Draft Energy Efficiency Transition Implementation Plan (ETIP) 2017-2020

Consolidated Edison Company of New York, Inc.
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Contents

1. Introduction

Pursuant to the New York State Public Service Commission's ("PSC" or the "Commission") *Order Adopting Regulatory Policy Framework and Implementation Plan* ("REV Track One Order"), Consolidated Edison Company of New York, Inc. ("Con Edison" or the "Company") submits this draft Energy Efficiency Transition Implementation Plan ("ETIP") describing the suite of the Company's ETIP energy efficiency initiatives and plans for 2017-2020.[1] The plans outlined in this document do not include all of Con Edison's energy efficiency initiatives; additional initiatives and energy efficiency opportunities continue to be advanced through the Company's 2017-2019 Rate Case Order ("Rate Case"), Reforming the Energy Vision ("REV") demonstration projects, and non-wires alternatives.[2] Further, the plans outlined in this document represent the current portfolio of initiatives the Company expects to implement from 2017 to 2020, but the portfolio can be expected to evolve over that period as the Company draws lessons from the implementation of initiatives and incorporates such lessons into practice for future initiatives where appropriate.

As the Company works toward achieving the goals of REV as well as evolving its business practices as articulated in the Company's Distributed System Implementation Plan ("DSIP"), energy efficiency and demand-side solutions are an important component of the forecasting and planning processes.[3] In addition to the ETIP portfolio discussed in this filing, existing REV demonstration projects, current and planned non-wires alternatives, and new energy efficiency, system peak reduction, and electric vehicle programs as authorized in the Rate Case, align with the shared goals of the Company, the Commission, and stakeholders to result in a more efficient consumption profile while continuing to provide energy, electricity and gas, in a reliable, safe, and sustainable manner.

Through all of these initiatives, customer engagement and choice are critical considerations. The Company provides customers with actionable insights and the ability to efficiently manage their energy needs, but that also result in broader system and grid benefits. Some of the numerous ways in which the Company accomplishes this objective is through providing energy audits, educational materials, and access to information on efficient products and services, and promoting controllable technologies. Con Edison also works closely with its partners in the marketplace so that they are well informed. As customers become more savvy energy consumers, the Company is taking steps to animate a robust market of third-party actors. The Company has provided training programs to more than one thousand independent contractors and will continue to engage market partners through such programs so they can best leverage Company incentives, education, and tools to work directly with customers to deliver energy efficiency.

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[1] Case 14-M-0101, *Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision* ("REV Proceeding"), Order Adopting Regulatory Policy Framework and Implementation Plan (issued February 26, 2015), p. 133.

[2] Case 16-E-0060, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service*, Order Approving Electric and Gas Rate Plans (issued January 25, 2017).

[3] Case 14-M-0101, REV Proceeding, CECONY Distributed System Implementation Plan (filed June 30, 2016). http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={2ECF5647-BC11-4895-8DE8-7A3280E0E706}

The Company is also constantly seeking to more efficiently use available financial resources by driving down unit costs (per KWh and Dth saved) through programmatic activities. While the current forecast remains to achieve targets at the unit costs anticipated in the *Order Authorizing Utility-Administered Energy Efficiency Portfolio Budgets and Targets For 2016 – 2018* ("ETIP Order"), the Company will continue to work to reduce unit costs and expects in the short to medium-term to benefit from those efforts, enabling more customers to participate in and benefit from the portfolio of offerings.[4] However, despite efforts to reduce unit costs, the Company is also cognizant that as lower cost measures and programs reach saturation, and as the Company works with customers to achieve greater levels of savings per residential or commercial building, costs over the longer term may increase per KWh and Dth saved.

The Company also works to introduce new efficient products and services as technologies develop, economic trends shift, and customer preferences and behavior patterns change. As market conditions evolve, the Company will continue to manage its Rate Case and ETIP portfolio of initiatives as an integrated whole with the goal of maximizing savings and value delivered to customers and the broader energy system alike.

[4] Case 15-M-0252, *In the Matter of Utility Energy Efficiency Programs*, Order Authorizing Utility-Administered Energy Efficiency Portfolio Budgets and Targets for 2016 – 2018 (issued January 22, 2016), Appendix B.

2. Portfolio-Level Management

Consistent with the REV Track One Order, Con Edison will continue to manage its energy efficiency offerings on a portfolio-level, and will adjust individual program and pilot budgets, goals, delivery mechanisms, and customer engagement strategies based on changing technology mixes, costs, and customer preferences, among other factors. The Company also will continue to monitor individual programs and measures to inform and guide performance. This portfolio-level managed approach will ultimately enable responsive, intra-year and inter-year movement of funds and other resources from one program or initiative to another based on opportunity, cost effectiveness, customer feedback, and market and operational factors. As the Company moves funds and program resources, the Company will track and report on program costs, benefits, and attendant energy savings by customer segment.

The Company intends to use unspent or uncommitted ETIP funds that remain available at the end of any given year in any of the subsequent years ETIP is in effect, as permitted by the ETIP Order. Also, as directed by the REV Track One Order, the Company will manage energy efficiency programs under this ETIP using a portfolio-level benefit-cost analysis.[5]

Portfolio Description

The Company's portfolio reflects and builds upon decades of experience running successful energy efficiency programs that enable customers to better manage their energy usage and save on their bills. At the broad level, the efficiency portfolio is divided into two large customer segments: Commercial (both small and large), and Residential (which consists of both 1-4 family homes and multifamily buildings, including common spaces and in-unit residences).[6] Customers are reached through four primary delivery channels designed to meet each customer group's particular needs. However, efficiency offerings and delivery channels are not static, nor are they uniform within a segment; they are managed and revised with continuous improvement and innovative solutions as key priorities. The offerings and delivery channels are discussed in detail in the Program Summary section, including descriptions of the new approaches the Company is taking to reach new customers and achieve greater energy savings.

The Company employs a host of strategies and operational improvements to better serve customers in a more innovative and market-oriented manner that is transparent and available both to customers and distributed energy resource ("DER") providers. This includes giving customers multiple options and opportunities to reduce their energy use based on their unique needs, and less so based on strict program eligibility criteria. Examples for residential customers include accessing rebates and incentives through market partners, shopping directly through the Online Marketplace, managing energy and demand through programmable thermostats and wifi-enabled air conditioners, and benefiting at the retailer level from

[5] REV Proceeding, REV Track One Order, Appendix B, p. 2.
[6] As discussed further in this filing, the Company utilizes detailed customer segmentation research to further categorize and target customers most effectively.

market-based partnerships between Con Edison and mid- and up-stream retailers and manufacturers.[7] Through the ETIP portfolio, the Company will continue to operate and build upon many of the successful efficiency initiatives that it has managed since 2009, as the initiatives continue to deliver cost-effective efficiency savings to customers, while also developing new approaches through its Rate Case initiatives.

Highlights for 2017 and beyond include harnessing the efficiencies of administering the Commercial and Industrial ("C&I") initiative internally (as opposed to through a third-party contractor), targeting new customers, supporting Self-Direct-enrolled customers through consistent engagement, developing a robust multi-year sales pipeline, leveraging REV demonstration projects including the Online Marketplace, and expanding of the Test and Learn ("T&L") framework discussed in the 2016-2018 ETIP.[8] The Rate Case portfolio, while not discussed in depth in this filing, will also contribute to energy and demand savings through new market-oriented initiatives and "go to market" channels that align with the REV framework.

In addition to these strategies, Con Edison is working with the New York State Energy and Research Development Authority ("NYSERDA") to best complement each organizations' efficiency offerings, maximize value to customers, advance market-based initiatives, and generally assure minimal overlap, so combined efforts improve energy efficiency adoption beyond what uncoordinated efforts could achieve on their own. For example, the Company is collaborating with NYSERDA on its Multifamily program to develop ideas that can result in advancing both organizations' goals through sharing information and avoiding overlapping programs with duplication of efforts.[9] As both NYSERDA and the Company launch new initiatives, Con Edison will continue to seek opportunities to leverage both organizations' efforts, incentives, and technical knowledge to add value and deliver deeper savings. More detailed and concerted efforts to work together are currently ongoing, and may accelerate as NYSERDA proposes new initiatives and the Company plans and launches new ETIP and Rate Case initiatives.

Con Edison seeks to play a leadership role in innovative program design and implementation to achieve state policy goals while also meeting internal Company goals. The Company is learning from peer utilities across the country and in turn expects its approach to provide useful lessons for other utilities working to achieve similar environmental, social, economic, and other benefits as those outlined in the REV Proceeding, the New York State Energy Plan, and the Clean Energy Standard white paper.[10] The

[7] The Online Marketplace is part of a REV Demonstration project launched in 2016 as a one-stop shop offering product comparisons by energy score. See the Residential Sector section for more information.

[8] The Self-Direct program for large energy users is designed to encourage individual customers to administer their own energy efficiency programs in lieu of participating in utility programs. See Self-Direct program section below for more information. The Smart Kids Energy Education Program delivers LEDs, faucet aerators, and showerheads to fifth-graders across the service territory and is paired with an in-classroom educational lesson plan on energy. See the Residential Sector section for more information as well as the Final Energy Efficiency Transition Implementation Plan (ETIP) 2016-2018 filing, http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={CCCE01E5-A1A9-4B11-9317-77EECA95EDD1}

[9] The Company collaborates with NYSERDA to establish direct channels for referring customers. For example, the Company refers customers to NYSERDA if the customer does not meet Con Edison Multifamily program criteria (e.g., customers using fuel oil or looking to do a gut renovation).

[10] Case 15-M-0302, *Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard*, Staff White Paper on a Clean Energy Standard, January 25, 2016, http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={930CE8E2-F2D8-404C-9E36-71A72123A89D}

suite of programs delivered through this ETIP cycle, in conjunction with the Rate Case and other Company initiatives, provides Con Edison customers with an energy system that is cleaner and more sustainable.

3. Portfolio Forecast: 2017-2020

Budget and Target Summary

All figures in this ETIP, including budgets, targets, forecasted expenditures, and benefit cost analyses ("BCAs") represent an estimate of future activity based on the Company's expected annual expenditures on ETIP programs at unit costs as authorized in the ETIP Order. The Company will inform Department of Public Service Staff ("Staff") and the public of any revisions pursuant to the appropriate Guidance documents. [11]

Also, in compliance with the ETIP Order, the Rate Case Order, and following the methodology in the BCA Handbook, budgets, targets and cost-effectiveness figures, are derived solely from activities funded through the ETIP budgets, and exclude any activities funded through the Rate Case budget or other sources.[12] The ETIP portfolio may support the Rate Case or other initiatives on a supplemental basis, and therefore there are specific budgets, targets, and expenditures within the ETIP portfolio that represent the proportional ETIP contributions to those non-ETIP efforts.

