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REV Demonstration Project Outline

Building Efficiency Marketplace

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## 1. Executive Summary

Con Edison's energy efficiency and demand management programs have a history of success, but REV presents significant opportunity to further leverage new and innovative technologies to increase customer awareness and participation, identify distributed energy resource opportunities with minimal time and resources, and bring those opportunities to a new marketplace in a much quicker and more cost-effective way for the market participants.

Consistent with REV goals, Con Edison proposes the "Building Efficiency Marketplace" REV Demonstration Project to create a marketplace that will achieve increased customer awareness and participation. The Company expects that the Building Efficiency Marketplace demonstration project will illustrate how interval meter data analytics can be leveraged to enable:

- targeting and multi-channel engagement of commercial customers with high energy efficiency savings and demand reduction potential;
- web-based portals to engage customers with details on how their building consumes energy today, as well as their potential energy savings and demand reduction opportunities;
- a marketplace to streamline connections between customers and market partners<sup>1</sup>; and
- virtual, automated savings measurement and verification to provide customers with visibility into achieved savings and to help ensure that implemented projects continue to perform over time.

In addition, Con Edison expects the Building Efficiency Marketplace demonstration project to achieve the following benefits:

- 1) Deliver enhanced customer engagement through rich customer experiences with data-driven insights and actionable information;
- 2) Target offerings to drive higher penetration in constrained areas of the system;
- 3) Enable building owners and managers to more quickly realize the benefits of energy efficiency and demand management to reduce their utility bills and environmental footprint;
- 4) Dramatically increase the pace and volume of market activity related to efficiency-related products and services;
- 5) Increase market value for Con Edison's market partners by expanding market opportunities and reducing soft costs; and
- 6) Develop viable new data-enabled monetization streams for Con Edison as the Distributed System Platform provider to reduce the reliance on traditional demand management programs under the current rate-payer funded market structure.

Through recent initiatives in its Brooklyn-Queens Demand Management program, Con Edison has started to witness how leveraging data analytics like those featured in this demonstration can lead

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<sup>1</sup> Con Edison's Market Partner Network is made up of contractors, distributors, suppliers and manufacturers of energy efficient equipment. The Network also includes skilled professionals such as architects, engineers and energy consultants that assist Con Edison Commercial and Industrial customers in meeting their energy savings goals.

to substantial increases in market activity. In this Building Efficiency Marketplace demonstration, Con Edison will augment those previous initiatives in several ways, including:

- By providing customer access to virtual energy assessments through an engagement portal, building owners will have a new way to access and interact with their building analysis and identify savings opportunities;
- Streamlining the project implementation process by offering customers project development tools, fee-based engineering support, and bid management functionality;
- Supporting market partner objectives by providing new fee-based tools and resources that will give them access to more projects and potential customers; and
- Testing and refining new monetization strategies that will help define the utility's role in the future of DER and the management of DER.

## 2. Business Model(s) Overview

### (a) Problem (the Market Opportunity)

Rate-payer funded utility energy efficiency programming has a long and notable history in New York. Con Edison has successfully delivered energy efficiency programs to its commercial customers since the 1990s. The achieved energy and demand savings have delivered substantial economic benefit to participating customers, Con Edison's market partners, and all Con Edison ratepayers.

While Con Edison has achieved and expects to continue achieving success in these programs, there are several market challenges that can prevent maximum participation and benefits. The Building Efficiency Marketplace demonstration project will seek to address and overcome several of these market challenges, specifically:

#### 1. **Commercial customers do not today have actionable, building-specific energy saving information.**

Many customers need building-specific and actionable information to take meaningful action. While there is no shortage of information and data available to Con Edison's commercial customers,<sup>2</sup> customers can find it difficult to navigate the path that is best for them and their building. Using traditional approaches to provide the necessary level of customized advice to each commercial customer in an expanded market would quickly exhaust Con Edison's financial and personnel resources.

#### 2. **It is time consuming and expensive to identify and scope potential projects in customer buildings at scale.** Industry reports indicate that the average commercial building could cost

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<sup>2</sup> Con Edison has made several resources available to its largest customers to assess and interpret their building energy usage data and learn about energy efficiency. Self-service tools include the Customer Care portal where customers can see their interval energy usage and load profiles, the My Account service center to access and pay utility bills, and the most recently launched commercial.coned.com website which hosts extensive information about Con Edison's commercial energy efficiency and demand management programs, incentive details, and market partner information. The resources available to customers include "offline" services as well, including a team of account managers and energy engineers, financial support for Technical Studies (energy audits), and an extensive network of more than 800 market partners that can scope and implement energy efficiency and demand management projects.

effectively reduce its energy consumption by up to 20%.<sup>3</sup> Yet buildings that take action tend to capture only a fraction of that potential. The traditional manual approach to identifying and quantifying energy saving opportunities hampers the widespread adoption of energy efficiency. Third-party engineering firms typically identify savings opportunities through a comprehensive energy audit conducted over one or more days, followed by several weeks to develop the recommendations. This can cost anywhere from \$5,000 for smaller buildings to up to as much as \$100,000 for detailed audits in larger buildings. Alternatively, while market partners are often willing to quote a potential efficiency project at no cost to the customer, this 'audit' is typically focused on a limited set of technologies or strategies that the market partner supports instead of being comprehensive. Additionally, it is not uncommon for the market partner to perform this service for customers that do not move forward with projects – which is a source of frustration for market partners due to the expense and time dedicated to the effort.

**3. It can be time consuming and confusing for a customer to select the right market partner.**

Once a customer has a project that it wants to implement, it can be time consuming and confusing to identify a few qualified market partners to provide bids, evaluate the bids received to select the best overall value, and coordinate the implementation of the project. Equally, while market partners are interested in reaching new customers, they can spend an inordinate amount of time trying to identify and reach new customers that have interest in projects that the market partner offers. The lack of transparency and resources available in the market to support the customer-market partner connection can be a real barrier to getting projects implemented.

**4. Measurement and verification is performed for the benefit of the program administrator, not as a way to continuously engage customers and drive additional projects.**

It is all too common for a customer to have no visibility into the energy it has saved from implementing energy efficiency and demand management projects. Even reviewing changes to its bill may not be helpful since the impacts may be obfuscated by other factors, such as changes in weather, occupancy, or use. As part of administering energy efficiency programs, Con Edison routinely measures energy savings and demand reductions by metering equipment before and after the project is installed. In addition to being costly, these results are not easily accessible by the customer because the meters are not permanently installed. Without providing customers ongoing visibility into their energy savings, customers may lose confidence their projects are performing as anticipated, they may be less likely to perform additional projects in the future, and they may not be as diligent about ensuring savings from retrofits or operational changes are maintained over time.

**(b) Solution (REV “Demo” Project)**

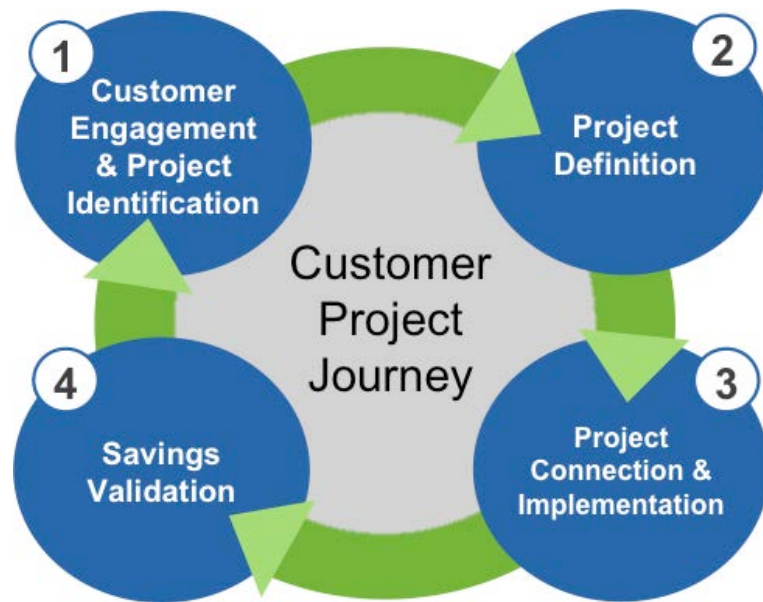
The Building Efficiency Marketplace Demonstration Project will address each of the market challenges listed above by combining advanced data analytics with a suite of customer and

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<sup>3</sup> [http://www.pnl.gov/main/publications/external/technical\\_reports/PNNL-18337.pdf](http://www.pnl.gov/main/publications/external/technical_reports/PNNL-18337.pdf)

contractor tools and resources that are delivered through a well-designed, integrated web-based software platform.

The solutions and services in this Demonstration Project will help to continually shepherd commercial customers<sup>4</sup> along the project development and implementation process by (1) engaging customers with potential energy saving projects, (2) helping customers prioritize and further define potential projects into scoped energy conservation measures (ECMs), (3) connecting engaged customers with ECMs to the market partners that can implement those ECMs, and (4) providing ongoing re-engagement and virtual measurement and verification of savings that result from implemented ECMs. The process can be visualized as follows:



The tools and resources Con Edison will offer to the market will create value by engaging customers and market partners at several points along the process where projects are otherwise often lost or stalled. The value created at each step will enable Con Edison to implement several monetization options, which are consistent with the vision of REV and will be validated and refined through the demonstration.

