homes**
- The RNC offering met both participation and savings goal for 2019
- After thorough investigation of Residential New Construction program offering, the decision was made to sunset this offering (effective December 31, 2019) due to low cost-effectiveness.
- For 2020, an all electric pilot will test a new offering to better serve the residential new construction market.

Income Eligible Programs

Income Eligible Product Discounts

Overview: Income Eligible Retail Discounts provides deeper instant in-store discounts to ComEd residential customers at participating retail stores on select ENERGY STAR® certified lighting: LEDs, LED trim kits, and LED integrated fixtures as well as instant in-store discounts on select ENERGY STAR certified appliances such as air purifiers and room air conditioners. Instant in-store discounts are also available on advanced power strips. Instant Discounts are offered to minimize the burden on the target market by lowering barriers to participation.

- **66,180 MWh savings achieved (106% of forecast) based on 1,417,675 units sold** – 1,343,258 bulbs/fixtures discounted; 74,417 appliances discounted
- About 30% of the energy savings achieved in this program came through sales from independent retailers
- Distributed over 7,500 LED Holiday Lights at Operation Warmth and 5 other outreach events.

Single-Family Retrofits

Overview: The Single-Family Retrofits Program is delivered through the Illinois Community Action Agencies, as well as, the Chicago Bungalow Association (CBA) and the Chicagoland Vintage Home Association (CVHA). The offering includes comprehensive home energy audits and work through contractors to complete weatherization and additional upgrades at no cost to the customer. With CBA/CVHA, CBA/CVHA identifies and determines qualified vintage homeowners located in the City of Chicago and coordinates home assessments to identify areas prone to air leaks or drafts and works with contractors to make weatherization updates at no cost to the customer. This program covers costs associated with completing Air Sealing, Attic and wall insulation, duct sealing, direct install measures (LEDs, water saving measures, programmable thermostats) as well as Health & Safety improvements. This program is delivered in partnership with Peoples Gas. With CAAs, ComEd, in coordination with the northern gas utilities is partially and, in some cases, fully funding whole home energy upgrades, in coordination with the State and its Illinois Home

Weatherization Assistance Program (IHWAP). Measures may include all of those in the CBA/CVHA side, as well as mechanicals.

- **10,685 MWh savings achieved (231% of forecast) based on 2,194 participating customers (Includes IHWAP +CBA/CVHA)**

Illinois Home Weatherization Assistance Program (IHWAP)

- Representatives from ten community action agencies engaged in a planning exercise on November 21, 2020 to consider modifications to the existing utility-funded retrofits through this program. The goal was to make changes that would yield lower costs and/or higher savings while keeping customers healthy, safe, and comfortable. These collaboratively designed guidelines were incorporated into 2020 planning.
- Agencies ramped up their efforts significantly in the last three months of the year, completing 38% of their production (by project) for the year in Q4.
- Tazwood Community Services, Inc. completed their first production for 2019 in Q4, serving customers in Woodford and Tazwell Counties in central Illinois. In total, 14 agencies serving 34 counties participated in this program in 2019.

CBA/CVHA

- Steady production throughout the year allowed the final project to be completed by mid-December leaving plenty of time to close out the program year paperwork and data.

Income Eligible Programs

Multi-Family Retrofits

Overview: The Multi-Family Energy Upgrade Program is, in part, delivered with the Illinois Housing Weatherization Assistance Program (IHWAP) and through the Illinois Community Action Agencies (CAA). The program is a one-stop shop for multi-family building owners and managers whose buildings serve income-eligible residents, including energy assessments, direct installation of energy-saving devices, and replacement of inefficient equipment/systems at no or very limited cost. The CAA work is jointly funded with the gas utilities and Income Eligible Multi-Family Services (IEMS) is joint with Peoples/NorthShore.

- **4,936 MWh savings achieved (72% of forecast)**
- **14,219 units completed (Includes IHWAP + IEMS)**

IHWAP

- The energy efficiency retrofit at 243 E 32nd St in Bronzeville was completed in October. This is a 183-unit Chicago Housing Authority property and, through air sealing, domestic hot water plant improvement, boiler replacement, and new LEDs and efficient rooftop exhaust fans, achieved 1,895 MWh in savings (including converted therms).
- McHenry County Housing Authority and Will County Center for Community Concerns completed their first-ever multi-family projects with this program in Q4. In total, 5 agencies participated in this program in 2019.

IEMS

- Completed 728 projects and upgraded 13,603 residential units.
- 19,557 MWhs saved; 21% above goal (Includes converted Therms)
- Managed a cost-effective program at \$0.31/kWh
- Strong and diversified pipeline moving into 2020

Affordable Housing New Construction

Overview: The Affordable Housing New Construction (AHNC) Program offers technical support and incentives for whole-building efficiency for new construction and rehab projects that increase the energy efficiency of income eligible households.