Core to the success of delivering cost effective and customer-centric energy efficiency offerings is the many research, technological, and analytical investments that comprise the Portfolio Administration budget. This budget category includes support and other functions vital to the successful execution and growth of the efficiency portfolio. Activities with Administration include, but are not limited to: all program marketing (see the Marketing and Customer Engagement section below), market research and analytics including customer segmentation studies and technical analyses of energy efficiency potential relevant to the Con Edison service territory (see the Market Research section below), training for market partners on offerings and initiatives, and database development and maintenance outside of base rates. Employee labor and benefits are recovered through base rates in accordance with the Rate Case Order.

Table 1 and Table 2 below include four-year projected budgets for Con Edison's electric and gas programs and portfolios.

[11] There are two primary Guidance documents that dictate the revision process: CE-01: Utility Energy Efficiency Program Cycle Guidance, http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/255ea3546df802b585257e38005460f9/$FILE/54538861.pdf/CE-01%20-%20Energy%20Efficiency%20Program%20Cycle%20Guidance%207_28_16.pdf, and CE-02: ETIP Guidance, http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/255ea3546df802b585257e38005460f9/$FILE/CE-02%20-%20ETIP%20Guidance%20Document%205-12-17.pdf

[12] Case 16-M-0412, *In the Matter of Benefit Cost Analysis Handbooks*, Benefit Cost Analysis Handbook (filed August 22, 2016) ("BCA Handbook").

Table 1: Four-Year Budgets: Electric Portfolio

Electric Portfolio	2017	2018	2019	2020
Commercial Sector				
Incentives & Services	$40,230,000	$40,980,000	$47,600,000	$38,060,000
Program Implementation	$6,070,000	$7,210,000	$8,680,000	$7,560,000
Total Budget	$46,300,000	$48,190,000	$56,280,000	$45,620,000
Residential Sector				
Incentives & Services	$18,540,000	$19,370,000	$21,610,000	$19,370,000
Program Implementation	$8,160,000	$8,900,000	$10,030,000	$8,960,000
Total Budget	$26,700,000	$28,270,000	$31,640,000	$28,330,000
Total Portfolio				
Total Electric Portfolio				
Total Commercial Programs	$46,300,000	$48,190,000	$56,280,000	$45,620,000
Total Residential Programs	$26,700,000	$28,270,000	$31,640,000	$28,330,000
Portfolio Administration	$11,800,000	$8,450,000	$9,920,000	$8,660,000
Portfolio EM&V	$1,380,000	$2,810,000	$3,620,000	$3,570,000
Total Electric Portfolio Budget	$86,180,000	$87,720,000	$101,460,000	$86,180,000

Table 2: Four-Year Budgets: Natural Gas Portfolio

Gas Portfolio	2017	2018	2019	2020
Commercial Sector				
Incentives & Services	$1,300,000	$1,300,000	$1,300,000	$1,180,000
Program Implementation	$330,000	$450,000	$450,000	$400,000
Total Budget	$1,630,000	$1,750,000	$1,750,000	$1,580,000
Residential Sector				
Incentives & Services	$7,820,000	$8,070,000	$8,070,000	$7,280,000
Program Implementation	$3,330,000	$3,540,000	$3,600,000	$3,250,000
Total Budget	$11,150,000	$11,610,000	$11,670,000	$10,530,000
Total Portfolio				
Total Gas Portfolio				
Total Commercial Programs	$1,630,000	$1,750,000	$1,750,000	$1,580,000
Total Residential Programs	$11,150,000	$11,610,000	$11,670,000	$10,530,000
Portfolio Administration	$2,680,000	$1,770,000	$1,750,000	$1,590,000
Portfolio EM&V	$520,000	$870,000	$830,000	$830,000
Total Gas Portfolio Budget	$15,980,000	$16,000,000	$16,000,000	$14,530,000

Table 3 and Table 4 include four-year targets for Con Edison's electric and gas programs and portfolios.

Table 3: Four-Year Targets: Electric Portfolio

Electric Portfolio	2017	2018	2019	2020
Commercial Sector				
MWh	132,070	127,812	147,619	125,600
Residential Sector				
MWh	47,037	51,295	58,041	53,507
Total Electric Portfolio				
MWh	179,107	179,107	205,660	179,107

Table 4: Four-Year Targets: Natural Gas Portfolio

Gas Portfolio	2017	2018	2019	2020
Commercial Sector				
Dekatherms	43,400	40,800	40,300	37,100
Residential Sector				
Dekatherms	261,900	264,500	265,100	236,016
Total Gas Portfolio				
Dekatherms	305,300	305,300	305,400	273,116

Forecasted Portfolio-Level Activity

The following tables include forecasted expenditures and achievements for Con Edison's portfolio of electric and natural gas programs.[13] Beginning in 2017, the Company's ETIP operations and its budgetary and acquired savings cycle have transitioned to match that dictated through the Rate Case, *i.e.*, annual budgets and targets. As such, other than Evaluation, Measurement, and Verification ("EM&V"), the Company anticipates no encumbrances from a prior year to be expended in a future year. Likewise the Company anticipates that there will be no commitments that connect to a prior year. The Company intends to use unspent or uncommitted ETIP funds that remain available at the end of any given year in any of the subsequent years ETIP is in effect, as permitted by the ETIP Order. For the purposes of this forecast the Company assumes in 2020 that the Self-Direct program will mirror 2019.

[13] Con Edison defines achievements (analogous to acquired) as 1) for contractor-administered programs: after the post-inspection process and a desk review is completed, or as 2) for mid/upstream or rebate programs: upon receipt of relevant sales data and documentation.

Table 5: Forecasted Electric Expenditures

Budgets	Forecasted Expenditures[14]			
	2017	2018	2019	2020
2016	-	$1,540,000	$15,280,000	-
2017	$84,810,000	-	-	-
2018	-	$83,370,000	-	-
2019	-	-	$82,560,000	-
2020	-	-	-	$82,610,000
Total Portfolio	$84,810,000	$84,910,000	$97,840,000	$82,610,000

Table 6: Forecasted Gas Expenditures

Budgets	Forecasted Expenditures[15]			
	2017	2018	2019	2020
2016	$1,450,000	$1,470,000	$1,470,000	-
2017	$14,010,000	-	-	-
2018	-	$13,660,000	-	-
2019	-	-	$13,700,000	-
2020	-	-	-	$13,700,000
Total Portfolio	$15,460,000	$15,130,000	$15,170,000	$13,700,000

Table 7: Forecasted Electric Program Achievements

Targets	Forecasted Achievements (MWh)			
	2017	2018	2019	2020
2017	179,107	-	-	-
2018	-	179,107	-	-
2019	-	-	205,660	-
2020	-	-	-	179,107
Total Portfolio	179,107	179,107	205,660	179,107

Table 8: Forecasted Gas Program Achievements

Targets	Forecasted Achievements (Dth)			
	2017	2018	2019	2020
2017	305,300	-	-	-
2018	-	305,300	-	-
2019	-	-	305,400	-
2020	-	-	-	273,116
Total Portfolio	305,300	305,300	305,400	273,116

[14] Excludes EM&V expenditures.
[15] Excludes EM&V expenditures.

Evaluation, Measurement and Verification

The Company's EM&V process continues to transition from the traditional program-specific process and impact evaluations to new methods as described by the recently revised Evaluation, Measurement & Verification Guidance, dated November 1, 2016.[16] Examples of this new approach include: activities that leverage the role of Evaluation, Measurement, and Verification ("M&V") and Quality Assurance/Control ("QA/QC") activities routinely conducted by the Company complemented by the Research, Analytics, and Data ("RAD") functions to more accurately and cost-effectively assess programs and initiatives on a timely basis. Conventionally, EM&V activities were conducted as discrete, often unrelated, efforts that would yield results long after a program was introduced. The integration of the aforementioned functions with the advent of advanced methods and new technologies, specifically the forthcoming Advanced Metering Infrastructure ("AMI") and emerging industry tools such as the Open Efficiency Initiative, will afford the opportunity to coordinate the numerous methods of analysis and associated baselines to document the real impact of programs with considerable granularity.[17] Specifically, such methods are anticipated to be particularly useful to inform the adoption, as well as energy and demand load relief, of DER on both a locational and temporal basis.

The Company has proposed that the budget for EM&V activities in 2017-2019 continue consistently with historical levels of expenditures. However, as programs evolve to include more Rate Case-based initiatives, the funding for such activities will derive from the program administration funds associated with each individual initiative. The Company is also expanding the role of QA/QC and M&V activities to monitor all ETIP programs to serve as a common basis of assessment to provide accurate savings. Collectively, these funds will be distributed across all the EM&V activities on a rolling basis consistent with regulatory guidance so that each activity serves to complement and inform future efforts and provide more immediate feedback by the aforementioned, employing advanced EM&V technologies and methods.

Impact Evaluation

Con Edison intends to continue conducting strategic and targeted impact evaluation activities during the program year cycle on a rolling basis by employing both new advanced techniques and incremental reporting to provide both more transparent, granular, and immediately actionable feedback to identify opportunities to improve effectiveness and persistence of the program's measures.

At the start of each impact evaluation, Con Edison's team of subject matter experts collaborates to identify

[16] CE-05 EMV Guidance, http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/255ea3546df802b585257e38005460f9/$FILE/CE-05-EMV%20Guidance%20Final%20%2011-1-2016.pdf

[17] The Open Efficiency Initiative is a federally funded Department of Energy effort to develop an open source platform integrating a variety of existing tools, including the EPA Portfolio Manager, the DOE Standard Energy Efficiency Data Platform, Building Energy Asset Score, and Lawrence Berkley National Laboratory's Automated Measurement and Verification and the National Renewable Energy Laboratory's BuildingSync standardized language.

the focus of the required evaluation research. This may include:

- assessing measure specific realization rates for both consumption and demand savings;
- segmenting measure savings by sector/building type/location/time of use;
- persistence of the measure savings;
- informing future Technical Resource Manual ("TRM") updates;[18]
- supporting future program planning efforts;
- informing cost effectiveness; and
- Identifying opportunities to add value to program design and operations.