The Building Efficiency Marketplace Demonstration Project will facilitate each of the following areas:

1. **Customer Engagement through Project Identification.** Advances in data analytics make it possible to assess more clearly commercial building performance and identify specific energy efficiency and demand management opportunities, without a physical visit to the building. Virtual energy assessments use a combination of publicly available building data, local weather data, and 12-months of historic interval consumption data to identify Energy Conservation Indicators (ECIs) – actionable and specific opportunities for improvement in a

<sup>4</sup> For purposes of this demonstration, the term “commercial customer” or “commercial building” shall be considered to include traditional commercial buildings (i.e. offices, retail, and hotels), institutional buildings (i.e. K-12 schools and government), and large multi-family buildings. For clarity, industrial and residential (including small multi-family) customers are not included in this demonstration.

building such as lighting, air conditioning, refrigeration, etc. Con Edison has significant experience with virtual energy assessments, having recently used them successfully to prioritize and engage high potential commercial buildings in select networks (including those in the Brooklyn Queens Demand Management initiative) while avoiding the need to conduct time-consuming physical surveys of all of the properties in targeted areas.

This advanced data analytics solution will be utilized across all addressable commercial buildings in Con Edison's service territory that currently have interval metering. Generally, these are medium to large buildings with demand greater than 500 kW. There will be a staged rollout which we anticipate could eventually include as many as 2,100 buildings in the demonstration. Participating customers will have free access to a secure web engagement portal in order to interact with their virtual energy assessments. The assessments will be updated on at least a quarterly basis so that they reflect recent consumption, present up-to-date energy savings and demand reduction opportunities, and provide a reason for customers to make repeat visits to the portal. The portal and related reports will educate customers about the comprehensive set of savings opportunities and potential DER projects in their buildings. It will also serve as a jumping off point to initiating further action – which may be connecting with Con Edison or directly with market partners.

Leading up to the launch of and continuing throughout the Demonstration Project, Con Edison will conduct sales and marketing outreach campaigns to make customers aware of both the savings opportunities identified in their buildings through the analytics, as well as the availability of the engagement portal where they can view and interact with more detailed results.

Con Edison intends to explore two monetization options in this area – (1) market partner advertising within the customer portal, and (2) market partners paying for customer leads based on indicators of energy efficiency opportunity.

- 2. Project Definition.** While virtual energy assessments are a valuable tool to engage customers around potential opportunities in their building, additional information is typically necessary to fully scope an energy efficiency or demand management measure. Depending on the measure and the sophistication of the customer, the customer may be able to provide the additional information, or the customer may need assistance from a qualified expert. The Building Efficiency Marketplace Demonstration Project will provide customers with access to both field-based engineering resources and online tools that will streamline this process. Con Edison will work directly with engaged customers to assist with turning analytically-derived indicators of opportunity into bid-ready measures. Con Edison will employ fee-based engineering services to further define/scope certain projects. In other cases, some of this scoping activity will be migrated to the web, where customers will be guided through the process of providing additional building or equipment information via the portal. Even in these self-service situations, Con Edison will be available to answer customer questions, provide support, and ensure a positive experience for the customer.

Ultimately, Con Edison expects to drive significant time, cost, and customer frustration out of the measure scoping process because (1) analytics will initially be used to cost-effectively identify and prioritize a comprehensive set of potential solutions, and (2) the engineering resources needed to scope measures with engaged customers will be employed in a more targeted and effective fashion. Con Edison intends to monetize this additional created value in two ways - (1) by offering engineering consulting services to help customers scope measures, and (2) by market partners paying for customer leads based on scoped efficiency and demand management projects.

- 3. Project Connection and Implementation.** The Building Efficiency Marketplace Demonstration Project will provide both customers and market partners with improved connection tools and resources designed to facilitate DER project implementation. Customers will have the ability to present their projects to and receive bids back from the market partners via structured RFPs and bid processes. Market partners will be able to see and bid on projects that they are qualified to implement.

Con Edison will facilitate the transactions taking place on the platform in several ways, including:

- Securing customer approval to participate in a formal procurement process, including sharing data with market partners;
- Developing standard bid processes including workflows, terms and conditions, documentation, templates, forms, and timelines;
- Recruiting a select group of active market partners to participate in the initial phases of the demonstration as we build out the infrastructure for the broader market partner community to participate;
- Helping customers understand bids received and select the solution/vendor that best meets the customer's project requirements; and
- Where appropriate, helping customers identify and obtain project financing options.

Con Edison intends to monetize project connection in several ways, including (1) receiving a percentage of project costs that are transacted on the Efficiency Project Portal, (2) providing market partners with subscription access to a database of projects, and (3) project financing referral fees.

- 4. Savings Validation.** After projects are implemented, Con Edison will take advantage of the meter data it collects to virtually measure and verify (M&V) the resulting energy and demand impacts. This approach is a reliable, low-cost way to continuously engage and educate customers about the savings they are achieving, while helping to ensure that savings from implemented ECMs are maintained over time. The software utilized in the Building Efficiency Marketplace will use statistical measurements based on historical energy consumption data normalized for localized weather conditions, occupancy, and other variables to calculate whole-building savings in accordance with the International Performance Measurement & Verification Protocol (IPMVP) and ASHRAE Guideline 14. Customers will be able to continuously engage with their M&V results through the web portal.



Con Edison does not intend to monetize M&V during this demonstration. Rather, Con Edison sees virtual measurement and verification as an opportunity to increase customer engagement, satisfaction, and willingness to do additional projects in the future.

**(c) Hypothesis Being Tested**

Several new utility revenue streams, which are summarized below, have been selected for potential inclusion in this demonstration. Con Edison will seek to validate the appropriate structures and rates for each of these monetization opportunities throughout the demonstration.

<b>Customer-Project Phase</b>	<b>New Revenue Stream</b>	<b>Hypothesis Being Tested</b>
<b>Project Identification</b>	Market Partner Advertising on Customer Portal	Market partners are willing to pay to advertise their products/services on the customer portal. The ads displayed would align with the savings opportunities that have been identified in the building.
	Potential Opportunity Leads	(1) Customers are willing to allow Con Edison to share results of a virtual energy assessment with qualified market partners, and (2) Market partners are willing to pay for leads based on analytically derived Energy Conservation Indicators (ECIs).
<b>Project Definition</b>	Engineering (ECM Scoping) Services	Customers are willing and able to reliably provide additional information about their building and/or work with Con Edison as an engineering consultant to refine ECIs into scoped Energy Conservation Measures (ECMs).
	Project Leads	(1) Customers are willing to allow Con Edison to share scoped ECMs with qualified market partners, and (2) Market partners are willing to pay to access customers with scoped projects.

<b>Project Connection</b>	Efficiency Project Portal	Customers and market partners are willing to engage and transact energy efficiency business through a web-based platform built to facilitate connecting customers with energy efficiency projects with qualified vendors. Specifically, market partners are willing to pay a percentage of total costs of projects sourced through the portal to Con Edison as compensation for sourcing the project.
	Subscription Access to Project Database	Customers are willing to post project details to, and market partners are willing to pay to subscribe to, an online database of identified projects, which could potentially be transacted on without going through a formal procurement process.
	Project Financing	Lenders looking to invest capital in energy efficiency and demand management projects will be willing to offer a “finders fee” to Con Edison for connecting them to customers with the need to finance upgrades to their building.
<b>Savings Validation</b>	Virtual Measurement & Verification Services	Whole building virtual measurement & verification can (1) accurately determine achieved energy and demand savings at a lower cost than traditional pre- and post-implementation metering, (2) increase customer confidence in energy efficiency savings which will increase customer willingness to implement additional ECMs over time, and (3) increase persistence of savings over time.

**(d) Commission’s REV Demonstration Principles Being Addressed**

The Building Efficiency Marketplace demonstration addresses seven of the eight guiding principles for REV demonstrations, as set forth by the Commission in its December 12, 2014 Memorandum and Resolution on Demonstration Projects.

- 1. REV demonstrations should include partnership between utility and third party service providers. These partnerships may be unique to each demonstration depending on the situation. Utilities should endeavor to support demonstrations where third parties use their own capital.**

For this demonstration Con Edison has partnered with Retroficiency, a third party service provider with both (1) expertise in using innovative data analytics and software to engage commercial customers and accelerate energy efficiency adoption, and (2) significant experience performing virtual energy assessments on Con Edison buildings. Retroficiency will provide its own capital to the demonstration by sharing the cost with Con Edison.

- 2. The utility should identify questions it hopes to answer or problems or situations on the grid and the market should respond with solutions. Hence, third party participation through a traditional RFP/RFI method where the utility has pre-diagnosed the solution(s) does not meet this requirement. Data sharing will be essential to enable market participants to propose solutions.**

Con Edison and Retroficiency have partnered to deliver a demonstration that is designed to answer a broad set of questions related to using data, analytics, and innovative software tools and resources to engage and incite action amongst commercial customers and market partners. Subject to terms of appropriate use and for purposes of developing certain elements of this proposed demonstration, Con Edison has shared with Retroficiency data related to its customers that are being targeted for participation in this demonstration.

- 3. Demonstrations should delineate how the generated economic value is divided between the customer, utility, and third party service provider(s). The demonstrations should propose how much of the projected capital expense needs to go into the rate-base versus competitive markets.**

Through this demonstration Con Edison intends to quantify the economic value derived from the innovative solutions being offered and determine how this value can be optimally divided amongst participating customers, Con Edison, and market providers. Con Edison expects its costs for this demonstration to be recovered through the Monthly Adjustment Clause (MAC). Revenues from third party service providers, lenders, and customers that participate in the demonstration will be credited to ratepayers. The Company may propose incentive mechanisms as the Demonstration Project develops.

- 4. The market for grid services should be competitive. The regulated utility should only own distributed energy resources if market participants are unwilling to address the need and the utility is acting as the service provider of last resort (in this instance, “provider of last resort” and “needed” means that no one in the market is providing the solution and the distributed solution is less costly than alternatives for the problem).**

This demonstration will focus on ensuring that the market for energy efficiency and demand management services is accelerated and improved through actionable data analytics and competitive and transparent project connection resources. Con Edison will not take ownership of any of the DER projects that result from this demonstration.