- **2,028 MWh savings achieved (84% of forecast) based on 10 projects**
- The program conducted an information session for key Chicago Housing Authority staff in design, development, asset management, and sustainability, which resulted in deepening relationships and enhancing referrals to both program offerings.
- The ComEd Multi-Family Standard v2.0 was finalized and will be issued to launch in early CY2020. This new standard builds upon the best-in-class requirements for new construction projects by adding in a more robust pathway for renovation projects. Our goal is to increase the number of projects served with this pathway while maintaining a high level of savings and indoor environmental quality.

Business Programs

Standard

Overview: The Standard Program provides monetary incentives to customers on a "Standard" per-unit or per-fixture basis. Offered measures include LEDs, T-8 and T-5 lighting and controls, building automation systems, air- and water-cooled chillers and variable speed drives, ground source heat pumps, roof top units, ECM motors, energy recovery ventilators, absorbent air cleaners, as well as equipment with niche or targeted market applications, such as laboratory, farm and commercial food service equipment, and grocery refrigeration measures.

- **Private: 187,659 MWh savings achieved (100% of forecast) based on 2,461 projects**
- **Public: 26,110 MWh savings achieved (97% of forecast) based on 663 projects**
- Received the highest number of final applications submitted (1,040) over any other quarter in 2019, which led to a strong close out of the program year.
- 15% of applications were submitted online trending above industry averages for on-line launches and driving application processing speed.
- Program continued to see growth in public sector participation. The Standard offering paid incentives on higher number of public projects in 2019 (663) than in 2018 (535), which represents a 24% increase. The resulting net energy savings increased from approximately 19 GWh (2018) to 26 GWh (2019).

Custom

Overview: The Custom Program identifies and implements site-specific and unique cost-effective energy efficiency opportunities that are not available via the Standard program. Customized incentives based on per kWh basis and calculated for specific customer projects are offered. Measures include process efficiency improvements, system upgrades, and those measures not covered by the Standard program.

- **Private: 18,680 MWh savings achieved (105% of forecast) based on 186 projects**
- **Public: 6,238 MWh savings achieved (98% of forecast) based on 36 projects**

- One of the customers is conducting a massive street lighting initiative. Part of this work is an extensive and far-reaching controls strategy. This controls strategy is eligible for custom incentives. The team finalized a large incentive for the city in November and December totaling close to \$800K in incentives.
- With a new OSP specializing in the industrial sector, the program developed strategies to keep a consistent flow of communication with the implementation team. This sharing of resources will be pivotal in the development of a robust pipeline of applications for the program.
- The IT measures, such as data center projects, which are now part of the custom program generally have long lead time for completion. These lead times can last years and during these years there could be significant changes to the customers organization. The program established contacts with a number of IT customers who have been non-responsive for quite some time. The program team is confident that with these new contacts, these long-standing applications will be brought to a close.

Combined Heat & Power (CHP)

Overview: The Combined Heat and Power (CHP) Program supports the investigation of CHP opportunities for conventional and waste heat to power (WHP) systems, existing systems that have been dormant for at least three years, and generation equipment that currently does not have waste heat recovery capabilities. The program provides an economic assessment of site-specific CHP opportunities and promotes implementation of CHP projects by customers.

- 7 completed CHP Feasibility Studies
- ComEd EE has discontinued the CHP Program and while there were some feasibility studies completed no projects have gone forward over the last two years of the program. Any future projects that come forward will be handled through the Custom program at a higher incentive rate
- UIC ERC has successfully transferred (11) in-process Private FSs to ComEd for Custom Program to complete by March 31, 2020.

Business Programs

Small Business Energy Savings (SBES) & Small Facilities

Overview: The SBES Program and Public Small Facilities Program implement energy efficiency projects for customers under 100 kW peak demand. The program provides comprehensive energy savings solutions for customers including advanced lighting, refrigeration, HVAC, and compressed air.

- **Private: 165,014 MWh savings achieved (101% of forecast) and 7,232 projects**
- **Public: 11,054 MWh savings achieved (92% of forecast) based on 290 projects**
Small Business
- Completed an outreach campaign in underserved urban areas resulting in approximately 1,600 MWh in savings from completed projects.
- Ran a 6-week pre-application contest that brought in 1,066 pre-apps totaling 27 GWh.
- **Small Facilities**
- Successfully completed multiple intergovernmental projects in Q4 through positive references and recruitment.
- Health clinics were a targeted outreach focus in Q4 that resulted in five completed projects in an urban medical district.
- Completed projects for a mosquito abatement district, an underserved customer type saving over 94,500 kWh

Business Instant Discounts

Overview: The Instant Discounts Program provides instant discounts on qualifying commercial screw-in, pin-base, HID, exit signs and forklift battery chargers. Linear fluorescent lamps can be replaced with reduced wattage T8 lamps or Tubular LED (TLED) lamps. All screw-in, pin-base and exit sign replacements are LED.

- **Private: 211,328 MWh savings achieved (98% of forecast) based on 2,419,601 products sold**
- **Public: 25,538 MWh savings achieved (106% of forecast) based on 455,432 products sold**
- Program exceeded savings goals for 2019.

