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- 1. Please provide a list and brief explanation of your efforts to identify which individual customers are engaged in electricity management, usage and purchase (e.g. shopping) decisions. (E.g. compile and maintain lists of customers who have inquired about these issues, customers who have inquired about these issues, customers who have visited utility webpages containing this information, etc.) For each item on your list, please explain how your efforts differ among service classifications, and explain when you began that effort.**

The DUG (Distribution Utility Group comprised of: Central Hudson, Consolidated Edison, Orange & Rockland, National Grid, & NYSEG/RG&E) all offer programs that encourage customers to manage their energy usage, primarily through energy efficiency programs, but also through Time of Use rates, Retail Access, and Hourly Pricing Program for our large demand customers. The utilities actively promote customer participation in our energy efficiency programs (marketing examples include cable television spots, radio and newspaper ads, websites, website banner ads, social media, email, direct conversations with customers, and bill inserts). The programs are differentiated between residential and non-residential. Most utilities currently have a program which provides customers with their past energy consumption and encourages them to reduce energy usage (examples include OPower Reports, Green Button, and/or personalized on-line audit tools).

For energy efficiency programs, the utilities become aware of customers who are engaged in electricity management (electricity reduction management) by the application for energy efficiency program incentives. Generally, we do not actively track those customers' usage except as required as part of the measurement and verification process.

Customers may elect to install a demand response system behind the meter (i.e. Johnson Controls systems) and if the customer requests the utilities will provide a relay device that sends "pulses" to their equipment. Utilities are not actively tracking this. For example, Con Edison offers demand response programs for all customer classes, using incentives to engage customers. These demand response programs encourage customers to become aware of which appliances or building functions contribute most to their energy usage and actively participate in alleviating system critical situations.

Retail Access offers residential and commercial customers the ability to manage their supply costs by shopping for their energy supplier. Certain utilities offer customers comparison options such as calculators and shopping tools found on utility websites. These tools generally allow residential customers to compare bill amounts that include marketer charges (from their selected Energy Service Company) to bill amounts for the same periods for gas/electric usage that their utility would have charged for the same service.

All utilities have specialized call centers or dedicated customer service representatives that address customer inquiries related to energy efficiency programs. Direct Mail, Bill Inserts, Friends/Colleagues and Sales Reps generate calls.

- 2. Do you measure the extent to which individual customers are engaged in energy management, usage and purchase decisions? If so, please explain how you do so and what you currently do with this information, how your answer may differ according to service classification and when you began such measurement.**

All utilities have data regarding participation in the various programs (i.e., customer counts). Some utility EE programs have specific participation targets), which drives activities. Other programs do not

have specific targets, but are tracked regularly solely for informational purposes. EEPS has been measured since the program began in 2007. Historical data for other programs varies based on each utility customer information system's data availability. Other than learning about individual customer activities which are associated with specific energy efficiency incentive applications, we do not measure participation in energy management through energy efficiency programming.

Large industrial and commercial customers are most actively engaged through utility account representatives who handle energy usage management with the customer, including participation in energy efficiency programs.

### **3. Regarding questions 1 and 2, please explain what you expect to do differently in the next 6 months, 12 months and 5 years.**

The utilities see several opportunities for action in short, intermediate and long terms. These are not necessarily program specific, but different aspects can be applied to each program where it is a good fit. The utilities believe that the results of the REV proceeding will drive future planning.

- Research: Customer research and analysis of data to segment and target customers for products and services. For example:
  - National Grid has been collecting customer usage data from distributed energy resource solutions (including EV charging stations in Upstate New York) in market or in pilot to analyze and evaluate actual customer behavior. This will be used to inform and shape future solution development to drive greater customer engagement. (Begin within next 6 months and will be an ongoing source of customer knowledge)
- Preference Management: Solicit and capture customer interest in communications and products (bill alerts, efficiency messaging, outage alerts).
- Customized Service: Offer customers the ability to define their relationship (or engagement) with their utility through products and services and preference management:
  - Optional pricing plans (pre-pay, TOU Supply, price comparison tools)
  - Billing and Payment (pick your billing date, eBill, AutoPay)
  - Energy Usage information. Potential examples include on-line usage portals, email and text alerts, mobile app push notifications, and Green Button
  - Communications (bill alerts, outage alerts, targeted promotions)
  - Utilization of Smart Meters
- Potentially integrate additional web tools to assist customers in understanding and managing their energy usage.