- 5. While some demonstrations may be bilateral, and therefore may not be "competitive" per se, utilities and service provider should propose rules (data, terms, standards, etc.) that will help create subsequently competitive markets. In addition, utility and third party providers need to establish regulatory proposals to ensure safety, reliability and consumer protection. Service providers can retain intellectual property that results from base data that would be available to others.**

This demonstration is competitive, i.e. multiple market partners will compete to provide DER services to Con Edison customers. Con Edison, as the provider of the Building Efficiency Marketplace, will provide customer and market partner tools that will accelerate, streamline, and improve the competitive market for energy efficiency products and services. Given that the Building Efficiency Marketplace will be fueled by analytics being applied to the data Con Edison collects through the course of delivering electric service to its customers, it is appropriate and advantageous for Con Edison to provide this marketplace for the development of solutions to the market. Con Edison will ensure that customer data is appropriately used, protected, and shared throughout the demonstration and beyond. For instance, Con Edison will ensure that customer data (and insights derived from customer data like virtual energy assessment results) will only be shared with market partners after receiving customer permission to do so.

- 6. Demonstrations should inform pricing and rate design modifications. For example, a component of a trial can test demand response, real time, or time of use pricing to better understand how to motivate different consumers. Demonstrations should include opportunities for third parties to demonstrate how various rate designs, information sharing, adjusted standby tariffs, and other technologies can be used to benefit consumers, encourage customer participation, and achieve REV's efficiency and bill management objectives.**

The demonstration will leverage data analytics and customer- and market-facing web portals to engage customers in their energy use, streamline the procurement process, facilitate interactions between end-use customers and third party service providers, and increase adoption of energy efficiency and demand-side management measures. Additionally, a primary objective of the demonstration is to determine, through testing and iteration, customer and market partner willingness to pay for the suite of services that may be offered in this demonstration.

- 7. Utility and third party service provider(s) should consider deploying in their demonstrations advanced distribution systems, including two way communications, real time operation of dynamic load, and other system technologies that support awareness, flexibility, efficiency and cost-effectiveness.**

Advanced distribution systems are not addressed in this demonstration.

**8. Utilities should explore opportunities in their demonstrations to work with and include various residential, commercial, institutional and industrial customer participants.**

This demonstration will focus on commercial customers and the market partners that service these customer groups. The primary participating building types are anticipated to be offices, education, large multi-family, and retail.

**3. Market Attractiveness**

**(a) Unique Value Proposition (from the following perspectives)**

**i. Participating Customer**

The Building Efficiency Marketplace will provide a new path for customers to identify, evaluate, procure and track energy efficiency products and services, dramatically improving on the status quo market – which is generally characterized by slow, manual and fragmented processes that create information barriers for potential participants.

Customers today often cannot easily or inexpensively understand the DER opportunities that are relevant to them. The Building Efficiency Marketplace seeks to significantly alter this reality for customers, by providing them with relevant, continuous insight about their building's energy usage and how it can improve. Instead of starting with an ASHRAE Level II energy audit<sup>5</sup> the cost of which can range from \$5,000 to \$100,000 or more, for example, customers that engage in the Demonstration Project will gain a broad perspective on potential energy efficiency and demand management projects at no cost. This ease of access to this information will be innovative, enhance participation, and lead to meaningful increases in customer satisfaction.

Customers, particularly those do not have the in-house knowledge to properly source and select the highest value solutions, will ultimately be able to rely on Con Edison's support and a transparent bidding platform that provides customers with the best value possible. Finally, if a given customer does implement an energy efficiency project, savings measurement and verification will enable customers to quickly and easily determine the realized savings of a given project, providing increased confidence in the value of the solution.

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<sup>5</sup> Brief description of a Level II audit and overview of energy audit procedures:  
[http://www.pnnl.gov/main/publications/external/technical\\_reports/pnnl-20956.pdf](http://www.pnnl.gov/main/publications/external/technical_reports/pnnl-20956.pdf)

**ii. Partner/Third Party**

Third party contractors, product vendors, and financing partners will be active participants in the Building Efficiency Marketplace. This demonstration will provide qualified contractors with easier access to potential project leads, and customer permitting, the ability to complete more transactions. Contractors will be less reliant on costly sales and marketing efforts to find customers who are interested in projects **and** have project needs that align with their area(s) of expertise. Financial institutions will have greater access to energy efficiency and demand management projects that may benefit from the opportunity for financing.

To help facilitate and enable this demonstration, Con Edison has partnered with Retroficiency to provide its Building Efficiency Intelligence platform as the analytics and market-facilitation software solution. Retroficiency's analytics are being used by Con Edison to engage commercial customers at a higher rate than traditional techniques, and deep meter analytics offer tremendous potential to engage a larger number of commercial customers. Retroficiency will perform the analytics necessary to identify project opportunities, as well as provide customer-, utility-, and market-facing portals to engage and facilitate interactions amongst demonstration participants.

For Retroficiency, the demonstration offers the company another opportunity to deploy its analytics platform, further showcasing how analytics can underpin more effective energy efficiency efforts. Upon success of this demonstration, Retroficiency will have additional proof points to showcase both within the state of New York and nationwide to other utilities who may be interested in pursuing a similar model.

**iii. Utility**

The Building Efficiency Marketplace will benefit Con Edison in several ways. It will help the utility strengthen its commercial customer relationships. Rather than being thought of only as an electricity provider, Con Edison can position itself as a value-added trusted advisor to increase customer satisfaction and work with customers on new business opportunities. Con Edison will be able to more easily reach energy efficiency and demand management objectives by being able to drive more and larger projects. Finally, the Building Efficiency Marketplace and related analytics-based insights will allow for more effective near and long term planning for grid operations (as described in the next section).

**iv. System**

Distributed energy resources offer the potential to more proactively and cost-effectively manage Con Edison's demand response and energy efficiency programs, while benefitting its electric system from both an economic and environmental

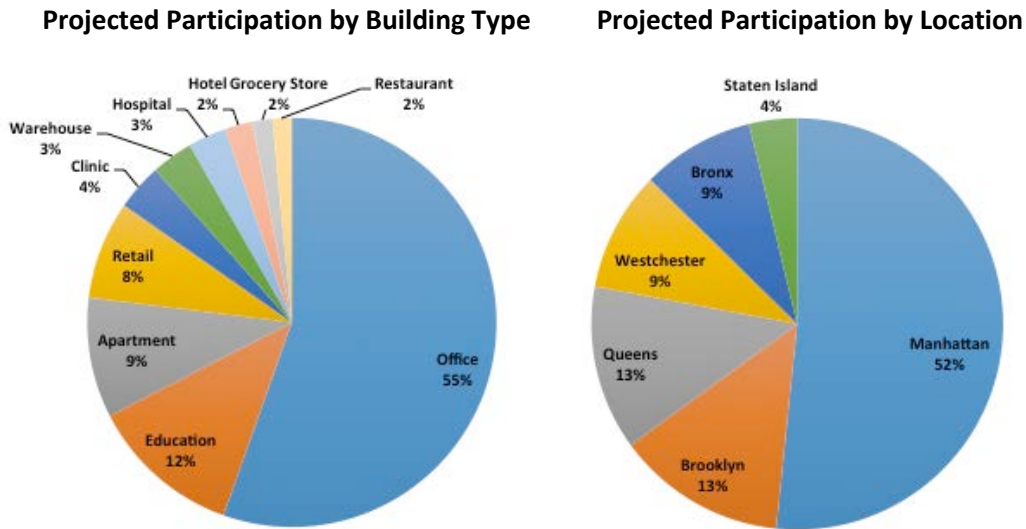
perspective. The information gathered and the process enabled by the analytics solution in this demonstration will allow Con Edison to better understand the system wide potential, including total energy savings and load reduction potential, in small intervals of time. With this information, Con Edison will be able to confidently plan, deploy and track DER solutions.

Much like prior use of analytics and virtual energy assessments within Con Edison's most constrained networks including those that are part of the Brooklyn Queens Demand Management program, Con Edison will be able to use this demonstration to model and expand the use of DER as a network management solution across its territory.

(b) Customer Segmentation and Demographics

Over the course of the demonstration project, the Building Efficiency Marketplace will be made available to the approximately 2,100 medium to large commercial buildings across Con Edison's territory that currently have interval metering in place and that have the potential to benefit from remote analytics. Generally, these customers have demand of 500 kW or greater. This group of customers consumes on average approximately 5 million kWh per year (median 2.75 million kWh) with average non-coincident peak demand of 1,150 kW (median 710 kW). Participating customers will span across Con Edison's entire service territory and will include all major commercial building types including offices, schools, apartment buildings, retail, warehouses, hospitals, and more.

Estimated breakdowns of participating building types and locations are provided below.



Over time, the demonstration could incorporate additional customers that receive new interval meters, including those customers that are part of any potential rollout of AMI/smart meters.

(c) Channels (Communications, Sales, Promotion)

In all cases, participating customers will be encouraged to explore the analytics-based insights about their building in detail via the interactive customer portal. Since the portal will contain several central elements of the demonstration – including building analysis, measurement and verification tools, and project development capabilities – driving customer awareness and use of the portal will be key to the demonstration’s success.

Con Edison believes that maximizing use of the portal, and therefore success of this demonstration project, will require multi-channel awareness campaigns that make customers aware of the new resources available to them. Con Edison’s experience in delivering energy efficiency programs is that commercial customers may successfully respond to a variety of methods, each of which will be employed here:

- **Print mailers:** Con Edison will deliver summarized findings from virtual assessments via mail to high potential customers, encouraging them to visit the portal and/or respond to Con Edison to learn more about opportunities in their building.
- **Email:** For customers that have provided email addresses, similar to print mail efforts, Con Edison will provide summarized findings of virtual assessments and “calls to action” that promote the customer web portal.
- **Phone outreach:** Con Edison will conduct phone outreach to contact decision makers with the goal of having detailed conversations about the energy efficiency and demand management opportunities in their building.