- Instant Discounts grew distributor participation from 90 active distributors in 2018 to 120 active distributors in 2019.

C&I New Construction

Overview: The New Construction Program provides technical assistance, support for the Leadership in Energy and Environmental Design (LEED) rating system, and incentives for efficient designs and measure implementation to influence building design practices during the design and construction of new buildings, major renovations of existing buildings, and tenant build-outs in the C&I market.

- **Private: 15,008 MWh savings achieved (108% of forecast) based on 65 projects and 12,385,559 sq. ft. of building area from completed projects in 2019**
- **Public: 1,597 MWh savings achieved (139% of forecast) based on 12 projects and 790,183 sq. ft. of building area from completed projects in 2019**
- CINC – Achieved 111% of the savings goal
- PSNC – Achieved 135% of the savings goal
- The program received a record number of Public Sector Applications in 2019.
- The program is continuing to investigate program design changes to become more cost effective and increase program net to gross.
- The program received the following comment from a customer satisfaction survey: “Very pleasant to work with and we learned a lot about energy efficiencies that we then built into our new center”.

Industrial Systems

Overview: The Industrial Systems offering is a study-based program for compressed air, process cooling, industrial refrigeration and wastewater treatment plant. The target customer is over 500 kW but under 10 MW. Because this is a study-based program, there are no predefined measures. Measures are a mix of no- to low-cost system optimization as well as capital improvements like custom measures.

- **Private: 27,849 MWh savings achieved (101% of forecast) based on 361 projects**

Business Programs

- **Public: 0 MWh savings achieved (0% of forecast)**
- 70% of the total savings for the program year was closed in this quarter to reach and exceed the year end goal of 27,500 MWh.
- Compressed Air Fix It Now offer that fixes the compressed air leaks for customers was a very significant success for the year with 330 projects out of total 361 projects for the year. Most of these customers have indicated an interest in future industrial systems energy efficiency projects due to the impact of having their leaks repaired.
- The industrial systems has a strong pipeline of studies and energy efficiency measures that customers are implementing for program year 2020. There is an increase in projects that impact the process efficiency of the customers too.

Retro-Commissioning (RCx)

Overview: The RCx Optimization Program provides detailed engineering analysis of building systems designed to identify energy-saving operational improvements with a bundled simple payback of 18 months or less. Incentives are provided to customers who commit to implementing agreed-upon energy-saving equipment scheduling, optimization of economizer operations, and adjustment of heating, ventilation, and air conditioning (HVAC) setpoints.

- **Private: 42,328 MWh savings achieved (96% of forecast) based on 262 projects**
- **Public: 8,624 MWh savings achieved (115% of forecast) based on 91 projects**
- Added to the program this year, Virtual Commissioning (VCx) has grown significantly, especially in the private sector. From an initial target of 5 GWh total, VCx achieved 9 GWh in private sector savings and 6 GWh in public sector savings for a total of 15 GWh.
- Monitoring-Based Commissioning (MBCx) was the program track yielding the most savings in 2019, generating a total of 16.9 GWh.
- 2020 program launch and training event was held in November for new and returning RCx Energy Efficiency Service Providers.

Strategic Energy Management (SEM)

Overview: Strategic Energy Management provides tools, coaching and technical resources to support customers' energy goals through a year-long series of workshops and one-on-one coaching. It draws on principles of continuous improvement and organizational change and integrates Lean, Six Sigma and other cost savings and operational excellence initiatives. SEM helps implement organizational structures, behavior changes, and systematic practices that can lead to reducing energy costs by up to 15% for both electricity and natural gas.

- **Private YTD: 20,727 MWh savings achieved (175% of forecast) based on 42 Customers**
- **Public YTD: 3,462 MWh savings achieved (124% of forecast) based on 8 WWT customers, 6 School District customers – covering 92 schools**
- Through treasure hunts, customer interaction and prioritizing projects with customers the SEM program also identified over 225 Prospect projects and CLEARresult's Energy Advisor provided a concierge type service by assisting customers in implementing projects. Seven (7) customers enrolled their facilities in the Energy Star Challenge.
- Recruitment to the new cohorts resulted in slower than expected launch for K-12, Commercial Property Managers, Wastewater and Industrial Refrigeration which resulted in lower overall energy savings due to shorter performance periods. Alumni and Commercial Property Management cohorts exceeded their energy savings targets.
- Introduction of new milestone incentives encouraged customers to stay on track with programs and boosted energy savings.

LED Street Lighting

Overview: The program is to replace existing ComEd-owned mercury vapor (MV) or high-pressure sodium (HPS) fixtures with LED street lights. These street lights are installed and maintained by ComEd and the municipality pays a rental charge for the fixture as well as an energy charge. LED street lights provide energy efficient lighting which reduces operating costs and increases the life of street lighting.