All impact evaluation work will comply with evaluation guidelines and industry standards such as the 2012 State and Local Energy Efficiency Action Network ("SEE Action") Energy Efficiency Programs Impact Evaluation Guide and the Uniform Methods Project as appropriate. [19,20]

The Company believes that integrating the EM&V on the front end of proposed projects will enable accumulation of more pertinent information on equipment and systems to identify how actual savings will be acquired and achieved in the most cost-effective manner, while also deriving the greatest value from such activities by identifying specific applications which yield the greatest benefit to the system. The determination of more clearly defined baselines and usage patterns of both energy efficiency, demand management, and DER measures will lead to better quantification of their impact in a more expedient manner providing not only an assessment of savings, but also benefits to individual end users and service providers to further improve project performance.

Additionally, the Company supports the industry transitioning from assumptions or survey driven Net To Gross ("NTG") analysis to using more real-time means of assessment that provide real consumption and demand savings consistent with advanced M&V methods premised on the customers' own unique baseline. By doing so, the Company can better assess what influences customer performance and perseverance of savings. This mitigates the need to ask detailed questions many months (or years) later employing survey methods to try to quantify and assess "the counter factual", i.e., what that customer would have done (with respect to the equipment that was installed in their home or business) had no efficiency program incentives been present and available.

Process Evaluation

Process evaluations are generally used to assess and analyze program operations for new programs,

[18] The TRM provides a standardized and transparent approach for measuring program energy savings across New York State's energy efficiency programs.
http://www3.dps.ny.gov/W/PSCWeb.nsf/All/72C23DECFF52920A85257F1100671BDD?OpenDocument

[19] State and Local Energy Efficiency Action Network. 2012. Energy Efficiency Program Impact Evaluation Guide. Prepared by Steven R. Schiller, Schiller Consulting, Inc., www.seeaction.energy.gov

[20] National Renewable Energy Laboratory (NREL), The Uniform Methods Project: Methods for Determining Energy Efficiency Savings for Specific Measures, NREL/SR-7A40-63417 February 2015, Prepared by Hossein Haeri, The Cadmus Group, Inc., Portland, Oregon. https://energy.gov/sites/prod/files/2015/02/f19/UMPIntro1.pdf

modified programs, or those in a pilot or "Test and Learn" phase of development. Process evaluations are also effective at diagnosing problems in programs that are under performing or experiencing operational challenges. Because process evaluations most often examine program or portfolio operations, they can identify ways to make program or portfolio enhancements and improvements that reduce operating costs, expedite delivery, improve satisfaction, and fine-tune objectives. Therefore, the Company intends to integrate the functions of such evaluations with the process of new program development so such lessons may be adopted early and immediately, and the effect evaluated. The Company believes that using EM&V results in such a real-time environment will allow it to make regular program implementation decisions that best reflect current program issues and market conditions while keeping pace with rapidly developing technologies such as lighting and control systems. All such process evaluation work will comply with the prevailing evaluation guidelines. Selective research activities may also take place for existing programs that do not require a full process evaluation or otherwise are cross-functional or inter territorial as appropriate and recognized by the recent guidance document.

Measurement & Verification

M&V is increasingly playing a more integral role in the activities of the program not only to verify the savings associated with a particular measure or application but increasingly to better characterize the benefits attributable to new programs and measures, including DER. Such activities provide data for (1) use in Company load forecasts (i.e., load shapes), (2) the accuracy of deemed savings assumptions, (3) estimation of operational and behavioral influences, and (4) identifying opportunities for new technologies and services for inclusion in EE portfolios.

All M&V work will meet and comply with the International Performance Measurement and Verification Protocol ("IPMVP") standards. The protocol selected within IPMVP will depend on the measures included within a project and/or historical performance of the measure. Each project selected will receive a comprehensive M&V plan that will include:

- Engineering Desk Review/Preliminary analysis of project savings
- M&V approach (i.e., IPMVP option, UMP, pre/post work, data logging, etc.)
- Sampling information

Pre Site inspections will collect data to verify:

- Existing equipment being replaced
- Equipment operation (i.e., hours of operation, permanent, primary compared to standby, etc.)
- Any other information needed to verify program eligibility and establish a baseline

Post Site inspections will collect data to verify:

- Equipment installation (i.e., quantities, nameplate , etc.)
- Equipment operation (i.e., hours of operation, permanent, primary versus standby, etc.)
- Conducting a brief survey with the customer to capture their experiences when possible
- Any other information needed to verify reported savings

Each M&V effort will receive a preliminary (after pre site work) and final (after post site work) report that will quantify savings for the respective effort (i.e., project, site, or measure specific).

M&V data can be more robust than data collected in traditional impact evaluation work because it verifies preconditions before a project is implemented. The Company intends to use M&V data to enhance impact evaluations. The data will be used to either supplement the impact evaluation to provide more accurate results, or to offset required impact data to reduce costs. M&V scope will also accommodate the framework of activities, as listed below.

- **Real-Time Continuous Program Design**: M&V will allow for proper quantification of measures the savings for which were previously based upon deemed savings and engineering judgment. Furthermore, the information attained will be live and continuous, and used to inform the program and its managers on a periodic basis for mid-course adjustments of savings, incentives, and overall measure strategy. M&V will be conducted on a sample of measures representative of the number of projects and types of technologies as well as technologies deemed to be highly uncertain as to their impact for ETIP programs.

    - **Market animation and customer engagement (Customer facing solutions):**

        - Use M&V findings to inform and develop case studies for program marketing purposes, rather than just for validating project level savings
        - Engaging customers on the "metered" performance of their energy efficiency measures in alignment with goals of the REV proceeding.

- **Forecasting and Load Shapes**: M&V must have a concurrent role in all programs for uniformity, providing real-time impact. As it becomes more robust, real-time data will be used to construct factual load curves, with enough metered data to represent an accurate depiction of customer usage by measure, equipment, facility and space types, and its effect on future program incentives, or inform Company initiatives on rate design.

    - **Adoption Curves**: The natural adoption of measures by customers is pivotal information needed for the proper initiation, planning, and execution of programs. M&V across the different programs will be used to acquire adoption curves, giving the program insight into market transformation, and an educated measure potential assessment.

- **M&V Customer Integration**: M&V will be used in a proactive manner to provide useful information to customers. The Company will utilize M&V findings to inform and develop case studies, engaging the customer on the actual performance of their installed energy-saving measures.

    - **Customer surveys with M&V**: While on site conducting M&V, the Company will utilize the opportunity to conduct surveys when possible to provide pertinent real-time insight to program managers of improvements that could be made to affect free ridership, snapback, and spillover.

- **Technology Integration**: M&V will allow for the integration of new emerging energy efficiency technologies and DERs through pilots and M&V specific studies. M&V will also allow for the authentication of deemed savings within the TRM through M&V analysis of future installs.
    - Focus on pilot studies to determine savings potential and inclusion in future programs will allow for:
        - A more robust and adaptable suite of programs in a quickly changing market
        - Market-based solutions to be reviewed for validity of savings and incorporated into programs
    - NY TRM revisions
        - A large majority of savings suggested by the TRM is based on data from other jurisdictions. M&V shall be used to garner more accurate data on TRM measures which are most prevalent or most impactful in Company programs and operate in Con Edison's territory.
- **New Technologies –** M&V will be conducted on all new technologies being considered for potential inclusion into a program.

Con Edison currently retains a number of engineering-based consulting firms to complete all M&V related work. This allows the Company to respond more quickly to the needs of customers, market partners and aggregators, and to respond to unexpected occurrences.

Quality Assurance/Quality Control

As the Company develops both the means and methods for each program designed to meet program objectives, QA/QC serves as a third party means of assessment related to the accuracy of these anticipated results and compliance with program rules. Utilizing third-party verification for all work, including that performed by contractors, reduces the likelihood of data inconsistencies, under- or over-reported savings, customer complaints, or even fraud. As an example, as part of the Commercial Direct Install and Multi-Family programs, random onsite inspections, and desk reviews are routinely conducted to verify that incentivized measure installation information is consistent with application data on a representative sample of projects. In 2017, Con Edison began QA/QC for its internally implemented Commercial and Industrial ("C&I") program and engaged a contractor to collect information for the Company's impact evaluators. In subsequent programs years, this activity will be expanded to all ETIP programs whether administered internally or externally.

QA/QC work serves as an additional safeguard to maintain work integrity and check that ratepayer funds are used appropriately. QA/QC site work also provides an opportunity to collect additional data that supplements the process and/or impact evaluations (i.e., customer surveys, operating hour verifications).

The Company is working to facilitate new and more stringent QA/QC protocols across its efficiency program portfolio.

Activities and Expenditures

Table 9: Three-Year EM&V Activity Schedule (Electric and Gas)

EM&V Activity	Start Date	Date Filed	Cycle Year Informed
Impact Evaluation[21]	2015	September 2016	2016, 2017, 2018
Process Evaluation[22]	2016	September 2017	2018, 2019, 2020
M&V[23]	On-going	2016	2017, 2018, 2019
QA/QC[24]	On-going	September 2016	2016, 2017, 2018

Table 10: EM&V Activity Budgeted Expenditures (Electric)

EM&V Activity	2016	2017	2018	2019	2020
Evaluation, Impact	$1,320,000	-	$300,000	$1,140,000	$1,140,000
Evaluation, Process	$370,000	$620,000	$1,230,000	$700,000	$700,000
Measurement & Verification	$1,390,000	$200,000	$400,000	$550,000	$500,000
Quality Assurance / Control	$350,000	$330,000	$740,000	$1,150,000	$1,150,000
Statewide Studies	$210,000	-	-	-	-
EM&V Planning Activities	-	$230,000	$140,000	$80,000	$80,000
EM&V Administration	$580,000	-	-	-	-
Other	$90,000	-	-	-	-
Total	$4,310,000	$1,380,000	$2,810,000	$3,620,000	$3,570,000

[21] Committed Energy Efficiency Portfolio Standard 2012-2015 ("EEPS 2") evaluation funding has been repurposed for ETIP. Focus is now directed towards targeted research to inform measures, technologies, and ETIP activities in the future, and away from program-related assessments.
[22] Contingent upon new program or revised program start dates.
[23] Data collected will inform and complement impact evaluation activity.
[24] Data verified form QA/QC reviews and efforts will dovetail with ongoing impact evaluation efforts to validate projected project-related energy and demand savings.