- **In-person meetings:** For a subset of customers, Con Edison will schedule in-person meetings to review the results of the virtual assessment and begin to scope out customer interest in pursuing savings opportunities. These meetings may be facilitated by members of Con Edison's team of Customer Account Executives and existing Program Managers, a trusted channel for communicating to Con Edison's medium to large accounts.

In addition to this proactive, direct outreach to customers, Con Edison will rely on educating their existing market partners that have relationships with end customers about the program. This will help pull additional customers into the program to expand the pool of projects delivered.

#### (d) Ability to Scale

In a post-demonstration deployment, Con Edison intends for the Building Efficiency Marketplace to touch a large portion of Con Edison's commercial customer base. While the demo will focus on approximately 2,100 customers to learn and perform a proof of concept, the Building Efficiency Marketplace could be configured to address Con Edison's approximately 130,000 commercial customers with greater than 10kW peak demand. This group consumes approximately 85% of the energy delivered to Con Edison's commercial and industrial customers.

At this type of scale, the Building Efficiency Marketplace could ultimately deliver, on an annual basis:

- 221+ gigawatt-hours of energy savings worth \$48 million to end customers;
- Approximately \$195 million in project value for contractors and product vendors; and
- Approximately \$24 million in project, engineering, and financing related revenues for Con Edison

Con Edison is confident that this scale can be achieved. In order to scale the sales and marketing elements of the model, Con Edison would likely seek to provide more self-service solutions automated by software for smaller customers. This approach will enable as many commercial customers to benefit from the Building Efficiency Marketplace as possible, while maximizing the value delivered by the core platform Con Edison is making available through this demonstration.

In addition to the ability to scale in terms of customer reach and energy efficiency impact, this platform can be used to incorporate other DER solutions beyond energy efficiency (the focus of the demo). These may include distributed generation and storage solutions, for example. Including these solutions has the potential to significantly increase revenue streams to Con Edison and savings to customers, as well as support next-generation grid management initiatives.

## 4. Demonstration Plan

### (a) Metrics for success (now and future)

Con Edison's objectives in this project are to demonstrate how combining advanced data analytics with innovative tools and market structures can result in more energy efficiency and demand management projects, higher customer and market partner satisfaction, and new revenue streams to Con Edison. The results will inform the Company in its decision-making with respect to whether to continue to implement the program on a larger scale.

A successful data analytics effort must therefore first (1) identify customers with high savings potential, and (2) engage customers with specific savings opportunities such that they are motivated to initiate projects. Metrics to be tracked related to these objectives include:

- Identified energy savings (kWh) and demand reduction (kW) potential amongst targeted customers;
- Number and percent of customers that make a visit to the customer portal; and
- Customer satisfaction with the customer portal, including the analytics and reports available through it, as measured through surveys.

A successful efficiency and demand management project development effort must (1) motivate customers to investigate and choose to act on projects in their buildings, and (2) supply customers with the ability to engage with qualified market partners to implement projects. Metrics to be tracked related to these objectives will include:

- **Project Interest / Commitment from Customers**
  - Percent of target customers that express interest in a specific efficiency or demand management project
  - Percent of target customers that complete a project identified through this demonstration
- **Market Partner Participation**
  - Number of market partners that make an initial visit to the Efficiency Project Portal
  - Number of market partners that make repeat visits to the Efficiency Project Portal
  - Number of projects made available to market partners through the demonstration
- **Realized Savings and Satisfaction**
  - Realized energy savings (kWh) from implemented projects identified through this demonstration
  - Number of high potential customers engaged with opportunities
  - Customer satisfaction with the Efficiency Project Portal
  - Market partner satisfaction with the Efficiency Project Portal

Finally, with respect to monetization, a successful demonstration will ultimately enable Con Edison to implement strategies that will result in new revenue streams. Metrics to be tracked related to this objective include:

- Actual and potential future revenue generated from services offered through this demonstration (it is noted that the goal is not necessarily to maximize and optimize revenues during the demonstration project period, but rather test monetization strategies for future roll-out)
  - Total revenue generated
  - Revenue generated by monetization opportunity / approach

## **(b) Timelines, Milestones and Data Collection**

### **i. Implementation**

#### ***Phase 0 – Demonstration Planning***

The initial stages of the demonstration will be focused on configuring the software platform for a Phase 1 launch of the customer and Con Edison-facing portals by December 31, 2015. In parallel to the software-related efforts, the initial virtual energy assessments will be performed so the portals are populated with up-to-date analytics at launch.

In addition to general project management efforts, specific tasks and timelines will include:

#### **a) Portal Configuration**

Beginning in August 2015 and running through December 2015, the web portal will be extended to meet the specific requirements of this project. Major activities during this period will include gathering and documenting software requirements, product design, software development and testing, and stakeholder training that is coincident with launch.

#### **b) Data Integration**

In this task, which we anticipate will run September – October 2015, Con Edison and Retroficiency will identify and implement mutually agreeable data formats, data transfer protocols, and automate appropriate data integrations. This effort will ensure data is transferred securely, reliably, and with minimal burden on Con Edison and Retroficiency staff throughout the demonstration period. Retroficiency will continue to adhere to previously-agreed Con Edison data security and use requirements.

#### **c) Building Analysis and Reporting**

In this Task, which we anticipate will run October – December 2015, Retroficiency will leverage its Virtual Energy Assessment (VEA) software to

analyze all eligible commercial buildings across Con Edison's service territory. Eligible buildings will have at least one interval meter, which generally means the customer has demand greater than 500 kW. This effort will require analyzing approximately 2,100 buildings. Analysis results and reports, initially for high potential customers, will be posted and accessible to Con Edison and Con Edison customers through the web portal.

***Phase 1 – Initial Launch and Testing***

Success of this demonstration hinges on both customer and market partner adoption of the innovative tools and resources Con Edison is making available to the market. Customers need to first be made aware of this new resource, visit the portal, be engaged by the insights and opportunities identified in their virtual energy assessments, and then take action to develop projects for implementation. Market partners must also see the value in engaging with the market-making tools and resources Con Edison is offering as part of this demonstration.

The project team believes that robust adoption of the new tools and resources offered through this demonstration will require a carefully orchestrated launch supported by marketing and sales efforts. With that in mind, the demonstration will be divided into two distinct phases. Phase 1 will focus on driving customer awareness, engagement, and supporting project implementation with dedicated engineering resources working closely with a select group of customers and market partners. As customers and market partners are engaging around projects in Phase 1, Con Edison will seek to validate the structures needed to streamline customer and market partner interactions in Phase 2. In Phase 2, Con Edison will launch and iterate on the project connection tools and resources that will facilitate the marketplace for customers and contractors to interact and see shared value in a more streamlined and scalable way.

This phased approach will maximize the likelihood of project success by allowing the project team to iterate and continuously improve the approach in response to market feedback, as well as test new approaches, business models, and monetization options before launching them into the market.

Leading up to and upon launch of the customer platform at the end of December 2015, Con Edison will focus on educating external stakeholders, driving awareness/adoption of the customer portal, and securing early adopters that can supply the demonstration with "early wins" that can be touted to further increase awareness and adoption. The project team will also engage with a select group of market partners to guide configuration of the project development and market partner-facing software elements slated for Phase 2. Phase 1 is anticipated to run from January 2016 to December 2016. Phase 2 is anticipated to run from 2017 to 2018.

Specific tasks and timelines will include:

**a) Customer Awareness Campaigns**

Customers will be initially made aware of the customer portal through outbound marketing/direct sales campaigns. The project team will utilize targeted direct mail, email, and web marketing, as well as outbound phone calls and in-person visits to highlight the benefits of the analytics-driven insights contained in the customer portal.

Generally speaking, the specific sales/marketing approaches will be aligned with customers by the size of the energy savings opportunity, i.e., those buildings with higher energy savings potential will be more proactively approached than buildings with lower energy savings potential. In Phase 1, the project team will identify a group of approximately 400 buildings with medium-to-high savings potential to target in the initial stages of the demonstration. Of these 400 buildings, Con Edison will seek to intensely engage 100 buildings that have high savings potential. Additional engagement effort will be spent with this customer group as securing and leveraging early and vocal adopters will be critical to driving activity amongst the broader set of customers over the balance of Phase 1 and into Phase 2. The remaining set of 300 initial buildings will be marketed to via lower cost channels like direct mail and email. This tiered approach will provide a way to validate the effectiveness of different outreach strategies in driving customers to the portal and inciting action.

The awareness effort will run throughout 2016, with concentration in January through June of 2016. Additional customers will be targeted throughout Phase 1 (and into Phase 2). As more buildings are brought into the demonstration there will be additional outreach efforts associated with those buildings. This staged rollout will permit the project team to maximize the opportunity to iterate based on early Phase 1 findings.

**b) Customer/Contractor Engagement Specialist**

Con Edison will assign dedicated engagement specialist(s) to the market that will be responsible for standing up the initial marketplace. This person/team will serve a variety of critical roles that will be key to a successful demonstration including providing enhanced outreach and engineering services to the initial group of participating customers, helping engaged customers scope and navigate potential projects identified by the analytics through to implementation, and working with a select group of market partners to facilitate projects while identifying and validating the best approaches to streamline project connections in Phase 2.

**c) Monetization Testing**

As described elsewhere in this document, there are several monetization options Con Edison intends to test throughout this demonstration. Phase 1 will

offer the opportunity to experiment prior to settling on the specific rates, suite of services, and mechanisms that will be employed in the broader Phase 2. Con Edison will use the customer and market partner interactions throughout Phase 1 to gauge interest in, willingness to pay for, and optimal structures for each of the services and resources offered in this demonstration. Con Edison will consider engaging a consultant to assist with designing various approaches to testing each monetization option. The benefit of engaging a consultant with this subject matter expertise would be to ensure that the demonstration fully achieves its monetization opportunity testing objectives.