- **Private (ComEd Owned): 15,987 MWh savings achieved (123% of forecast) based on 21,073 fixtures (number of fixtures in completed applications)**

Business Programs

- **Public (Municipality Owned): 74,540 MWh savings achieved (100% of forecast) based on 75,339 fixtures**
- Private sector utility owned HID came in just over target with 21,073 fixtures converted to LED in 61 municipalities resulting in annual energy savings of 16,070 MWh.
- Public sector utility owned HID, 99,352 fixtures were converted to LED in 63 municipalities resulting in annual energy savings of 75,339 MWh. Chicago was the largest participant with 77% of the energy savings (80,388 fixtures and 58,037 MWh) followed by the Tollway with 9% of the energy savings (6,179 fixtures and 7,000 MWh).

Operational Savings

Overview: The Operational Savings Program identifies no-cost/low-cost opportunities that do not qualify for incentives. These opportunities are identified by engineers during various types of ComEd Energy Efficiency Program studies and Facility Assessments (FAs). Examples of such opportunities include shutting off idle equipment, optimizing the efficiency of existing systems and changes in the operating habits of occupants.

- **Private: 2,907 MWh savings achieved (98% of forecast) based on 179 implemented measures**
- **Public: 611 MWh savings achieved (134% of forecast) based on 40 implemented measures**
- Was able to meet the 2019 goal by achieving 37% of the goal in the final 2 months of the year. Accomplished with the use of Salesforce reports to target larger opportunities and having the engineers that identified the opportunities follow-up with the customers and verifying if the measures have been implemented.
- 913 FAs were completed in 2019 (private = 490, public = 423), the second highest annual total since the beginning of the program (highest was in 2018, with 1,147 FAs).

Public Housing Retrofits

Overview: The Public Housing Retrofits Program provides energy efficiency retrofits in Public Housing Authority (PHA) facilities in the ComEd service territory. The program offers energy assessments and incentives to upgrade most inefficient equipment in buildings owned and managed by a PHA, including residential units, and common areas at no cost. For energy efficiency projects requiring funding beyond program incentives, technical assistance will be offered to support implementation and identify financing options.

- **3,186 MWh savings achieved (117% of forecast)**
- Completed 112 projects and upgraded 9,034 residential units.
- 3,186 MWh saved; exceeded savings target by 63%
- Managed a cost-effective program at \$0.61/kWh
- Secured 6 new PHAs participating in the program this year

Third Party Programs

Elementary Energy Education

Overview: ComEd, Nicor Gas, North Shore Gas, and Peoples Gas have partnered to offer schools the opportunity to teach 5th grade students and their families how to use less energy at home. Students learn about valuable ways to save energy and money through in-class education. They also receive free take-home kits containing ENERGY STAR®-certified LEDs, faucet aerators, and other energy-saving products to install at home with their families.

- **8,431 MWh savings achieved (96% of forecast) based on 57,961 shipments as of the end of Q4.**
- The Elementary Education Kit program fell short of their 74,000 kits goal for 2019. A combination of integrations and the Chicago teacher strike delayed sign-ups during the fall semester.

Small Business Kits

Overview: The Small Business Kits Program is an entry level program targeting small C&I customers in office, restaurant, or other general facilities located in ComEd's service territory who have not previously participated in energy efficiency programs. The program achieves savings through a kit of self-install energy efficiency measures delivered directly to customer facilities. A customer survey is used to determine installation rates for each measure.

- **4,614 MWh savings achieved (98% of forecast) based on 6,128 kits and assessments**
- Lead generation for other programs continues to improve.
- Kit deliveries were completed September 30, 2019 to allow ample time for participants to install products and complete evaluation surveys.

Food Banks LED Distribution

Overview: The Food Banks Distribution Program provides ENERGY STAR® LEDs to food banks affiliated with Feeding America. The food banks then use their network of local food pantries to distribute the bulbs to utility customers in need, who may elect to receive a free 4-bulb pack.

- **61,524 MWh savings achieved (100% of forecast) based on 1,879,860 LEDs**
- In Q4 the Food Bank program distributed over 47,000 7W candelabra 4-packs to food pantries. Customers were ecstatic, as this is the first alternate bulb offering since distributing A19s in 2018. The medium base candelabra option offers customers more flexibility in replacement options for their inefficient bulbs.
- The 2018 trade tariffs resulted in domestic food surplus, greatly increased the amount of food delivered to food banks, leaving little to no room to store and distribute ComEd products. Collaborated with Greenlite and the Food Banks to assist with product storage and inventory management.

Income Eligible Kits

Overview: The Income Eligible Kits Program delivers energy efficiency kits to single family income eligible homes. The kits include (4) 9-watt LED bulbs, (2) 15-watt LED bulbs, (1) tier 1 advanced power strip, and general guidelines for energy savings. A portion of the kits will also contain (1) low-flow kitchen aerator, (1) low-flow bathroom aerator, and (1) low-flow showerhead.