Table 11: EM&V Activity Budgeted Expenditures (Gas)

EM&V Activity	2016	2017	2018	2019	2020
Evaluation, Impact	$220,000	$90,000	$110,000	$180,000	$180,000
Evaluation, Process	$60,000	$80,000	$200,000	$120,000	$120,000
Measurement & Verification	$240,000	$270,000	$410,000	$310,000	$310,000
Quality Assurance / Control	$60,000	$30,000	$100,000	$170,000	$170,000
Statewide Studies	$40,000	-	-	-	-
EM&V Planning Activities	-	$50,000	$50,000	$50,000	$50,000
EM&V Administration	$100,000	-	-	-	-
Other	$10,000				
Total	$730,,000	$520,000	$870,000	$830,000	$830,000

Market Research

Con Edison recognizes that continuous and up-to-date research is essential to understanding markets and customers in order to deliver the right products and services with the right message via the right channels. The Company utilizes market research as a core strategy to better recognize market issues and customer needs and wants, and integrates these research findings into the design and delivery of existing and new customer-centric energy efficiency and demand management programs. Con Edison is undertaking new foundational market research projects, improving existing research programs, as well as continuing existing key customer research initiatives. The table below describes the ongoing and planned research work that will be used to help inform and optimize customer-centric program designs and implementations in 2017 and beyond.

Figure 1: Market Research Activities

Activity	Description	Outcome
Potential Study (started 2016, results in 2017)	The DER potential study substantially revises and updates Con Edison's 2010 Energy Efficiency Potential Study, 2008 Callable Load Study, and 2013 Integrated Demand Side Management ("IDSM") Model. The Study includes a market baseline/technology saturation study that establishes the base for Technical, Economic and Achievable potentials by customer segment and technology for EE, DR, customer-side DG, and customer-side Storage.	The Potential Study enhances understanding of current market baselines and technology saturations levels while also updating and improving understanding of DER, including EE, market opportunities. Additionally, the Study informs adjustments to current programs as well as future EE and other DER program designs and implementations.

Residential and Commercial Customer Segmentation (new in 2016, ongoing 2017+)	The Company researches residential and small-to-medium commercial customers to understand attitudes and preferences on energy efficiency and demand management issues and programs in order to establish like segments that can be used for targeting.	Segmenting customers into like types based on shared attitudes and preferences allows the Company to establish and understand which customer groups are most and least interested in energy efficiency and demand response programs. This intelligence is used for targeted marketing and outreach for programs in 2017 and beyond.
Customer Community Advisory Panel (ongoing)	The Company facilitates and surveys an online panel of approximately 10,000 Con Edison customers (~9,000 residential, ~1,000 commercial) that provide the Company with customer insights to several departments across a variety of topics including energy efficiency and demand management.	In 2016, surveys included: Bring Your Own Thermostat, Home Audit, Energy Savings Account, LED Lighting Survey, Multi-family Building Owners Refrigerator Purchasing, Residential Appliance Rebate, Smart AC. The Panel will continue to be leveraged to inform current program improvements and new programs designs.
Customer Satisfaction (ongoing since 2013, revised for 2017+)	Con Edison conducts continuous customer satisfaction surveys to support all EEPS programs and mass market DR programs. A newly redesigned and improved three year program was launched in 2017 – with the aim of providing more useful, relevant, and timely results to program managers and implementation contractors.	Program participant satisfaction surveys provide "voice of the customer" feedback in order to understand how the program is performing from the customer's perspective which is used to inform program improvements to address customer satisfaction issues and increase overall customer satisfaction with our programs and the Company.
Journey Mapping (new in 2017)	Starting in 2017, the Company implemented a multi-year research program aimed at better understanding the customer experiences and journeys in making energy efficiency and demand management decisions including experiences and journeys to and through participation in Company programs, as well as non-participants. This research program will work to coordinate with the Digital Customer Experience ("DCX") and other customer groups and initiatives on identified customers issues and related journeys.	The broader and more comprehensive customer experience and journey insights will greatly enhance understanding of how customers make decisions around energy efficiency and demand management which in turn will inform efforts to streamline the customer journey and increase program participation.

Customer Data Append (updated and improved in 2016, ongoing 2017+)	Con Edison increased its investment in appending customer data to its customer databases in 2016 and will continue to update data on a semi-annual or annual basis. The data comes from both Company primary research as well as secondary data sources.	Enhanced understanding of customers (energy usage behavior, program participation, demographics, firmographics, *etc*.) will enable a more customer-centric and targeted approach to program design and communications.
Customer Awareness (ongoing since 2010, updated and improved for 2017+)	The Company has conducted bi-annual customer awareness studies to understand the positioning and reach of various energy efficiency information sources, including Con Edison's EE marketing. The study was revamped for 2017 and will be conducted on an annual or semi-annual basis, timed around marketing campaigns.	Understand how energy efficiency marketing is performing overall, as well as comparisons of various different sources of energy efficiency information and incentives. Insights reveal the Company's position in the energy efficiency ecosystem which informs future marketing and brand building initiatives.
Future Initiatives (new, TBD)	Other potential initiatives that may launch in 2017 or beyond include: pilot and demonstration program research, incentive optimization studies, focus groups, non-participant research, and *ad hoc* customer-centric program focused research.	Current and future research initiatives will help the Company better understand its customers, the changing markets and technologies, with the purpose of improving program effectiveness and customer experience.

Marketing and Customer Engagement

The Company's marketing team has established a multi-faceted strategy for 2017 that provides a baseline to prepare and assess what will be required to address ETIP portfolio-wide goal growth in the subsequent years. A primary focus area is to increase the frequency and quality of communications, specifically within the vertical customer-segment markets where ETIP programs are most relevant and engaging to customers. A second significant focus is to sustain and increase program awareness that repositions Con Edison as an innovative thought leader and a trusted energy advisor.

To achieve this aim, the marketing team has set out to:

- Closely align with the Company's program implementation staff and forecasts to help with tactical marketing needs and sales enablement, and ultimately help achieve program goals.
- Leverage industry and market insights to make both strategic marketing and tactical recommendations; conduct analytical assessments to verify investments across cost-effective marketing mixes; and monitor and control for optimizations that result in better campaign outcomes.
- Improve creative and planning processes to challenge conventional marketing and explore new approaches such as geo-targeting. Together with the newly established communications strategy,

this multi-channel marketing approach will increase customer awareness, engagement, recall, and action.

- Develop a robust email marketing strategy with greater frequency and relevancy of communications for improved customer experiences, including the use of more strategic and tailored vertical messaging with clear calls to actions developed for each vertical. The Company is also leveraging newly procured data for improved customer segmentation, to be utilized in marketing email distribution lists.
- Drive engagement through education and content marketing through:
    - Richer content and education, and exploring new mediums, such as video infographics;
    - Communicating more effectively to multi-cultural audiences; and
    - Using multiple mediums to promote advanced efficient technologies.

Communications Strategy

The marketing team has developed a new communications strategy for both horizontal (portfolio-wide) and vertical (program specific) campaigns. The goal of this strategy is to re-position Con Edison as an innovative thought leader and a trusted energy advisor, and make customers aware of opportunities to save on energy costs through energy efficiency.

The communications strategy will also help break down some existing barriers to customer action, including overcoming inertia to create a sense of urgency and demonstrate ease of participation. In turn, customers will:

- Turn to Con Edison for information to help them save – money and energy;
- Think of Con Edison not only as an energy provider, but also as a trusted advisor; and
- Understand they can benefit from real, tangible savings.

For each vertical communications strategy, the Company has developed targeted propositions that will provide a guide for message development; some examples:

- For the horizontal campaign: “We’ll help you uncover your fair share of savings.”
- Commercial Direct Install (“CDI”): “Uncover how older technology is draining you of your profits.”
- C&I: “Uncover ways to manage energy so you can save.”
- Residential: “Uncover how replacing the old can help you save with the new.”
- Brooklyn Queens Demand Management (“BQDM”): “Uncover free efficiency upgrades.”
- Smart AC: “Uncover how you can make your old AC smart, without investing in an entire new unit.”

Benefit Cost Analysis

Table 12 includes benefits and costs for the Company's electric portfolio, based on the current metrics.

Table 12: Four-Year Benefit Cost Ratios: Electric Portfolio (in Thousands)

Electric Portfolio	2017	2018	2019	2020
Commercial				
Benefits	$134,110	$129,560	$159,900	$144,830
Costs	$99,470	$100,720	$119,540	$95,120
Benefit Cost Ratio	**1.35**	**1.29**	**1.34**	**1.52**
Residential				
Benefits	$51,430	$56,510	$65,900	$64,720
Costs	$45,570	$49,680	$56,360	$50,750
Benefit Cost Ratio	**1.13**	**1.14**	**1.17**	**1.28**

Table 13 includes benefits and costs for the Company's natural gas portfolio.

Table 13: Four-Year Benefit Cost Ratios: Natural Gas Portfolio (in Thousands)

Gas Portfolio	2017	2018	2019	2020
Commercial				
Benefits	$3,840	$3,760	$3,860	$3,630
Costs	$3,670	$3,730	$3,750	$3,460
Benefit Cost Ratio	**1.05**	**1.01**	**1.03**	**1.05**
Residential				
Benefits	$31,220	$31,990	$32,760	$29,860
Costs	$18,850	$19,220	$19,360	$17,530
Benefit Cost Ratio	**1.66**	**1.66**	**1.69**	**1.70**

Table 14: Four-Year Portfolio BCA Results: Electric

Electric Portfolio	2017	2018	2019	2020
Societal Cost Test	1.24	1.21	1.26	1.40
Utility Cost Test	1.83	1.81	1.90	2.10
Ratepayer Impact Measure Test Ratio	0.67	0.69	0.72	0.76

Table 15: Four-Year Portfolio BCA Results: Gas

Gas Portfolio	2017	2018	2019	2020
Societal Cost Test	1.49	1.52	1.56	1.57
Utility Cost Test	1.62	1.67	1.73	1.74
Ratepayer Impact Measure Test Ratio	0.56	0.57	0.58	0.59

4. Program Descriptions

Con Edison strives to engage all types of customers and provide consumer control over energy choices. Under the broad commercial and residential segment umbrella portfolios, the Company's programs are tailored to each customer segment's particular needs. The offerings described below should not be considered static, but rather evolving strategies that respond to market changes so as to serve a broad and diverse set of customers. Initiatives are designed to deliver efficiency savings and meet customer expectations in the most effective and expedient manner and to offer multiple opportunities for engagement with the Company and market partners. As such, customers can access information and energy saving incentives through the multiple delivery channels discussed further below.

This section provides detailed descriptions of each program, pilot, and new initiative, including those under the T&L framework described below. This section also discusses elements of the separate, but related, REV demonstration projects and Rate Case initiatives as they relate to, and are coordinated with, ETIP programs.