**d) Refresh Building Analysis**

Con Edison's and Retroficiency's experience with customers has proven that analytics that utilize recent data are the most effective in driving interest and action. Providing refreshed, current analysis also serves as a reason for customers to make repeat visits to the customer portal. Throughout Phase 1 and Phase 2, Con Edison and Retroficiency will regularly refresh the analytics on at least a quarterly basis. These refreshed analyses will ensure that the impacts of recent changes, including implemented projects, are reflected in the analysis and that realized savings are tracked and quantified for both the customer and Con Edison as they accrue. Refreshed analysis will instill confidence that the actions customers have taken are resulting in savings, help to ensure persistence of implemented ECMs, and also identify and motivate action around potential new opportunities over time.

**e) Additional Software Configurations**

Throughout Phase 1, updates and enhancements to the customer portal will be continuously delivered as they are developed in response to customer feedback and/or additional capabilities the project team decides to implement. Additionally, prior to beginning Phase 2, Retroficiency will extend its web portal to include an efficiency project module, the Efficiency Project Portal. The Efficiency Project Portal will provide the marketplace for customers and market partners to interact around project implementation. Major activities during this period will include gathering and documenting software requirements, design customizations, software configuration and testing, and stakeholder training.

**Phase 1 Key Questions**

As Phase 1 is conducted, the project team will consistently review progress being made towards demonstration objectives, including identifying and articulating which demonstration elements will be introduced ahead of and during Phase 2. The project team anticipates meeting weekly throughout Phase 1, with additional quarterly meetings to perform comprehensive reviews of progress towards demonstration objectives, synthesize demonstration lessons learned, and determine if any strategic or tactical changes are necessary going forward.

A successful Phase 1 will deliver results in the form of engaged customers, engaged contractors, and implemented projects with measurable energy savings and demand reduction. Additionally, Phase 1 will allow Con Edison to validate the new revenue stream hypotheses outlined in 2(c) prior to the larger Phase 2 market rollout. Potential questions that will begin to be answered in Phase 1 include:

**a) Project Identification:**

1. Are contractors/vendors willing to pay to advertise their products/services on the customer portal? If so, how much are they willing to pay?
2. Are customers willing to allow Con Edison to share results of their virtual energy assessment with a select group of qualified contractors/vendors that could potentially assist with implementation?
3. Are contractors/vendors willing to pay for leads based on the results of a virtual energy assessment? If so, how much are they willing to pay?

**b) Project Definition**

1. Can customers reliably provide the level of additional information that is required to scope simple projects such that analytically-derived projects can be offered to the marketplace with minimal reliance on additional engineering services?
2. Are customers willing to pay Con Edison to provide engineering services to facilitate scoping of complex projects? If so, what is the ideal pricing level and deal structure?
3. Are customers willing to share fully scoped ECMs with a select group of qualified contractor/vendors?
4. Are contractors/vendors willing to pay to access customers with scoped projects? If so, how much are they willing to pay?

**c) Project Connection**

1. Are customers and contractors/vendors willing to engage and transact energy efficiency business through a web-based platform built to facilitate connecting customers with energy efficiency projects with vendors?
2. Con Edison believes a “freemium” model may be appropriate for contractors. With that in mind, what set of marketplace services should be offered for free to contractors/vendors and what set of enhanced services would contractors/vendors be willing to pay Con Edison for access to?

***Phase 2 – Market Launch***

While Phase 1 will focus on launching and testing new customer facing tools and services, Phase 2 will more prominently feature the software and services that streamline project connections between customers and the market partners. The population of participating customers will also expand in Phase 2 to up to 2,100 commercial customers.

The same basic approach of Phase 1 will continue into Phase 2, although modified as necessary to reflect what is needed in Phase 2 and the lessons learned in Phase 1. In addition to implementing the monetization strategies validated in Phase 1, Con Edison will continue utilizing:

- Marketing and sales campaigns to make customers and market partners aware of the tools and resources being offered through the demonstration,
- Engagement Specialist(s) that can facilitate customer/market partner interactions where necessary,
- Refreshed analytics to ensure accurate, up-to-date energy efficiency opportunities are always accessible to customers, calculate achieved savings, and motivate additional action over time, and
- Software updates and enhancements to continuously refine the tools over time.

Con Edison intends for Phase 2 to run through 2017 and 2018. This timeline is optimal as it will permit additional validation and iteration throughout the demonstration, while also spanning multiple customer project planning/budgeting cycles. This demonstration timing is also well aligned with Con Edison's planned AMI deployment in 2017. As smart meters are deployed to commercial customers in the coming years, among other benefits, those customers will be able to participate in initiatives such as those being tested in this demonstration.

#### ***Data Collection***

Con Edison will establish and adhere to procedures for collecting the data necessary to properly track the activities and impacts related to this demonstration. Each metric identified in section 4(e) is quantifiable and able to be captured through one or more of the following mechanisms:

- The software utilized in the demonstration will be able to capture, for example, identified potential and realized energy savings (kWh) and demand reduction (kW), the number of bid events/RFPs hosted in the Efficiency Project Portal, etc.
- Portal login activity will be tracked to determine which customers/market partners visit the portal over the course of the demonstration.
- Con Edison will publish surveys to determine customer and market partner satisfaction with the resources made available through the demonstration.
- Con Edison's incentive/rebate processing mechanisms will allow for the details of the projects completed through the demonstration to be captured and aggregated.
- Con Edison will maintain complete records of all costs incurred and revenues realized throughout the demonstration.

The data collected will be utilized by the project team to make any necessary adjustments to the project implementation plan, as well as to update the Commission on progress and impacts throughout the demonstration as further described in section 6(a).



**ii. Evaluation**

Con Edison will track and report on the qualitative and quantitative results of the demonstration, including the above-listed program success metrics that can be measured. Progress against objectives and milestones will be reviewed regularly throughout the demonstration to ensure adherence to stated project goals, budgets, and timelines.

The project team will meet weekly during the demonstration planning phase and Phase 1. More detailed meetings will be held on at least a quarterly basis to perform a comprehensive review of progress towards demonstration objectives, synthesize demonstration lessons learned, and determine if any strategic or tactical changes are necessary going forward. Particular focus will be placed on progress relative to key demonstration metrics such as revenue earned, costs incurred, customer and market partner participation rates, savings achieved, as well as progress towards answering the demonstration's questions around monetization strategies. These quarterly review meetings will inform Con Edison's quarterly compliance filings to the Commission.

Additionally, in conjunction with moving to each successive phase of the demonstration Con Edison will also perform a detailed written review of demonstration progress. The purpose of the review will be to report and reflect on progress and lessons learned during that phase of the demonstration with a focus on identifying and creating plans to implement any necessary changes as the demonstration progresses into the next phase. This process will be conducted at each of the following stages: prior to Phase 1 launch (at the conclusion of demonstration planning), prior to Phase 2, after the first year of Phase 2, and at the conclusion of the demonstration. These phase review reports will also be used to inform Con Edison's quarterly compliance filings to the Commission.

A summary of Con Edison's evaluation activities appears below:

Activity	Description	Frequency
Project status meetings	Standing meeting for project team to discuss progress, next steps, challenges and issues, etc.	Weekly during demonstration planning and Phase 1. Possibly transitioning to every other week during Phase 2.
Demonstration review meetings	Comprehensive in-person review of progress towards demonstration objectives, synthesis of demonstration lessons learned, and	Quarterly. Anticipated to be held in September and December 2015; then every March, June, September, and December in 2016, 2017, and 2018;

	determination if any strategic or tactical changes are necessary going forward.	
Phase Review reports	Comprehensive written evaluation of demonstration progress.	<p>Annually, at key demonstration inflection points:</p> <ul style="list-style-type: none"> <li>• Dec. 2015: Transition from demonstration planning to Phase 1</li> <li>• Dec. 2016: Transition from Phase 1 to Phase 2</li> <li>• Dec. 2017: End of first year of Phase 2</li> <li>• Dec. 2018: End of demonstration.</li> </ul>

(c) Participation

**i. Target Population, Sample Size, Control Group**

This demonstration project will focus on mid-to-large-sized customers across all major commercial building types, including offices, retail, hotels, hospitals, warehouses and schools. Each of these customer types offers meaningful DER opportunity, and will allow the project to make the maximum impact possible.

The demonstration will focus on customers with historical interval meter data to allow for as granular of insights as possible. Currently, there are approximately 2,100 analyzable commercial buildings that generally have demand greater than 500 kW. Over time, as Con Edison deploys additional interval meters and/or smart meters across its territory, the target population could expand significantly, potentially to tens of thousands of customers post-demonstration.

Because this demonstration aims to address as many customers with interval data as possible, rather than leverage similarly-sized treatment and control groups to understand the efficacy of the marketplace, Con Edison will draw on historical data from its energy efficiency programs, such as customer participation and savings rates.

**ii. Third-Party Partners and Terms**

Con Edison has partnered with Retroficiency, a leading provider of data analytics and software solutions to utilities and commercial customers with extensive experience analyzing commercial buildings in the Con Edison territory, to enable the delivery of the Building Efficiency Marketplace demonstration.

Retroficiency will supply elements of its Building Efficiency Intelligence (“BEI”) platform, including its market-leading Virtual Energy Assessment and Efficiency Track software solutions. As part of this demonstration, Retroficiency will extend the capabilities of its BEI Platform. Con Edison will contribute funds towards that extension, but the majority of related costs will be borne by Retroficiency as a capital contribution to the demonstration.

Through the course of delivering this demonstration Con Edison will engage with market partners that are active in the Company’s energy efficiency and demand management programs. The participating market partners and the terms associated with those interactions have yet to be determined. This will be addressed as the demonstration progresses through Phase 1.