- **16,776 MWh savings achieved (100% of forecast) based on 50,000 IE Energy Savings Kits delivered**
- The program team participated in Operation Warm 2019 by distributing 2,000 energy savings kits to under resourced families. In addition, the team distributed 4,000 ComEd holiday lights to the participants. The event was hosted by Chicago Housing Authority and distributed free winter coats to over 3,000 families.
- We are continuing to work with our subcontractor, Green Home Experts, to employ people with special needs to assemble the energy savings kits and manage inventory. Through this partnership, Green Home Experts was able to employ 25 people with special needs with 7 of them accepting a fulltime position.
- The program has met the 2019 goal of distributing 50,000 kits to under-resourced communities which results in a total of 16,775,750 kWh, 511,000 Therms, 134,251,150 gallons of water saved for the end of the year. Majority of the kits were distributed in October and December as projected.

Third Party Programs

- to employ 25 people with special needs with 7 of them accepting a fulltime position.
- The program has met the 2019 goal of distributing 50,000 kits to under-resourced communities which results in a total of 16,775,750 kWh, 511,000 Therms, 134,251,150 gallons of water saved for the end of the year. Majority of the kits were distributed in October and December as projected.

New Manufactured Homes

Overview: ComEd's New Manufactured Home offering is designed to provide Income Eligible residents with the opportunity to lower electric bills by purchasing new manufactured homes that are upgraded with energy-efficient measures such as Energy Star® appliances, air source heat pumps, heat pump water heaters and low flow showerheads. The energy efficient measure upgrades are eligible for instant discounts that are applied to the customer's bill of sale for the home purchase.

Rebates will also be provided to the customer, dealer, and manufacturer when a ComEd customer purchases an ENERGY STAR® Certified New Manufactured Home.

- **0 MWh savings achieved (0% of forecast) based on 0 projects**
- ComEd sunset the program due to poor participation and lack of savings at the end of 2019.

Existing Manufactured Homes

Overview: The ComEd Manufactured Homes offering is available to income eligible residents of manufactured homes at no cost to the customer. If the customer is approved to participate in via a screening over the phone or during an onsite visit at the community park, an appointment will be scheduled with a program technician. Customers may receive an energy assessment, duct sealing and insulation, air sealing, belly insulation, installation of free energy-savings devices such as LED bulbs, faucet aerators, smart power strips, advanced thermostats, and some health and safety measures; and educational tips to save energy

- **337 MWh savings achieved (16% of forecast) based on 314 projects**
- Estimated savings of 894 MWh achieved in 314 homes YTD (including kWh from converted therms), with an average savings of 2,849 kWh per home
- Q4 marketing efforts included:
 - Held community events at 2 parks
 - Completed in-person canvassing at 8 parks
 - The program offering was featured on the ComEd Facebook page, in the ComEd residential newsletter, and with a targeted eblast to 668 residents of manufactured homes in December.
 - Fact sheets were mailed to 16 communities
- Early 2020 efforts will focus on improving consistency of high-quality delivery, learning from important 2019 customer feedback.

Grocery Program

Overview: The Grocery Program provides free customized assessments to identify energy-saving opportunities for lighting and commercial refrigeration system retrofits and upgrades, along with financial incentives and implementation assistance.

- **5,561 MWh savings achieved (122% of forecast) based on 49 projects**
- Despite a late start – first project was completed in July – the program generated 5.6 GWh in savings.
- Work continues to manage overlaps in incentive offerings from Standard and Small Business programs.
- While most projects targeted lighting, participants also performed a variety of other projects, including upgrading motors, adding controls for refrigerated cases, and installing strip curtains for walk-in coolers and freezers.

Non-Profit Offering (NPO)

Overview: The Nonprofit Organizations Offering is a new program designed for nonprofit, 501(c)3 organizations with a maximum peak demand of 400 kW and that provide direct services to at-risk populations. The Program provides free energy assessments, procurement assistance, project oversight and a

Third Party Programs

comprehensive list of incentives. Direct install is available for LED lamps and vending machine misers.

- **3,183 MWh savings achieved (159% of forecast) based on 78 projects completed, 12,874 units of measures installed, and 99 assessments completed**
- The NPO Offering ended on a high note with Q4 achieving our highest production of 2019 at over 2,000 net MWh.
- This production was largely the result of an EEPS outreach campaign that involved recruitment of new EESPs and engagement through a promotion to encourage EES-driven projects. Over 70% of Q4 projects came from EESPs, up from 10% in Q3.

Agriculture

Overview: The Agricultural offering is a specialized offering that targets the full vertical market including farms (dairy, poultry, hogs, cash crops, etc.), greenhouses, indoor agriculture facilities, supply houses, and on-site processing facilities. It serves both existing facilities and new construction and offers Standard and Custom type of incentives. Once a customer is engaged, the program will offer customers a free walk through assessment appropriate for their facility to identify energy efficiency opportunities and assist the customer with prioritizing projects and through the application process.