Commercial & Industrial Sector

Con Edison offers a robust suite of products and services to commercial customers of all sizes and business types. Critical to the success of the Company's efforts, and to meet energy savings goals, is the engagement of over 1,000 market partners, who work every day with customers to deliver energy savings and leverage Con Edison incentives to make efficiency projects economic. This work culminates in identifying energy saving opportunities, developing a performance improvement plan, and installing cost-effective energy efficient technologies. Customer education and buy-in are paramount throughout the process so that there is both a firm understanding of the customer's unique needs as well as confirmation that customers have the knowledge and skills to operate and maintain equipment to sustain energy savings throughout the equipment's lifetime.

There is no one-size-fits-all program or solution for any energy user, particularly for large, sophisticated customers. Recognizing the distinct nature of commercial customers, the Company offers four separate market-based offerings through which customers may address their particular business objectives and constraints. These are large C&I prescriptive incentives, large C&I custom incentives, the Self-Direct program, and the Commercial Direct Install program.

Commercial & Industrial Electric & Gas Programs

The C&I program provides prescriptive rebates for high efficiency lighting and controls, chillers, heating, ventilation ,and air-conditioning ("HVAC") measures, insulation, and variable frequency drives ("VFDs"). The program is available to separately-metered commercial customers who are billed on a commercial rate schedule and pay into the Systems Benefit Charge ("SBC")/EE Tracker. Incentive amounts are capped at 50 percent of the customer's project cost for eligible measures and total project incentives cannot exceed $1,000,000 for custom electric and $250,000 for custom gas per account per year.

The Company also offers rebates for custom efficiency projects. The custom track is a flexible and innovative equipment replacement program that is designed to encourage C&I customers to identify energy saving opportunities and implement cost-effective retrofit projects. Custom projects involve the installation of non-lighting measures that are not qualified for the prescriptive track and, as such, require additional engineering analysis to determine energy savings. Incentives are currently set at a unit rate of 16 cents per kWh.

The Company is focused on identifying and engaging customers in heavy energy use sectors. Customer segment verticals such as hospitals, schools, and the banking sector are some of the areas where Con Edison may see significant potential for savings. The Company is also working to directly engage market partners with stringent requirements for high quality partnerships. At the same time, the Company is exploring avenues to reward the highest performing contractors to further incentivize high performance.

The program anticipates serving approximately 300 customers annually throughout this ETIP cycle.

Review of 2016 Activities and Accomplishments

Through December 31, 2016, the C&I electric program expended $8,029,594 and acquired 26,375 MWh. During the same period, the gas program expended $1,697,631 and acquired 50,983 Dth. The Company also encumbered additional funds for committed projects in the 2016 pipeline to help meet the overall 2016 portfolio goals. As with all programs across the portfolio, the Company seeks to apply lessons learned from implementation experience to improve programs while not reducing the electric and gas portfolios below a 1.0 BCA threshold. Among the improvements in 2016 are incremental adjustments to programs' measure mixes and incentives.

The C&I program responded to a number of challenges faced during the program year such as managing a large pipeline of projects. The most substantial program change was bringing implementation of the program in-house after working through a contractor. A driver behind this change was the continuous effort to obtain efficiencies, and to leverage the lessons learned from operating the Demand Management Program internally. While transitioning to this new management structure, the Company is addressing issues, such as long timelines for customers and administrative bottlenecks through concerted efforts to improve processes, speed project turnaround time, and provide more regular communications with customers. As an example, the Company has increased the number of communications that customers receive on the status of their project. In 2016, customers only received one communication informing them of what their incentive would be before it was paid. Now customers receive at least three communications with updates on savings and incentives throughout each project's lifetime. This change aims to increase customer satisfaction with the program.

Self-Direct Program

The REV Track One Order directed utilities to implement a Self-Direct program for large energy users to administer their own energy efficiency programs in lieu of participating in utility programs.[25] The Company undertook a concerted effort in 2016 to inform large customers of the program's availability, including online marketing along with individual telephone calls and customer site visits. The program generated significant interest as some customers saw the benefit of integrating energy efficiency measures into their capital plans.

The first three-year phase of the program was successfully launched in 2017, with roughly $7M in incentives available over three years to enrolled customers. Projected Self-Direct projects, if successfully implemented by participating customers, can result in over 31,000 MWh of savings over the 2017-2019 period. However, as these funds are directed by customers for their use, expenditures and savings by year, and over the course of the three-year cycle, cannot be accurately predicted. The Company will work with enrolled customers to emphasize the need to use all available funding by the end of 2019.

While Self-Direct customers cannot participate in other ETIP programs, they are eligible to participate in Rate Case energy efficiency and system peak demand reduction programs. The Company will design programs such that any incentives are complementary but not duplicative across programs.

Commercial Direct Install Program

The Commercial Direct Install Program ("CDI") continues to be a significant source of MWh energy savings in the electric ETIP portfolio, serving small commercial customers throughout the Con Edison service territory that may not otherwise have the time, knowledge, expertise, or available capital to access and implement energy saving technology upgrades. In 2017, CDI (formerly the Small Business Direct Install program, SBDI) continues to offer small to mid-size commercial customers with average peak demand of up to 300 kW low to no-cost energy efficiency equipment upgrades for their businesses. In addition to LED lighting and refrigeration measures, the program introduced gas measures in 2017 to provide a more comprehensive set of energy solutions to this group of customers.

The program will continue to work closely with C&I offerings, which serves larger customers, to offer other commercial measures making program participation a more seamless experience. Customers with an average peak demand of 100 kW to 300 kW will have a choice in participating in either commercial path – CDI or C&I. This optionality encourages customer choice and control as well as flexibility for accommodating customer preference in choosing an installation contractor. This feature aligns with the Company's vision of a comprehensive set of offerings to commercial customers. Similar sets of offerings to the Company's other core set of customers, residential consumers, are described below.

Customers will continue to receive an onsite free energy assessment, and if they choose to move forward, the installation and material costs of energy efficient measures will be incentivized by the program at up to

[25] *Id*.

70 percent of the total cost. The customer is responsible for the remainder of the project costs via a customer co-pay arrangement.

CDI is working to streamline program process flows from lead generation to product installation utilizing online marketing via social media and e-blasts and targeted approaches through direct mailers for vertical campaigns. The program will rely on marketing to grow a pipeline of quality leads that improves lead-to-sale conversion rates and more efficiently utilizes limited administrative resources. The program continues to seek strategies that provide an opportunity to more effectively address the needs of low-demand small business customers through increased access to and affordability of energy efficiency services while providing a seamless customer experience.

The program will pilot a do-it-yourself ("DIY") delivery channel via the Con Edison Marketplace in 2017. The DIY Lighting pilot will provide free lamps to small business customers with electricity demand under 30 kW. Participating customers will receive a coupon code for a capped dollar amount that will allow them to redeem free lamps through Con Edison's Online Marketplace. Customers may order any combination of five available lamp types, which will be delivered to their business via mail. Customers will then install the lamps themselves or hire a local contractor to complete the installation. While DIY is administered through the T&L strategy and process to determine viability, DIY will be offered through the CDI program as part of its suite of offerings.

During the pilot phase, the Company will assess customer compliance with the program terms by conducting post-inspections at all participating customer locations. The Company will use this pilot to determine if it can effectively serve small business customers as an alternative to the traditional direct install model. The DIY initiative endeavors to reach more customers in this key market segment at a lower cost and leverages approaches consistent with goals of REV, including greater customer involvement in managing their use and using the Online Marketplace portal to deliver discounted efficiency equipment (lighting).

The CDI program anticipates serving approximately 4,500 customers annually throughout this ETIP cycle.

Review of 2016 Activities and Accomplishments

Through December 31, 2016, CDI expended $22,926,360 and acquired 86,627 MWh. Building off prior success under EEPS and expanding program eligibility to serve customers with average demand up to 300 kW, CDI was able to maintain a robust set of projects delivering slightly more than its targeted amount of savings within its prescribed budget.

Residential Sector

Under EEPS from 2009-2015, participants in Company energy efficiency offerings were often classified and compartmentalized into particular programs, each with its own distinct measure offerings. Thanks in part to the flexibility granted through the ETIP process, the Company is seeking to broaden the scope of its initiatives and reach new and previously underserved customers through more inclusive, comprehensive, and versatile

approaches. To effectuate this transition, Con Edison is reforming the delivery of programs that impact all customers. While the existing Residential and Multifamily programs will continue to serve customers, customers will now also be able to access various offerings and incentives that were traditionally limited by the type of building in which the customer resided (*e.g.*, a 1-4 family home or a multifamily dwelling). For example, a residential customer may now access efficient products and services via multiple avenues: through existing programs, by purchasing appliances through the Online Marketplace, through in-store purchases to access market transformational upstream incentives, or even through the innovative Smart Kids Education program.

Broadening eligibility and driving up participation rates for all types of residential customers will be instrumental to increasing energy savings and reducing peak demand.

This approach offers many benefits:

1. Customized offerings to a broader swath of customers
2. Deeper savings through an increased suite of eligible measures
3. Engagement of new or hard to reach customers
4. Multiple options for customers.

Residential Electric & Gas Programs

The traditional Residential program targets renters and owners living in existing 1-4 family housing who pay into the SBC. Prior to 2017, the Residential Rebate Programs consisted of electric and gas rebate measures, including appliance rebates, appliance recycling, and electric and gas HVAC efficiency rebates.

In 2017, the Company's traditional Residential program offerings were reorganized to better serve customers, increase cost-effectiveness, and bolster energy savings. The expansion to the Residential portfolio is intended to broaden energy efficiency penetration to acquire new savings in non-traditional or new markets, be more inclusive, comprehensive, and flexible in facilitating energy savings and peak demand reduction, expedite the transition to a more REV-like environment with strong focus on customer experience.

The residential appliance rebate and HVAC electric and gas programs broadened eligibility criteria beyond 1-4 family residential customers for specific measures, such as mini-splits to include all residential (including multifamily) and small commercial customers. At the same time, the program's appliance recycling offering shifted from 1-4 family homes to directly target the multifamily market that was previously not served by past appliance recycling programs. The program was redesigned to coordinate with multifamily building owners to spur bulk appliance recycling and upgrades through the appliance rebate program. The recycling service entails coordinated removal and recycling of refrigerators, freezers, and room air conditioners and supports working with retailers to host drop-off recycling events.