### iii. **Utility Resources and Capabilities**

In addition to general project management and shared corporate resources (e.g., legal), Con Edison will add to and leverage, to the extent possible, existing resources in the form of several internal groups throughout the course of this demonstration, including:

- **Marketing** – Con Edison’s marketing department has extensive experience connecting with commercial customers around energy efficiency. Strategies that will be employed to reach potential participating customers will include, but may not be limited to, the Con Edison website, email campaigns, social media, development of collateral, and media relations.
- **Commercial Account Executives/Program Managers** – Con Edison will utilize its commercial account team, whose members have existing relationships with most if not all of the customers that will participate in this demonstration, to guide customer engagement strategies, help raise awareness of the demonstration amongst customers, and help facilitate customer meetings and follow-up actions.
- **Engineering Resources** – Con Edison’s team of energy engineers will work with customers to facilitate ECM scoping and project analysis as part of the engineering services being monetized in this demonstration project.
- **Information Resources (IR)** – Con Edison’s Information Resources team will be involved in establishing the system connections that will allow customer and consumption data to flow easily between Con Edison and its partner Retroficiency.
- **Existing commercial energy efficiency and demand management programs** – It is Con Edison’s expectation that customers that implement projects as part of this demonstration will do so through Con Edison’s suite of energy efficiency and demand management programs. Naturally, these programs

improve customer economics for a given project, which will increase the savings impact of the demonstration. Con Edison's programs are also well-known within the market partner community and it is important to maintain continuity and consistency amongst this critical stakeholder group. Finally, the incentive processing component of the existing programs affords a straight-forward way of ensuring that implemented projects are properly tracked and attributed to the demonstration.

Con Edison has the above-listed capabilities, and enough personnel resources in each to begin the demonstration project. However, as the volume of inquiries and projects grows, the company will need to expand the number of people providing these capabilities, especially Commercial Account Executives/Program Managers and Engineering Resources. The estimated cost and timing of these additional people has been included in the cost estimates that Con Edison has provided for the demonstration project.

(d) Customer Outreach / Community Engagement

**i. Outreach to Affected Communities**

This demonstration will span Con Edison's entire service territory and does not include technologies that could be seen as potentially impacting neighborhoods or communities. Con Edison's outreach efforts will therefore focus on engaging territory-wide with groups of potential customers, market partners, and aligned associations that could help drive early and sustained adoption of the tools and resources being offered in this demonstration.

The groups that will be targeted include the real estate community (e.g., the Building Owners and Managers Association (BOMA)), Con Edison's market partner network, financial institutions (who could be both building participants and lending partners), large building portfolio owners such as NYC Department of Citywide Administrative Services, and large commercial property managers (e.g., Jones Lang LaSalle and CBRE). Additionally, given that this demonstration's objectives align with the efficiency goals of New York City, Con Edison intends to engage with the Mayor's office around the potential to collaborate.

**ii. Motivating Customers / Communities**

The outreach plan for this project as outlined below provides message integration at many levels via a number of key commercial customer channels. Leveraging our ongoing experience in commercial customer engagement, we will begin by identifying relevant customers and matching them with appropriate communication channels. Some of those channels will include media relations, real estate

organizations, government relations, as well as commercial sponsorships and memberships. As a new dimension of our brand, as well as a new toolbox of solutions for our customers, we are looking forward to leveraging the benefits of this demo on many channels internally and externally.

We anticipate that six weeks before the focused customer launch, we will begin integrating program messaging in general customer communications. After launch, we expect ongoing messaging in all relevant external communication.

### ***Connecting Commercial Customers with Distributed Energy Resources (DERs)***

#### **Action Plan**

We intend to provide outreach in a four step process:

1. Create **awareness** of the program as a new product solution and customer service offering from a utility that customers know and trust.
2. Generate **interest** in the program based on direct benefits to each individual commercial customer.
3. Drive **desire** to participate in the program for commercial customers by validating project opportunities and articulating success stories.
4. Facilitate **action** to participate with follow up analytics, customer service and resource information.

#### **Goals and Objectives**

There are two potential, independent metrics for this outreach:

1. Program participation by customers who are directly engaged
2. Energy savings

#### **Message Strategy**

Con Edison is a leader in energy management, technology and customer service, and demonstrates knowledge and understanding of its customers' energy use by making available this easy, effective and tangible tool to manage energy and reduce costs.

Con Edison's key messages in this program will include:

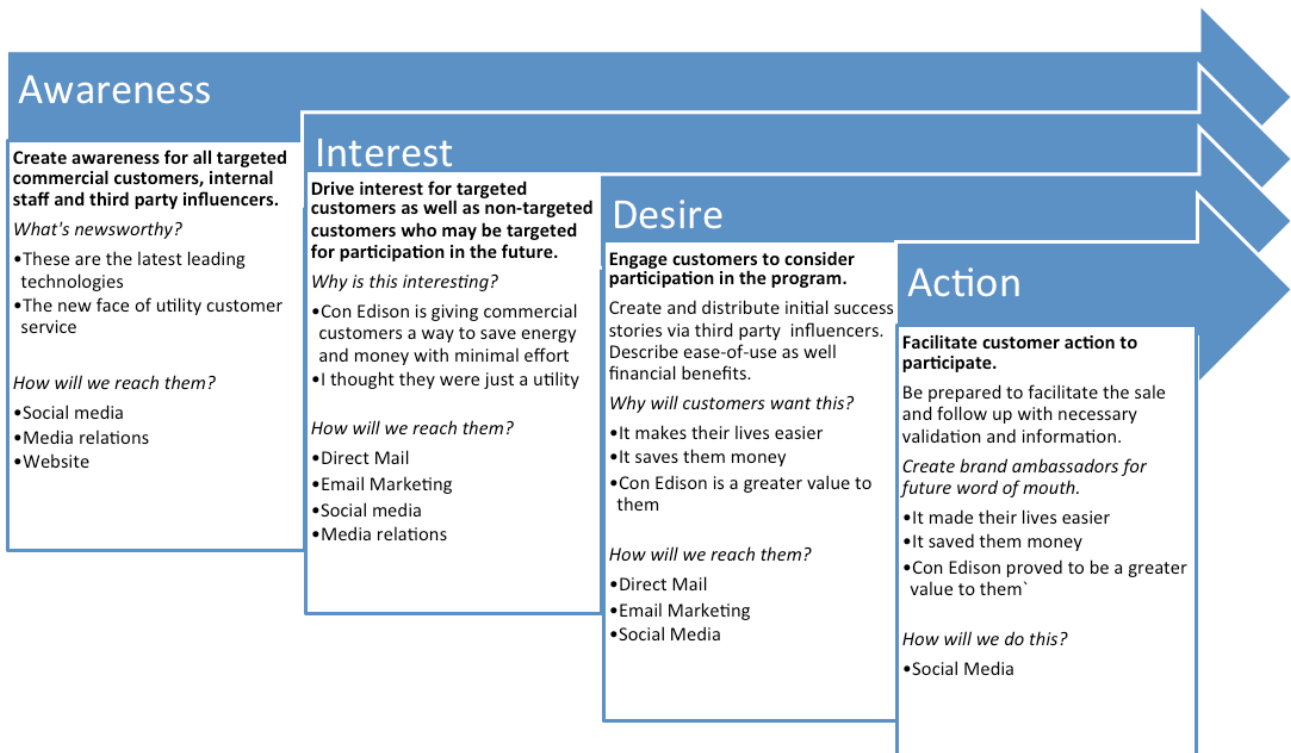
- Commitment to innovative approaches to meeting changing energy needs
- Customer focus, providing its customers with truly tailored solutions that meet their needs
- Combining technology with customer service to maximize benefit the customer

#### **Audiences**

The primary audience for this program outreach is targeted commercial customers as designated by the data analytics. These and additional stakeholders to consider are noted below with potential messages, channel tactics, and communication objectives.

**The Outreach Process**

<b>Audiences</b>	<b>Message</b>	<b>Channel Tactics</b>	<b>Objective/Value</b>
<b>Targeted Commercial Customers</b>	Con Edison is helping you to save energy and money.	1) Direct Mail 2) Email 3) Personal Contact	Engage customers around visiting the portal to learn how their building is performing and to identify potential DER projects.
<b>Key Influencers: Industry Groups</b>	Con Edison is a valuable resource to group members by connecting them to resources that will help them save energy and money.	1) Industry Events 2) Social Media	Drive third-party endorsements of the program.
<b>Government</b>	Con Edison is a valuable resource that can help building owners reach efficiency goals.	1) Personal Meetings 2) Events	Endorsement of the program and additional network communication.
<b>Media</b>	Con Edison has gone beyond the defined utility to become a trusted technology partner to its customers.	1) Website 2) Social Media 3) Media Relations	Third party endorsement that Con Edison is using a new strategy to work with a targeted group of commercial customers to research, identify and package efficiency services that will help them save energy.



(e) Conditions / Barriers

**i. Market rules and standards**

This Demonstration Project is proposed pursuant to the REV Track One Order. Con Edison will partner with Retroficiency to test a new enhanced market concept for buildings and market partners to connect in a marketplace for energy efficiency and demand management projects for buildings. Con Edison is not currently aware of any regulatory or market barriers that will prevent a successful demonstration.

**ii. Consumer Protections**

Several mechanisms will be employed to ensure protection of the customers that are part of this demonstration. First, all customer data that Con Edison shares with its partner Retroficiency is subject to strict terms of appropriate use, confidentiality, and security. Second, the web portals utilized in the demonstration will adhere to industry-standard security practices, for instance all access to customer information and derived results will be transmitted only to authorized users via a secure, HTTPS connection employing SSL encryption. Third, Con Edison will ensure that customer data (and insights derived from customer data like virtual energy assessment results) will only be shared with third parties, including market partners, after receiving customer permission to do so. Finally, market partners will be required to apply for inclusion in the Market Partner Network and participating market partners will be qualified to perform work under this demonstration. To qualify, they will provide, among other details, their areas of expertise and customer references.