- **410 MWh savings achieved (97% of forecast) based on 14 projects**
- The program team worked with the IL TRM TAC to gain approval to add 7 new standard measures, including LED grow lights and 6 dairy related ECMs, that will simplify the process and increase participation from these measures.
- The environmentally controlled agriculture market is gaining momentum and offers significantly more potential than initially planned in terms of both the new cannabis market and indoor vegetable grows.
- A large number of farms are very small and on residential rates. In 2020, we will seek synergies with the HEA program.

Telecommunications

Overview: The Telecommunication program offers incentives for telecommunication and internet service providers and associated systems such as rectifiers, soft switches, air flow management, HVAC solutions, economization and lighting. This is a market that has been underserved by other programs due to the specialized technology and access to the facilities. Customer engagements are supported from the national and local levels with dedicated energy advisors and engineers providing individual customized assessments and reports on energy efficiency opportunities throughout the network infrastructures and facilities within ComEd's territory.

- **3,655 MWh savings achieved (100% of forecast) based on 41 completed projects**
- The program team's established relationships with national customers and effective program outreach strategy engaged dozens of new customers throughout the year. The result was year-one program participation in an industry traditionally underserved by energy efficiency programs, and with customers deeply skeptical of sharing the operational details of their facilities with third parties.
- In Q3 and Q4 the Telecom Program team was able to capitalize on relationships established Q1 and Q2, and participation was consistently high as a result. The team plans to leverage this momentum to push continued participation over the remainder of the program.
- Certain office spaces and warehouse spaces are typically served by rooftop air conditioners and utilize various standard HVAC setpoints based on occupancy and type of space. The Telecom Program team worked with those customers to update their standards across multiple sites, to be able to capture more savings during times of vacancy. They plan to apply this standard to all local sites moving forward.
- The standard practice for certain customers across all sites was to install thermostats which are not physically locked, and or capable of remote lockout. The Telecom Program team worked with those customers to identify smart communicating thermostats that are also capable of locking out users to prevent unauthorized setpoint changes. Corresponding customers installed

Third Party Programs

these thermostats across multiple sites, with plans to apply this standard to all local sites moving forward.

Public Building in Distressed Communities

Overview: Public Building in Distressed Communities provides LED light kits for self-install, and the top 6 HVAC measures, to provide energy efficiency to public buildings that do not have extra capital for these upgrades.

- **0 MWh savings achieved (0% of forecast) based on 0 projects**
- Despite a slow start to the program, 76 applications have been submitted in 2019, and there is a very high level of interest from public sector entities and a strong appreciation for a program being designed for these communities overall.
- There have been 5 HVAC and 7 lighting kit Service Providers approved in the first round of evaluations, and submissions from new Service Providers continue to come in.
- The biggest challenge is that many communities want to test a small part of the building first, and also are resource constrained and want to complete the work in phase. Thus, projects are starting small, but the program expects to achieve significant savings during 2020.

Emerging Technology

Voltage Optimization

Overview: The Voltage Optimization Program deploys circuit voltage detectors and control equipment that will effectively assess and adapt the amount of voltage traveling across a power line at any given time. Once in place, these devices will allow ComEd to more precisely monitor, manage and deliver the voltage customers need. No additional effort by consumers will be required as the control equipment will automatically adjust to consistently deliver only the voltage each customer requires while providing energy savings.

- **179,906 MWh savings (93% of forecast) based on 68 commissioned substations**
- The realization rate that ComEd expect to see in 2019 has increased from 66% to 89% of the AEG report values. This is due in large part to the increased confidence in the forecast savings because the recently approved stipulation includes an evaluation methodology for VO that provides for a higher confidence in the realized savings for 2019. Using the 89% realization rate we expect to achieve realized savings of 179,906 MWh

Building Operator Certification (BOC)

Overview: This training and certification program for large commercial building managers is operated by the MEEA Team. Energy savings are attributed to both increased awareness of energy efficiency opportunities from the training and from participation in utility programs.

- This training and certification program for large commercial building managers is operated by the MEEA Team. Energy savings are attributed to both increased awareness of energy efficiency opportunities from the training and from participation in utility programs. BOC held 6 trainings throughout

2019 (Grayslake, Chicago Level I, Springfield, Algonquin, Chicago Level 2, Itasca), with a 7th in Ameren's territory that ultimately did not occur due to low enrollment. 11 veterans' scholarships were issues, initially 12 scholarships were reserved but one person dropped. A final list of all individuals earning a renewal scholarship will be available in March when the renewal period concludes. 4 continuing education webinars were held with record high attendance. More information on the program and 2020 training schedules can be found at <http://www.boccentral.org/training/illinois>

Illinois Home Performance (IHP)

Overview: The Illinois Home Performance with ENERGY STAR® Program consists of processing ENERGY STAR® certificates for homeowners, training realtors and appraisers, and conducting a building science training series.