A core part of the Residential portfolio is the Appliance Rebate program which offers rebates for energy efficient appliances including, but not limited to, eligible dishwashers, clothes washers, clothes dryers, dehumidifiers, and room air conditioners. Incentives are offered to Con Edison individually metered

residential electric customers and commercial customers.

In alignment with REV goals, the Residential program is also introducing instant rebates on LEDs and smart thermostats through direct sales on Con Edison's Online Marketplace. The Online Marketplace is part of a REV Demonstration project launched in 2016 as a one-stop shop offering product comparisons by energy score and the aforementioned instant rebates on light bulbs and thermostats. Smart strips are also sold on the site.

Additionally, the Company is working to coordinate energy efficiency with peak-demand reduction efforts. The Direct Load Control ("DLC") Bring Your Own Thermostat ("BYOT") offering is now coordinated administratively with efficiency initiatives to incent customers to reduce overall energy use as well as during times of system peak demand. Enrollment allows Con Edison limited adjustments to the customer's central air-conditioner setting during the summer to reduce demand and high energy use. Customers still retain final control and can override the settings at any time. BYOT customers will have access to a larger incentive through this program partnership through enrollment in both programs; upon purchase a customer can receive a rebate for energy efficiency savings (currently set at $25), and an additional larger incentive (currently $85) for registering the device with Con Edison for demand response purposes. The Company is continuing to explore the synergies between energy efficiency and demand response, and to test new controllable devices and incentive mechanisms to incentivize beneficial behavior.

While DLC Company Provided Thermostat ("CPT") offer continues to be an active resource for demand response events, the Company is no longer accepting new enrollments. This decision was driven primarily by cost and communication platform considerations, as well as the general desire to progress toward offering customers choice in the devices they place in their homes. Customers with Company-provided thermostats will still be called upon to reduce load during demand response events.

The HVAC electric and gas rebates programs offers customer rebates and contractor incentives, and is marketed to, and delivered through, a trade ally network of HVAC contractors. The program includes, but is not limited to, central air conditioners, mini-splits, furnaces, heat pumps, wifi-enabled thermostats, electric water heaters, indirect water heaters, standalone water heaters, tank-less water heaters, electrically commutated motor (ECM) furnace fans, and water and steam boilers. Rebates are offered to individually-metered residential electric customers, and mini-splits are offered to commercial customers with an average peak demand of up to 300 kW.

To better serve customers and lower barriers to entry, the Residential program will deliver more online tools, in alignment with REV goals such as greater facilitation of customer engagement, to streamline participation and ease the enrollment process. An electronic rebate application will also be provided directly from the Con Edison Online Marketplace. The HVAC program will, for the first time in 2017, offer an online portal for contractors to submit and track the status of HVAC applications consistent with the changes the Company is pursuing to allow customers to more easily engage with the Company. Historically, the HVAC program only offered a paper mail-in rebate process. To make the HVAC program more robust, the Company is strengthening its engagement with HVAC contractors throughout the program delivery cycle.

The ETIP portfolio contributes funding to and includes kWh savings from lighting distributed directly to customers that participate in the BQDM free LED lighting program. The residential program conducts door-to-door canvassing efforts in the BQDM zone to offer eligible residential customers free LED lighting upgrades, swapping out inefficient incandescent and CFL light bulbs for more efficient LEDs.

The Residential portfolio will expand its suite of offerings through additional new market transformational Rate Case initiatives. This year, Con Edison will launch a retail lighting program that will offer discounted LEDs through select retailers. The program will aim to improve and increase market share of ENERGY STAR LED lamps within the Con Edison territory. In addition, Con Edison's Smart Kids program delivers LEDs, faucet aerators, and showerheads to fifth-graders across the service territory and is paired with an in-classroom educational lesson plan on energy. The increase and diversification of customer participation channels allow for an increased reach of services provided to customers across the territory. These programs will be managed as part of the broader portfolio of programs. From a customer or market partner perspective, whether an initiative is Rate Case or ETIP will have no bearing on their experience.

The retail lighting program and marketplace instant rebates are the first steps to developing market transforming initiatives to midstream and upstream offerings to allow for more cost-effective delivery and also widely broaden the reach of programs through innovative new delivery channels. Con Edison is exploring other mid- and upstream opportunities for HVAC equipment and appliances. Expansion of midstream and upstream offerings is expected to be a priority in 2018 and 2019.

The Residential portfolio of offerings anticipates serving approximately 50,000 customers annually through this ETIP cycle.

Review of 2016 Activities and Accomplishments

Through December 31, 2016 the Residential electric initiatives expended $6,316,116 and acquired 11,209 MWh. The gas program expended $1,150,581 and acquired 12,187 Dth. Late in 2016, the Online Marketplace, described above, was launched. The Online Marketplace provides a new and innovative channel to reach customers and provide meaningful offers. Also, in 2016, the program focused efforts on the promotion of mini-splits, as customer interest continues to grow with increased awareness. The program experimented with promotions, such as limited time offers, to create a sense of urgency, which resulted in a lift in participation. During 2016, the Company also connected customers through the BYOT initiative to incentives through the Residential program for energy efficiency savings.

Multifamily Sector

Multifamily Electric & Gas Programs

The Multifamily Program promotes energy efficiency for existing multifamily electric and gas customers. The multifamily market consists of nearly 70,000 residential buildings across New York City and Westchester County. Many of these buildings were constructed decades ago without attention to the most basic inefficiencies in their thermal, mechanical, and electrical systems.

The multifamily program is targeted to owners and property managers of residential buildings with five or more units. Eligibility is dependent on being an electric or gas customer of Con Edison. Every customer who applies to the program may be able to qualify for one of two exclusive participation tracks: affordable housing track for buildings that receive designated low-income subsidies from a major government agency such as Section 8, HDFC related financing, or tax credits and are in turn subject to that agency's regulations, or BQDM Neighborhood track for buildings located within targeted Brooklyn-Queens neighborhoods, for which Con Edison is providing additional demand-side management resources.

After enrolling in the Multifamily Program, customers have the option to select their desired energy efficiency products and services from a menu of educational offerings, direct installations, and both prescriptive and custom rebates. Building and apartment surveys as well as custom assessments help customers identify which efficiency solutions are right for them while the direct installations and rebates provide for the actual implementation of the measures. As with the C&I program discussed above, prescriptive rebates are for a preset list of mainstream energy efficiency measures that can be installed by any market partner that is qualified under the program, while custom rebates are for an open-ended category of efficiency technologies that require a site-specific analysis in order to estimate the energy savings. For custom measures, the rebate is based on a fixed price ratio that takes into account the energy savings that are formulated in the custom assessment report. The remaining costs of these measures are to be paid by the customer to its selected market partner.

Con Edison has worked to broaden program participation with wider market penetration expected to continue in 2017 thanks to expanded eligibility beyond 75-unit buildings. Additionally, deeper energy savings are expected now that tenants can access measures and incentives directly through new programs including the Residential offerings, the Retailer Incentive program, and the Retailer Lighting program.

The Multifamily Program will continue to leverage and foster several working relationships to support the success of the program. Partnerships with New York City Mayor's Office on Sustainability Retrofit Accelerator and Community Retrofit Programs, National Grid's Multifamily Program, NYSERDA's Multifamily Performance Partner Program, New York City Department of Housing Preservation and Development: Green Housing Preservation Program, and the Con Edison Neighborhood Program all work to synchronize efforts to coordinate offerings and increase program participation.

The Company's management team has been focused on implementing the program's design plan and making adjustments wherever necessary. In 2017, the program has held a half dozen orientation classes to recruit contractors and consultants to the qualified market partner network as well as classes on steam heating and LED lighting. The network has grown to include more than 150 partners who are actively selling and installing efficiency projects every week.

Additionally, the program launched a unique steam-heating efficiency package opportunity for affordable housing customers. Incentives are provided for the performance of a building assessment, boiler clean and tune, master air venting, and thermostatic radiator valves ("TRVs"). There are currently more than 100 building projects enrolled to perform one or more of these measures. The program partnered with the

Retrofit Accelerator, as mentioned above, to perform outreach to customers who still rely on #4 fuel oil. The Company is combining incentives to cover the cost of conversion to natural gas together with the existing incentives for high-efficiency boilers. This joint incentive opportunity will remain open until early summer 2017.

Going forward, in 2018, the program management team is planning on introducing at least two more "packaged measure" offerings to the multifamily marketplace. A packaged measure is a step in the direction of the innovative "whole-building efficiency" concept, because the packaged measure begins to look at building systems, rather than isolated pieces of equipment, to transform buildings more holistically through a suite of improvements. Currently the program is experimenting with its first packaged measure, 1-Pipe Steam Retro-commissioning ("1PS RCx"). 1PS RCx is an attempt to take a complete look at the steam pipe distribution system and rectify problems relating to steam quality, air entrapment, and temperature imbalances across the building. Additionally packaged measures to be introduced in 2018 are 2-Pipe Steam Retro-commissioning ("2 PS RCx"), which is similar to 1 PS RCx except that it will include orifice plate technology instead of master air venting, and air sealing, which is a comprehensive approach to reducing common air leakage problems surrounding building windows and doors. The package will include exterior door weather-stripping and sweeps, caulking around all windows, and installing insulated covers on window and through-wall air conditioners.

The program anticipates serving approximately 1,600 buildings annually throughout this ETIP cycle.

Review of 2016 Activities and Accomplishments

Through December 31, 2016 the Multifamily electric initiatives expended $11,315,845 and acquired 38,280 MWh. The gas initiatives expended $4,158,800 and acquired 208,486 Dth.

In 2016, the Multifamily achieved nearly the same level of performance as occurred during the final two years of EEPS 2 combined. This was a direct result of the flexibility in program regulation that made the program designs, discussed above, possible.