### iii. Channel or Market Challenges

Con Edison is unaware of any such challenges at this stage of development of this test concept. The market that will be developed in this Demonstration Project will be open to all interested participants.

## 5. Financial Elements / Revenue Model

### (a) New Utility Revenue Streams

#### i. Platform Services, including Pricing Strategies

The Building Efficiency Marketplace can create several revenue opportunities for Con Edison, its partners and / or other market actors. Some key areas we envision potentially being able to monetize include:

- **Project Development-Related Fees (Project Identification, Definition and Connection):** As Con Edison engages customers through the project development phase, service providers are highly likely to be willing to pay for these customer leads upfront and / or upon winning the business. We will test several different points of the project development process, which may include:
  - *Market Partner Advertising on Customer Portal:* Market partners advertise their products/services on the customer portal
  - *Potential Opportunity Leads:* Access to a dynamic list of customers that have specific relevant opportunities
  - *Actual Project Leads:* Leads of customers that have expressed interest in exploring a project
  - *Energy Efficiency Project Portal:* Fees related to facilitating a transaction between customers and market partners
- **Engineering Fees:** Con Edison would like to test commercial customers' willingness to pay for utility-led *ECM scoping services* of project requirements. Con Edison often provides these services as part of its commercial energy efficiency programs. If Con Edison can position itself as a trusted advisor to the customer, it can leverage its technical expertise to scope projects and guide customers through the buying process at a scale not achieved before.
- **Financing Fees:** Con Edison can refer customers who need third-party *project financing* to relevant banks / investors who would pay for leads and / or on a transaction basis.

For each of these cases, the pricing strategy is value-based: Con Edison will attempt to tie pricing for a given service to the size of the project it is related to. We believe this approach will be accepted by the market and incent Con Edison to cause action in the marketplace.



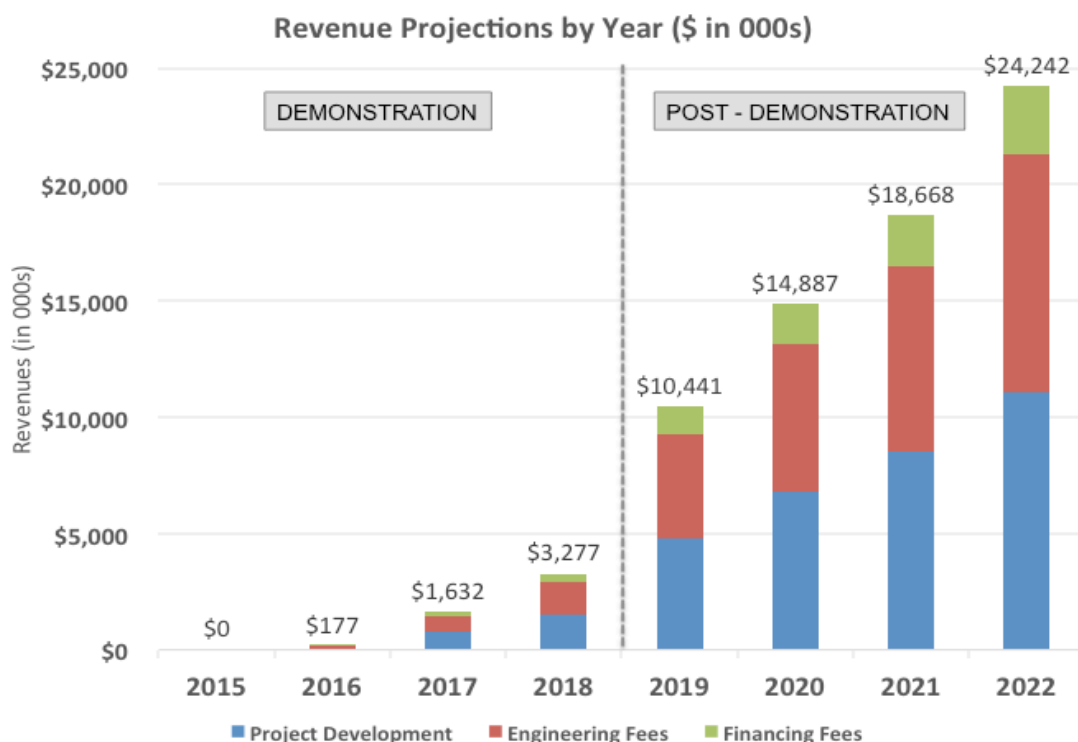
For each of these services, Con Edison has conducted preliminary research to determine how much it can likely charge, expressed as a percentage of project size. This research was primarily via discussions with industry experts, as there are no known market standards for this innovative approach. Preliminary indicative target pricing is in the range of 5-10% as a percentage of total project costs for engineering fees, 5-7% for project development fees and 2-4% for financing fees.

Con Edison has estimated the potential revenue streams that could be generated from the monetization points that will be tested during the demonstration. Although the Demonstration Project will be focused on testing the viability of these monetization options, rather than maximizing revenue generated, we estimate that annual revenues derived from the demonstration could exceed **\$3 million per year** as the demonstration reaches maturity, with approximately **\$5 million in total demonstration revenue**.

As this approach is rolled out across Con Edison’s territory (post-demonstration), we estimate annual revenues could **exceed \$20 million** by 2022. This dramatic increase in post-demonstration revenue is primarily driven by a combination of:

- Significant expansion of addressable customers due to Con Edison’s anticipated investments that will make interval meter data available to more customers, most notably through the AMI deployment which is scheduled to begin in 2017, and
- Anticipated acceleration of adoption and use of the tools and resources introduced in this demonstration as customers and market partners see the value of using such tools.

A summary of forecasted demonstration and post-demonstration revenue is provided below.



It is important to note that the post-deployment revenue forecast only incorporates fees related to energy efficiency projects. In a post-demonstration scenario, Con Edison could potentially layer additional related DER products and services onto this platform, such as distributed generation and storage solutions. Although not quantified at this time, if implemented Con Edison believes these additional products and services could generate revenue incremental to the forecast above and help meet a broader set of customer needs.

(b) Investments

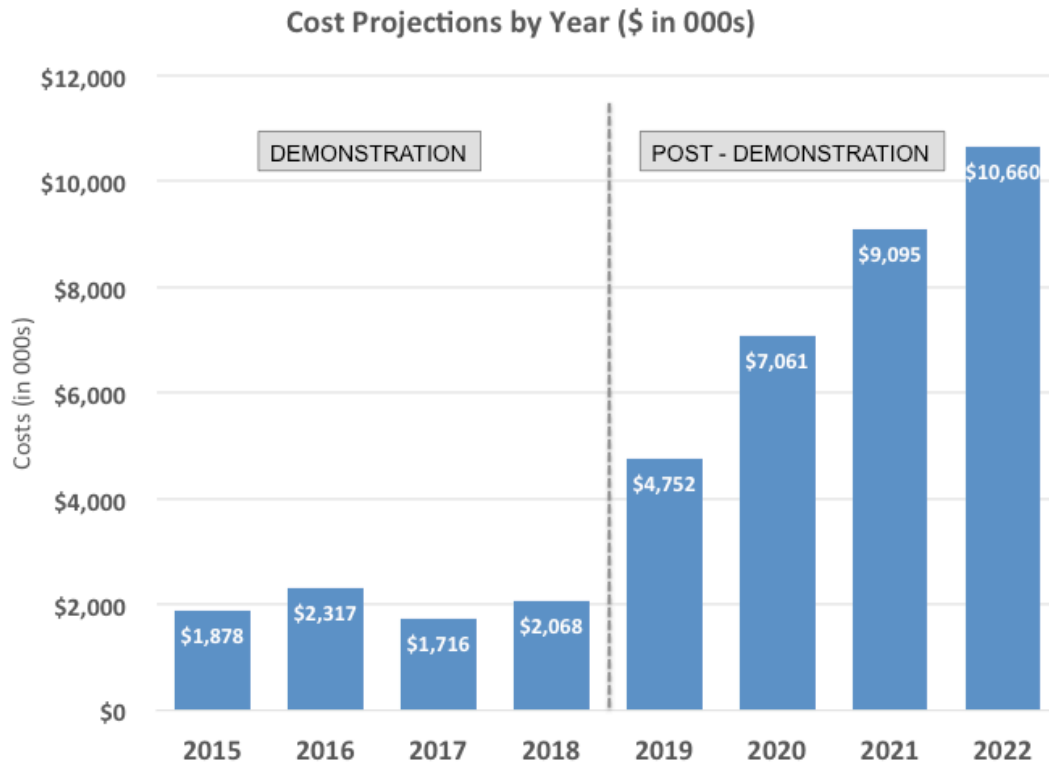
**i. Details and Timing of Spending**

The total projected cost attributed to the demonstration over the 3+ year term is approximately \$8.0 million dollars.

The costs that will be incurred in the demonstration include fees to license and configure the analytics software, as well as Con Edison and Retroficiency's personnel costs for project management, project resources, implementation support, and training.

Customer incentives for implemented projects and other costs associated with delivering Con Edison's energy efficiency and demand management programs are not included in the demonstration costs. Those costs will be borne by the relevant program (e.g. the C&I Equipment Program), consistent with then-applicable program practice.

A summary of forecasted demonstration and post-demonstration costs is provided below.