- The Illinois Home Performance with ENERGY STAR® Program consists of processing ENERGY STAR® certificates for homeowners, training realtors and appraisers, and conducting a building science training series. The CY2019 IHP program operated in Northern Illinois with funding from ComEd, Nicor Gas, and Peoples/North Shore Gas. In 2019, 161 contractors were trained through the Building Science Training Series, 280 realtors and appraisers were educated on IHP, energy efficiency and the utility rebates available and 1,734 Home Performance with ENERGY STAR certificates of completion were issued. The program also held three separate CE courses geared towards realtors and appraisers that focused on marketing and valuing energy efficiency features during the time of sale. More information on training options and schedules is available at <http://www.illinoishomeperformance.org>

Emerging Technology

The mission of the Emerging Technologies team is to identify, test, validate, and integrate new energy-saving technologies and program delivery strategies into the ComEd Energy Efficiency Program so that it continues to meet customers' needs and its energy savings goals cost-effectively.

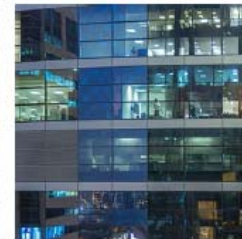
- ° Please refer to the attached PDF for a catalog of all Emerging Technology completed and active projects.



ComEd Emerging
Tech Project Catalog

ComEd.
Energy Efficiency Program

Emerging Technologies Project Catalogue



Updated January 2020

Photos: EcoAdvocates team members (Chicago, IL Q3 2019); Refrigerated display case test configuration (Boulder, CO Q4 2019); Commercial office building (Q4 2019).

Marketing Education & Awareness

General Outreach

- Participated in 607 energy efficiency events
- Interacted with approximately **86,379** customers

Residential E&A Campaign

Overview: The campaign was to promote awareness of the ComEd Energy Efficiency Program offerings with a call to action of ComEd.com/HomeSavings

- In-market February 4 – December 22, 2019
- Included TV, Cinema, Radio, OOH, Social and Print
- Generated 206,701,951 impressions to date
- Drove **502,406** + page visits to ComEd.com/HomeSavings

Business E&A Campaign – Saving Energy

Overview: The campaign was to promote awareness of the ComEd Energy Efficiency Program offerings with a call to action of ComEd.com/SavingEnergy

- In-market February 4 – December 22, 2019
- Included TV, Radio, Social and Print
- Generated 25,067,093 impressions to date
- Drove 57,028 + page visits to ComEd.com/SavingEnergy

Facility Assessment Campaign – Moving Up

Overview: The campaign was to promote awareness of our facility assessment offerings with a call to action of ComEd.com/FacilityAssessments.

- In-market April – December 2019
- Includes TV, cable, digital, radio, social and print
- 21,072,860 impressions to date
- Drove 51,767 + visits to ComEd.com/FacilityAssessments

Rebates Campaign - Neighbors

Overview: The campaign was created to promote awareness of the rebate offerings with a call to action of ComEd.com/Rebates.

- In-market through November 31, 2019
- Included cable, digital, radio, social and print
- Generated 41,330,569 digital impressions to date
- Drove 649,900 + page visits to ComEd.com/Rebates

Fridge Recycling Campaign – Find Joy

Overview: The campaign was created to promote awareness of the fridge recycling through the ComEd Energy Efficiency program with a call to action to recycle your old, working fridge.

- In-market March – December 2019
- Included digital, radio and billboard
- Has generated 65,841,452 impressions to date
- Drove 603,641 + page visits to ComEd.com/FridgeRecycling

Public Sector Campaign – Kid Powered

Overview: The campaign was created to promote awareness of our public sector offerings for K-12 schools with a call to action to look at incentives available on ComEd.com/Schools

- In-market April – December 2019
- Includes TV, digital, social and print
- Generated 35,024,937 impressions to date
- Drove 223,068 + page visits to ComEd.com/Schools

Home Energy Assessments – Savings Advice

Overview: Create awareness and drive participation of free home energy assessments with a call to action to schedule at ComEd.com/HomeAssessment

Marketing Education & Awareness

- Included Print, Digital and Social
- In-market April– September 2019
- Generated 10,034,151 impressions to date
- Drove 120,803 + page visits to ComEd.com/HomeAssessment

Lighting Discounts – IE Lighting Discounts

Overview: The campaign was created to create awareness of lighting discounts among income eligible customers in targeted zip codes and drive purchase at local retailers.

- Included TV, print, OOH, social and radio
- In-market February – November 2019
- Generated 18,451,245 impressions to date
- Drove 106,220 + page visits to ComEd.com/LightingForAll

Lighting Discounts Campaign – Saved by Savings

Overview: The campaign was created to create awareness of lighting discounts and drive purchase at local retailers.

- In-market March – December 2019
- Included digital, radio and transit
- Has generated 36,461,490 impressions to date
- Drove 106,220+ page visits to ComEd.com/LightingForAll

Lighting Discounts Campaign – Business Lighting Discounts

Overview: The campaign was created to create awareness of lighting discounts for business customers and how to find lighting distributors.