Test and Learn

Test-and-Learn Implementation Strategy

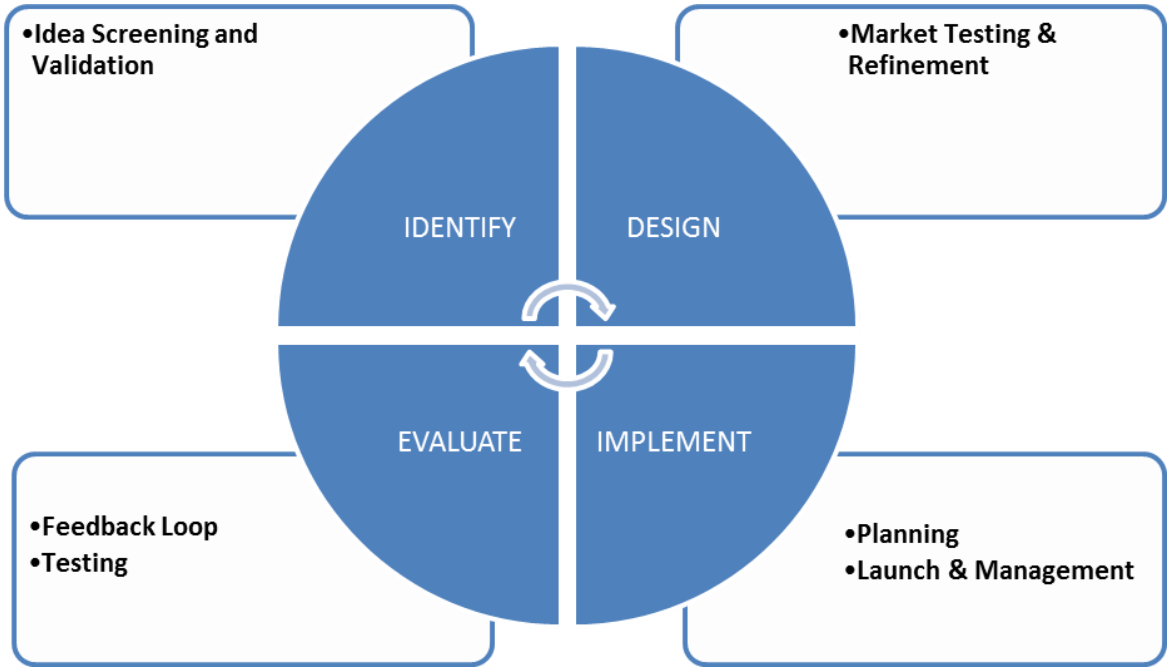
The Company introduced an ongoing T&L strategy in the 2016 ETIP filing, described as a systematic method of identifying, designing, and implementing new technologies, programs, initiatives, and campaigns. The Company uses the T&L strategy to identify new measures, uses, and delivery mechanisms for existing offerings, and to identify and test new programs and initiatives before full-scale implementation is undertaken. As a T&L initiative reaches maturity, the Company will evaluate its long-term viability and potential for success in the marketplace, after which the initiative will no longer fall under T&L and will be folded into the broader portfolio of ETIP and Rate Case programs, or retired or retooled, as appropriate.

This section describes the process by which the Company will continue to deploy the T&L strategy, and

discusses some of the initiatives the Company may launch and operate during 2017 and beyond. As the Company learns from these new initiatives, savings that might be later acquired through their successful operation have not been included as part of the Company's projected acquired savings. If savings are created through these initiatives and are verified, the Company will then include them as acquired savings, as was the case with Smart Kids in 2016.

T&L utilizes an Identify, Design, Implement, Evaluate work flow process to monitor new and developing technologies and programs. This process is illustrated in Figure 2 below.

Figure 2: Test and Learn Process Model



"Identify" is the first phase of the process. This step generates new initiative ideas and delivery mechanisms from both the external marketplace and internal resources. The Company then proceeds to vet ideas through an initiative screening and validation process, using criteria such as market potential, cost-effectiveness, sustainability, and customer experience to evaluate such proposals. A disciplined organizational structure informs the undertaking of these activities.

"Design" is the next phase. After ideas are screened, a controlled design is implemented to measure customer satisfaction and market performance. This stage helps to determine which customer segments would be most responsive to the identified new initiatives.

After Design, the Company moves to the "Implement" phase. A planning schedule informs the tasks needed to launch any new initiative with a heightened focus on delivery systems for seamless customer engagement and positive experience. These efforts will be coordinated with marketing and communications tasks and schedules, developed through the T&L process.

The T&L process ends in the "Evaluate" phase. Upon launch of a program or initiative, the Company proactively solicits customer opinion with performance tracked through a multi-channel feedback process incorporating quantitative and qualitative survey and research data collection and analyses. Learnings will then be incorporated into improvement initiatives. Upon completion of the process, a T&L initiative will be ramped up or retired as appropriate.

Midstream Retailer Incentive Program

The Retailer Incentive Program is a midstream appliance and electronics program designed to increase energy efficient product penetration and facilitate long-term market transformation. This program provides targeted financial incentives at the "midstream" (or retailer) level to influence buying, stocking and marketing decisions both at the local and national scale. Midstream incentive programs have the potential to dramatically increase market penetration of efficient technologies at much lower unit cost achieved through economies of scale compared to more traditional downstream (consumer-targeted) incentive programs.

This program originated under the ENERGY STAR® Retail Products Platform ("ESRPP") initiative, a nationwide market transformation program facilitated by the U.S. Environmental Protection Agency ("EPA"). Under ESRPP, program sponsors pay incentives to retailers based on current monthly sales data on a qualifying per-unit basis for all participating store locations. The significant level of sales data that will become available through the program will be used to establish product sales baselines, as well as to track penetration of Energy Star models and sales throughout the program cycle. ICF, the Company's third-party vendor, will provide ongoing data management services through contracts with all of the program sponsors.

The Company and participating retailers and retailer networks (Home Depot, Best Buy, Sears, Kmart and Nationwide) will leverage national marketing messages and co-branded marketing templates developed by the EPA, tailored directly to customers in the respective regional service territories. To assist with in-store marketing, ICF's field services staff will conduct store visits and educate store employees as necessary. The Company will adhere to a consistent national program design and common product categories using specifications agreed to by all participant parties. Product categories will be shifted in the longer term as markets develop and technologies change. The Company will take the necessary precautions to prevent duplicative incentives including through other delivery channels.

The Midstream Retailer Incentive Program was launched in December 2016.

"Smart" TRVs for Steam Heating

Uneven and inefficient steam heating systems are a prevalent problem in New York City's aging multifamily building stock. These unbalanced steam systems cause tenant discomfort and put a strain on a building's boiler or the larger district steam system. The Company is evaluating a technology called "Smart TRVs," which increase tenant temperature control and improve energy efficiency throughout the system. Similar connected TRV systems have proven successful in Europe but have little market penetration in the United States.

This technology will be piloted at a multifamily building in Queens. A third-party evaluator conducted a pre-inspection site visit and TRV installation began in November 2016. The vendor and the evaluator then monitored performance throughout the 2016-2017 heating season to verify energy savings as well as tenant comfort and control. Evaluation results are expected to be available later this year.

New Homeowners

Market research indicates that new homeowners are likely to purchase new appliances and other equipment in the first year of owning a home. These customers, if provided with energy efficiency related information through outreach, may be more willing to purchase more efficient appliances or perform weatherization work. In order to develop innovative early engagement with such customers with the potential to transform a market segment through implementation of efficiency measures resulting in sustained energy savings, the Company intends to implement a pilot program to reach new homeowners during this important point of their buying cycle. Participating qualified customers will be identified based on new service turn-on requests.

The New Homeowners pilot will send 10,000 new movers a free kit of energy efficiency measures and marketing materials promoting other energy efficiency programs. Kits may also include other promotional materials and gas safety information.

A select number of new movers will receive a kit containing both electric and gas measures, while the remaining participants will receive an electric-only kit. The latter group of participants can redeem the additional gas measures on Con Edison's Online Marketplace with a unique coupon code. The control and treatment groups will allow the Company to determine which delivery method is most cost-effective while maximizing energy savings. This pilot is scheduled to launch in June 2017, following a competitive RFP selection process.

Multifamily Behavioral - Home Energy Reports

Behavioral energy efficiency programs have seen success in service territories throughout New York State and across the United States. A home energy report ("HER"), the primary driver of behavioral change in these programs, can motivate customers to use less energy and save money on monthly bills by providing customers with better information about their energy use as well as personalized energy saving advice. Additionally, HER programs provide utilities with measurable and verifiable information about customer behavior, and with increased granularity as smart meters become more prevalent. HER programs can also result in a virtuous cycle of enhanced customer awareness of (1) their own energy use, (2) available energy efficiency and DER measures, and (3) utility and related market actors through whose services they can benefit, leading to enhanced interest in implementing such measures and using such energy services. This program could help increase participation in other initiatives as customers purchase energy efficient equipment and appliances for their homes in addition to beneficially changing behavior.

In 2016, the Company began offering HERs as a pilot through its Connected Homes REV Demonstration pilot.

In May 2017, as part of the NYSERDA Behavioral Intervention Project the Company expanded its piloting of HERs by launching the Digital Efficiency and Rewards Platform, which targets multifamily customers. All participants will receive HERs, and a randomized subset of these participants will gain access to a Points & Rewards platform. Points & Rewards offers customers financial incentives, in the form of points that can be redeemed for gift cards, to encourage energy-saving behaviors. This pilot program will run for one year, followed by two years of measurement and verification of behavior persistence conducted by a third-party evaluator. The Company is also exploring opportunities to leverage or expand on the REV Demonstration project that provides HERs to customers in Westchester County and Brooklyn in order acquire additional energy efficiency savings.

Commercial Behavioral

The Company also intends to encourage behavioral change in the commercial sector. Over an 18-month pilot, targeted communications, education, and other behavioral drivers will be aimed at building operators and tenants in approximately 40 commercial buildings with a built-up area over 300,000 square feet. This pilot aims to deliver 4 percent kWh savings at an optimal cost. This pilot is planned to launch in the latter half of 2017.

Annual Report Appendix

Budget and Target Activity Summary:

Below is a summary of 2016 activity through December 31, 2016. The 2016 Portfolio Administration budget category includes support and other functions vital to the successful execution and growth of the efficiency portfolio. Costs include, but are not limited to: labor, all program marketing (see the Marketing and Customer Engagement section for examples of specific work), market research and analytics including customer segmentation studies and technical analyses of energy efficiency potential relevant to the Con Edison service territory (see the Market Research section for examples of specific work), training for market partners on offerings and initiatives, and database development and maintenance outside of base rates. Employee benefits are recovered through base rates.