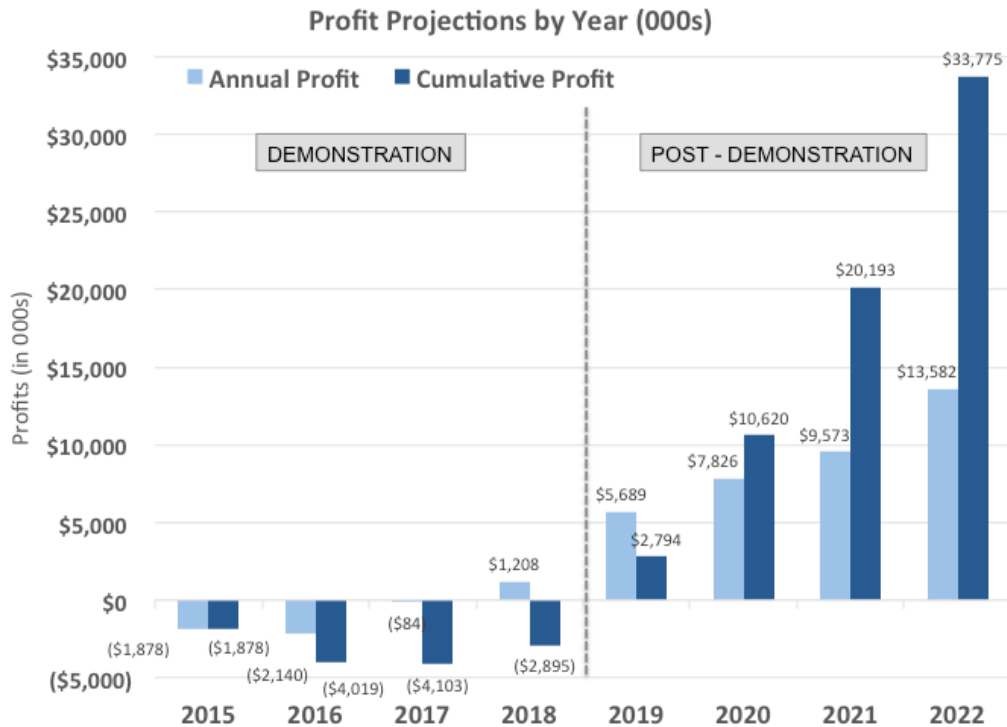
**ii. Leveraging of Third Party Capital**

As part of this demonstration, Retroficiency will extend the capabilities of its BEI Platform. Con Edison will contribute funds, but the majority of related costs will be borne by Retroficiency as a capital contribution to the demonstration.

**(c) Returns (ROI estimates, when self-sustaining, etc)**

Con Edison considers 2015 and 2016 to be investment years, with approximately \$4.2 million invested relative to approximately \$175,000 of total anticipated revenue during that period. Con Edison expects to approach break-even for calendar year 2017 with a small projected loss (demonstration revenue minus direct costs) of approximately \$85,000. For 2018, the last year of the demonstration, Con Edison anticipates revenues of nearly \$3.3 million against costs of \$2.1 million, for a profit of approximately \$1.2 million.

Con Edison does not anticipate total revenue realized during the demonstration (\$5.1 million) to exceed total demonstration costs (\$8.0 million). This is due in part to Con Edison’s desire for flexibility to test and iterate on several monetization strategies within the demonstration, which may mean potential revenue is sacrificed in favor of increasing demonstration learning. At the end of demonstration, however, Con Edison will be in a position to increase the scope and the revenues beginning in 2019 and beyond.



It is worth noting that additional value streams will be captured in the Demonstration Project and beyond. Most notably, Con Edison and its ratepayers will benefit from the energy savings and demand reductions from all projects sourced through this demonstration through the potential deferral of costly network infrastructure upgrades and supply increases. This will be increasingly critical as demand rises over time and Con Edison must more aggressively manage supply constraints, as it is already doing via its Brooklyn Queens Demand Management Program. These and other avoided costs will drive further value to the entire distribution ecosystem.

## 6. Reporting

### (a) Information to be Included in Quarterly Reports to the Commission

Con Edison will report to the Commission every quarter on key demonstration metrics, which will allow Con Edison and Commission to track the progress of this demonstration project. All key metrics will be reported for the quarter, for the calendar year, and from the initiation of the demonstration project. Such data will be reported on an absolute and relative (to plan/budget) basis, and will include:

- Number of customers included in the demonstration project
- Number of market partners engaged in the demonstration project
- Number of visits to the portals

- Number of projects of which Con Edison is aware that have been definitively arranged (e.g., signed contracts), originating through the demonstration project
- Estimated total kW and kWh which will be saved by the projects of which Con Edison is aware that have been definitively arranged (e.g., signed contracts), originating through the demonstration project
- Revenues earned by Con Edison, in three categories: project development fees, engineering fees, and financing fees
- Capital expenses and operating expenses incurred by Con Edison on this demonstration project

## 7. Conclusion

### (a) Post-demonstration benefits

#### i. Qualitative

The Building Efficiency Marketplace Demonstration Project will deliver several benefits that last beyond the term of the demonstration.

As further described below, the projects implemented during the demonstration will result in measurable energy (kWh), demand reduction (kW), and carbon savings that can reasonably be expected to persist over the useful life of the ECMs. Additionally, both Con Edison and participating customers will benefit from the knowledge of those potential ECMs that are not implemented during the demonstration. Awareness of Con Edison's efforts related to program design, marketing to customers, and network/grid planning and operations and the potential ECMs that are available in customer buildings can inform customer investment decisions beyond the horizon of the demonstration.

Con Edison also expects this demonstration to deliver meaningful improvements in customer satisfaction and brand value. A key tenet of this program is to leverage analytics-based insights to educate key customer segments on how they are using energy and how they could reduce that usage in ways that will simultaneously benefit the utility system. By proactively demonstrating how customers can save energy and demand, customer satisfaction will improve over time, both amongst those customers that opt to install projects through this Demonstration Project and those that do not.

#### ii. Quantitative

Con Edison projects that this demonstration will result in more than 100 customers executing energy efficiency and demand management projects that will collectively deliver 60,000+ MWh of annual energy savings. From a carbon avoidance perspective, this is the

equivalent of more than 16,000 metric tons of CO<sub>2</sub> savings, which equates to taking more than 3,400 cars off the road.<sup>6</sup>

(b) Plans to scale

One of the greatest benefits of the Building Efficiency Marketplace is its high applicability to a variety of commercial customers, contractors, and other stakeholders across Con Edison's territory and New York State. The experience from this demonstration can be leveraged broadly by Con Edison.

Upon completion of a successful demonstration, Con Edison's intent would be to continue offering the analytics, engagement portals, and resources to all of its eligible customers and market partners. It is worth noting that the end of the demonstration period coincides with Con Edison's planned investment in Advanced Metering Infrastructure (AMI) for all of its customers, which is anticipated to begin in 2017. By dramatically increasing the number of customers with available interval data, the smart meter deployment will significantly expand the universe of customers that can benefit from the tools featured in this demonstration. Additionally, the majority of the customers that would be folded into this program after AMI is deployed are small and medium business customers. Small and medium businesses are segments that can be difficult to engage and motivate action around energy efficiency. Because of this, the tools and resources being tested in this demonstration are likely to be of great interest to these customers. In this way, the Building Efficiency Marketplace will allow Con Edison, its customers, and market partners to receive additional value from the AMI investment, while increasing customer awareness and satisfaction associated with the smart meter deployment.

**i. Break points in scaling**

In addition to testing and iterating on potential monetization options, a notable objective of this demonstration is to also identify and iterate on the features of the customer and market partner facing technologies that will result in the greatest possible scale. During the demonstration Con Edison will supplement the technology applications with engineering, sales, and marketing resources that will be tasked with creating awareness and interest, helping customers scope projects, and facilitating transactions with market partners. While Con Edison doesn't believe it will be possible to completely remove support personnel from the process in the future, we will use the demonstration to identify the places where software can further streamline processes as much as possible. This will allow additional customers to benefit from these tools and resources without linear increases in support personnel.

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<sup>6</sup> Calculations based on New York State Electricity Profile data at United States EIA (<http://www.eia.gov/electricity/state/newyork/index.cfm>) and passenger vehicle emissions factors provided by the United States Environmental Protection Agency (<http://www.epa.gov/cleanenergy/energy-resources/refs.html#vehicles>).

Additionally, as the demonstration is expanded to address additional customers Con Edison anticipates receiving scaled software pricing that reflects the higher volume of buildings on the engagement platform.

(c) Advantage

Several of REV's ambitious objectives center around the use of data to engage and empower customers to take action to reduce their energy costs. Customers that invest in energy efficiency and demand management realize numerous significant benefits, while simultaneously benefiting Con Edison's ratepayers and the market partners that make implementation possible. The Building Efficiency Marketplace demonstration will leverage data analytics and customer- and market-facing web portals to engage customers in their energy use, streamline the procurement process, and facilitate interactions between end-use customers and third party service providers. Ultimately, Con Edison anticipates the innovative tools and business models demonstrated here will lead to significant, increased adoption of energy efficiency and demand-side management measures, as well as increased customer and market partner satisfaction.

The Building Efficiency Marketplace is a natural next step for Con Edison, its customers, and market partners. This demonstration features analytics technology that, while innovative, has already delivered significant benefit to Con Edison in several of its most constrained networks. The demonstration will expand the reach of data analytics to as many as 2,100 commercial buildings that currently have interval data. This is, of course, a fraction of Con Edison's roughly 500,000 commercial customers that would have access to interval data, and could potentially benefit from the tools and resources being offered in this demonstration, once AMI has been installed territory-wide.

In a similar fashion, the demonstration will also expand the ways customers are educated and engaged around their energy consumption and savings opportunities. Customers crave self-service options, as well as actionable information that is tailored to their specific situation. The customer engagement portal that will be used to deliver analytics throughout the demonstration will provide customers with the tools they need to both know and act on what they can do to save energy. Related, Con Edison's market partners will benefit from the demonstration's use and sharing of data, leading to new ways to expand their business and reach new customers.

Con Edison believes strongly in the opportunity the Building Efficiency Marketplace offers to demonstrate and test the objectives of REV, while better serving commercial customers and market partners. The lessons learned in this demonstration will be invaluable to Con Edison and the State of New York as it embarks on the 21<sup>st</sup> century reformation of the utility sector.