- In-market March – December 2019
- Included radio, print, digital and OOH
- Has generated 26,410,402 digital impressions to date
- Drove 106,220 + page visits to ComEd.com/LightingforAll

C&I Campaign – Like a Boss

Overview: The campaign was to promote awareness of offerings for custom projects, IT optimization, industrial systems and retro-commissioning through the ComEd Energy Efficiency program with a call to action.

- In-market April -December 2019
- Included Cable, radio, OOH, print and digital
- Has generated 89,094,576 digital impressions to date.
- Drove 177,968 + page visits to ComEd.com/LikeABoss

Stipulations

Commitments Regarding Interactions with the Income-Qualified Advisory Committee (Settlement Stipulation § IV(D)(1))

ComEd agrees to report on a quarterly basis to both the Income-Qualified Energy Efficiency Advisory Committee and the SAG on the development of reporting metrics on the following topics:

- Identification of budget, savings, and number of participants served through Income-Qualified Plan funding, separately tracking by single-family and multi-family programs:
 - For budget and savings, please refer to the Income Qualified Programs section on the “Ex Ante Results” tab of the statewide quarterly report template. Total Income Qualified homes served is captured on the “Other” tab of the statewide quarterly report template.
 - The Single-Family Retrofits program has completed projects in 2,194 income-qualified homes through Q4.
 - The Multi-Family Retrofits program has completed direct install work in 14,219 tenant units through Q4.
 - The Public Housing Retrofits program has completed direct install work in 9,034 tenant units through Q4.
 - The Affordable Housing New Construction program has completed 10 projects through Q4.
 - The Income Eligible Kits program has distributed 50,000 kits to income-qualified single-family homes through Q4.
 - The Food Banks Distributions program has distributed 1,879,860 LED through Q4.
- Income-Qualified pilot program results:
 - The Emerging Technologies program has several pilot and research projects specific to income eligible and public housing customers.
 - Information on these projects can be found in the Emerging Technologies section of this report.
- Identification of implementation vendors who receive funding designated for Income-Qualified programs, indicating whether each vendor is an independent third party that has demonstrated capabilities to serve such households, including not-for-profit entities and government agencies that have existing relationships with or experience serving Low-Income communities in the State:
 - Single-Family Retrofits – Chicago Bungalow Association (not-for-profit), Chicagoland Vintage Home Association (not-for-profit), Franklin Energy (for-profit), Illinois Association of Community Action Agencies (not-for-profit), Resource Innovations (WBE for-profit), 15 community action agencies in the ComEd territory (not-for-profits)
 - Multi-Family Retrofits – Elevate Energy (not-for profit), Franklin Energy (for-profit), Resource Innovations (WBE for-profit), Shelton Solutions (WMBE for-profit), 15 community action agencies in the ComEd territory (not-for-profits)
 - Public Housing Retrofits – Elevate Energy (not-for-profit), Franklin Energy (for-profit), University of Illinois at Chicago Energy Resources Center (not-for-profit)
 - Affordable Housing New Construction – Slipstream Group Inc. (not-for-profit)
 - Income Eligible Lighting Discounts – CLEAResult (for-profit)
 - Income Eligible Energy Saving Kits – University of Illinois at Chicago Energy Resources Center (not-for-profit), 15 community action agencies in the ComEd territory (not-for-profits)
 - Food Bank – CLEAResult (for-profit), Greater Chicago Food Bank (non-for-profit), Northern Illinois Food Bank (non-for-profit), Riverbend Food Bank (non-for-profit)
 - Outreach & Marketing – Eire (WBE for-profit), Franklin Energy (for-profit), Ignition (for-profit), PACO (MBE for-profit), Surge Solutions (MBE for-profit)
- Job training in economically disadvantaged and diverse communities within its service territory that is supported by ComEd’s efficiency program portfolio funding, including training offered through the IHWAP program necessary to increase capacity to deliver services in ComEd’s territory
- ComEd intends to develop metrics for this area in coordination with the Income Eligible Advisory Committee. A Workforce & Business Development Working Group has been established in 2019. ComEd agrees to work with the Income-Qualified Advisory Committee in the development of a metric to be added to quarterly energy efficiency reports filed with the Commission that reports the number of businesses and employees based in economically disadvantaged communities hired to assist in the delivery of energy efficiency

Stipulations

programs. ComEd agrees to discuss and establish goals and best practices outside the context of Docket No. 17-0312, in consultation with the Income Qualified Advisory Committee and other job training initiatives for increasing the diversity and number of locally-based trainees, vendors and employees of its energy efficiency workforce, and for establishing tracking methodologies for reporting purposes.

CY2019 New Measures

CY2019 New Measures

All measures in the table below were launched in CY2019.

MEASURE TOTAL RESOURCE COST (TRC)		
	Sector	TRC
Ground Source Heat Pump	Business	5.47
Rooftop Units	Business	2.74
Q-Sync Motors	Business	1.69
Energy Recovery Ventilators	Business	1.50
Adsorbent Air Cleaner	Business	1.19