Table 16: 2016 Total Funds Expended and Encumbered vs Planned Budget- Electric Portfolio

Electric Portfolio	2016 Planned Annual Budget	Expended	Encumbered	Total Expended and Encumbered
Commercial & Industrial Sector				
C&I				
Incentives & Services	11,282,099	3,870,646	3,402,355	7,273,001
Program Implementation	5,467,091	4,158,948	1,080,518	5,239,466
Total Budget	**16,749,190**	**8,029,594**	**4,482,873**	**12,512,467**
Self-Direct				
Incentives & Services	-	-	-	-
Program Implementation	-	-	-	-
Total Budget	-	-	-	-
SBDI				
Incentives & Services	22,504,811	19,874,129	2,625,796	22,499,925
Program Implementation	4,000,000	3,052,231	247,770	3,300,001
Total Budget	**26,504,811**	**22,926,360**	**2,873,566**	**25,799,926**
Residential Sector				
Residential				
Incentives & Services	4,565,025	4,057,113	559,555	4,616,668
Program Implementation	2,596,178	1,455,251	357,842	1,813,093
Total Budget	**7,161,203**	**5,512,364**	**917,397**	**6,429,761**
Smart Kids Energy Education				
Incentives & Services	2,054,575	513,286	-	513,286
Program Implementation	902,317	202,791	-	202,791
Total Budget	**2,956,892**	**716,077**	-	**716,077**
Retailer Incentive				

Incentives & Services	320,000	-	10,485	10,485
Program Implementation	150,000	87,675	7,997	95,672
Total Budget	**470,000**	**87,675**	**18,482**	**106,157**
Multifamily Sector				
Multifamily Program				
Incentives & Services	5,331,789	8,330,542	860,922	9,191,464
Program Implementation	2,000,000	2,985,303	416,691	3,401,994
Total Budget	**7,331,789**	**11,315,845**	**1,277,613**	**12,593,458**
Total Portfolio				
Total C&I Programs	43,254,001	30,955,953	7,356,439	38,312,393
Total Residential Programs	10,588,095	6,316,116	935,879	7,251,995
Total Multifamily Programs	7,331,789	11,315,845	1,277,613	12,593,458
Portfolio Administration	20,695,238	5,520,161	1,113,895	6,634,056
Portfolio EM&V	4,308,901	699,044	3,527,956	4,227,000
Total Portfolio Budget	**86,178,024**	**54,807,120**	**14,211,782**	**69,018,902**

Table 17: 2016 Total Funds Expended and Encumbered vs Planned Budget - Natural Gas Portfolio

Gas Portfolio	Planned Annual Budget	Expended	Encumbered	Total Expended and Encumbered
Commercial & Industrial Sector				
C&I Program				
Incentives & Services	1,881,076	1,035,319	538,757	1,574,076
Program Implementation	889,013	662,312	210,307	872,619
Total Budget	**2,770,089**	**1,697,631**	**749,064**	**2,446,695**
Residential Sector				
Residential				
Incentives & Services	915,430	446,850	412,400	859,250
Program Implementation	522,414	396,854	76,874	473,728
Total Budget	**1,437,844**	**843,704**	**489,274**	**1,332,978**
Smart Kids Energy Education				
Incentives & Services	445,154	128,321	-	128,321
Program Implementation	258,548	178,555	-	178,555
Total Budget	**703,702**	**306,876**	**-**	**306,876**
Multifamily Sector				
Multifamily Program				
Incentives & Services	4,639,950	2,535,926	175,459	2,711,385
Program Implementation	1,800,000	1,622,874	91,621	1,714,494
Total Budget	**6,439,950**	**4,158,800**	**267,080**	**4,425,879**
Total Portfolio				
Total C&I Programs	2,770,089	1,697,631	749,064	2,446,695

Total Residential Programs	2,141,546	1,150,580	489,274	1,639,854
Total Multifamily Programs	6,439,950	4,158,800	267,080	4,425,879
Portfolio Administration	2,455,208	808,579	214,636	1,023,215
Portfolio EM&V	726,673	58,228	584,552	642,780
Total Portfolio Budget	**14,533,466**	**7,873,818**	**2,304,606**	**10,178,423**

Table 18: 2016 Saving Acquired and Committed vs Planned Target - Electric Portfolio

Electric Portfolio	2016 Planned Target	Acquired	Committed	Total Acquired and Committed
Commercial & Industrial Sector				
C&I				
MWh	66,890	26,375	16,513	42,888
Self-Direct				
MWh	-	-	-	-
SBDI				
MWh	85,722	86,627	-	86,627
Residential Sector				
Residential				
MWh	10,176	9,094	1,466	10,560
Smart Kids				
MWh	-	2,115	-	2,115
Multifamily Sector				
Multifamily				
MWh	17,485	38,280	-	38,280
Total Portfolio				
MWh	180,272	162,491	17,979	180,470

Table 19: 2016 Saving Acquired and Committed vs Planned Target – Natural Gas Portfolio

Natural Gas Portfolio	2016 Planned Target	Acquired	Committed	Total Acquired and Committed
Commercial & Industrial Sector				
C&I				
Dth	73,194	50,983	4,820	55,803
Residential Sector				
Residential				
Dth	22,752	6,997	6,941	13,938
Smart Kids				
Dth	-	5,190	-	5,190
Multifamily Sector				
Multifamily Program				
Dth	183,224	208,486	-	208,486
Total Portfolio				
Dth	279,170	271,656	11,761	283,417

Discussion of Significant Differences between 2016 Program and Administration Planned and Actual Budgets and Targets

The 2016 ETIP was successful overall at the electric and gas portfolio levels. For electric budgets (excluding EM&V), the Company budgeted $81,869,123 in the April 1, 2016 ETIP filing, while as of December 31, 2016 its combined expenditures plus encumbrances were $64,791,902. Despite this underspend the Company was able to acquire and commit a combined 180,470 MWh, 198 above the goal of 180,272 MWh.

Gas is a similarly successful story. For gas budgets (excluding EM&V), the Company budgeted $13,806,793, while as of December 31, 2016 its combined expenditures plus encumbrances were $9,535,644. Despite this underspend the Company was able to acquire and commit a combined 283,417 Dth, 3,273 above the goal of 279,170 Dth.

C&I

The C&I electric program expenditures were 25 percent lower than the anticipated budget amount in 2016 as was reflected in the April 1, 2016 ETIP filing, which resulted in 36 percent less MWh savings. The primary reason for this variance was a longer than expected amount of time needed to build up the program in the first half of 2016. Slower than anticipated sales and achievements in the first half of the year led to underperformance, however as a portfolio, other programs were able to acquire additional savings to make up the gap.

Multifamily

The Multifamily electric program experienced a 119 percent increase from its 2016 planned MWh target

and a 72 percent increase from its planned annual budget. This occurred because of the program's significant success, which resulted in the Company increasing both the 2016 MWh target and associated funding, as noted in a December 1, 2016 Revision Letter.[26] The Multifamily gas program, however, spent 31 percent less than originally planned. This is because the program leveraged limited resources to more cost-effectively deliver savings even as it ramped up activities with a new implementation contractor.

Residential

This Residential gas program acquired 39 percent less savings than originally forecast due in large part to the relatively warmer winter in 2016, which resulted in a decrease, relative to the anticipated number, of oil to gas conversions and the subsequent boiler upgrades which the Residential program supports.

Smart Kids

The Smart Kids program electric expenditures were 76 percent less than its planned annual budget, and gas expenditures were 56 percent less than its planned annual budget. When this T&L initiative was conceived the Company anticipated reaching 100 percent of the fifth-grade market. Later, this effort was scaled down to 25 percent of the market to pilot the approach to a subsegment of the eligible population prior to full rollout. In 2017 the program will reach 100 percent of the market as a Rate Case Program.

As Smart Kids was initiated as an untested T&L effort in the New York market, the Company assigned no savings given the inherent significant uncertainty in estimating such savings prior to M&V results. Since the Company concluded its M&V efforts, the Company found that the initiative has yielded over 2,000 MWh, thus resulting in a variance from the benchmark of zero savings. Similarly, for gas savings, the Company forecasted zero savings, but post-M&V found it has acquired over 5,000 Dth, resulting in a variance from the benchmark of zero savings.

Retailer Incentive

Under this T&L initiative, Con Edison intended to engage national retailers through the ENERGY STAR® Retail Products Platform ("ESRPP"), an initiative facilitated by the EPA, throughout 2016. However due to operational and contractual delays, no formal agreement was in place until the fourth quarter of 2016. This resulted in a 77 percent reduction in electric forecasted budget spend. In 2017 ESRPP has been folded into the Residential portfolio.

Portfolio Administration

The Company spent 68 percent less on administration supporting the electric portfolio and 58 percent less on the gas portfolio than originally budgeted. On the electric side this variance was primarily driven by the

[26] Case 15-M-0252, *In the Matter of Utility Energy Efficiency Programs,* ETIP 12.1.16 Con Edison Revision Letter Filing (filed December 1, 2016) http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={E9CC09FE-2E22-47FA-8339-FAEAB8C8DDDB}

reallocation of $6M to the Multifamily program.[27] Additionally, a portion of the authorized funding that were internally earmarked for support services, including market research studies, was postponed. For gas initiatives, both programs and support services were able to more efficiently use resources than originally forecast.

Evaluation Measurement and Verification (EM&V):

Table 20: EM&V Activity Expenditures

EM&V Activity (Electric)	Planned Expenditures	Expended	Encumbered	Total Expended and Encumbered
Smart Kids Program Process Evaluation	$50,000	$43,335	$6,665	$50,000
Smart A/C Program Evaluation	$50,000	$25,939	$24,061	$50,000
MF Partner Program Research	$160,000	$144,938	$15,062	$160,000
Total EM&V Budget	**$260,000**	**$214,212**	**$45,788**	**$260,000**

Table 21: EM&V Activity Expenditures

EM&V Activity (Gas)	Planned Expenditures	Expended	Encumbered	Total Expended and Encumbered
MF Low-Income Characterization Study	$20,000	$14,213.	$5,787	$20,000
EUL Project (Phase 1)	$25,000	$18,791	$6,209	$25,000
Smart Kids Program Process Evaluation	$50,000	$43,335	$6,665	$50,000
Total EM&V Budget	**$95,000**	**$76,339**	**$18,661**	**$95,000**

Table 22: Withdrawn or Completed EM&V Activities

EM&V Activity (Electric)	Status	Details & Significant Dates
Smart Kids Program Process Evaluation	Completed	October, 2016
Smart A/C Program Evaluation	Completed	November, 2016
MF Partner Program Research	Completed	August, 2016
Total EM&V Budget	**$260,000**	

[27] *Id*.

Table 23: Withdrawn or Completed EM&V Activities

EM&V Activity (Gas)	Status	Details & Significant Dates
MF Low-Income Characterization Study	Completed	May, 2016
EUL Project (Phase 1)	Completed	January, 2017
Smart Kids Program Process Evaluation	Completed	October, 2016
Total EM&V Budget	**$95,000**	