### **4. What do you believe are the near term opportunities for improving customer engagement in DER?**

Below is a list of potential near term opportunities to improve customer engagement in DER. Whatever programs are undertaken should ensure that the outreach and education is targeted to the appropriate audiences across the State to ensure that all utilities are performing in a consistent fashion.

#### **Customer Research & Analysis**

There could be opportunities to do a quantitative and qualitative assessment of customer needs, interest, priorities, and preferences. In conjunction, an assessment of current participation in efficiency,

supply markets, alternative energy products will assist in identifying customer segments (early adopters) and support/barriers to entry.

### **Customer Marketing**

Utilities may have the ability to build off of successful marketing efforts from energy efficiency programs, low-income programs, and other marketing efforts. Many customers see their utility as their trusted energy advisor looking for insight and expertise. By providing additional outreach and education to our customers we can enhance their ability to make informed decisions with regard to their energy purchases. Potential methods include increasing emphasis on trade ally networks, enhancing digital access and information, providing targeted marketing based on customer profile, and continuing traditional means as well. Whenever possible, DERs should be marketed as a package of energy solutions, such as energy efficiency together with demand response.

### **Energy Data Management Tools**

Energy data management tools like the Green Button, that standardize the format of customer utility consumption data, and Portfolio Manager, that allows for benchmarking against peers, can help customers better analyze and understand their consumption patterns, and possibly opportunities for managing their energy use.

### **Financing Opportunities**

Access to financing had been identified as a barrier to market acceptance of some clean energy technologies. By informing customers of opportunities like those available through On Bill Recovery, the New York Green Bank and program specific opportunities, customers are more able to move from awareness of clean energy opportunities to execution and implementation of DER projects.

### **Time-of-use Rates/Critical Peak Pricing Rebates**

Time-of-use rates, including rates for electric vehicles, provide opportunities for customers to respond to prices and lower their energy bills by adjusting their behaviors to consume energy during off-peak hours. Critical peak pricing rebates where customers lower their usage during critical periods may also help improve customer engagement in DER.

### **Expansion of Behavioral Programs**

There is potential opportunity to expand existing energy efficiency behavioral programs to all customers, transitioning traditional utility-customer relationships to relationships that empower customers, provide platforms to build the demand for energy services, and foster dynamic energy services economies. The utility's assets—a trusted brand, customer energy data, grid topology data, and the potential ability to monetize demand reduction could be leveraged to help jump start the market for home energy automation with tools like smart thermostats and the establishment of inexpensive residential demand response programs.

### **Targeted DSM Potential**

The utilities are at different stages in the deployment of targeted DSM. Some utilities have successfully implemented a program while other utilities are investigating the potential of targeted DSM pilot program in areas of the service territory in need of capital investment as a result of accelerated growth in peak demand.

**5. Are you aware of any studies of what DER related services customers in different service classifications want, and what they'd be willing to pay for and, if so, please provide.**

Generally there are not many studies available.

National Grid is in the process of completing a marketing research study to provide customer needs input into Innovative Solution Development. The objective of this study was to better understand what customers need and value in the context of new and future energy solutions for home, business, and transportation. In addition, National Grid has explored the customers' awareness of interest in and opinion on these solutions. The study was conducted across the National Grid footprint and they surveyed both residential and commercial customers. The three solution areas studied include: Grid Modernization, Distributed Generation and Storage and Alternative Fuel Vehicles. National Grid is available to discuss this study in further detail with DPS Staff.

Since 2010, O&R has participated in the NYSERDA Geographic Balance Program to encourage the installation of large scale Photovoltaic (PV) in selected areas of the service territory. The Company will continue its efforts with NYSERDA to install PV in areas where peak demand reduction is needed to help offset capital investment.

**6. Are you aware of examples of successful customer engagement efforts (possibly though EEPs or DR Programs) and, if so, can you please provide.**

Below is a review of customer engagement efforts by utility.

**National Grid**

National Grid has been working with customer for many years in New York, Massachusetts and Rhode Island. We have observed, based on what we directly manage with other states we service as well as benchmarking efforts in other states, that customer engagement and customer satisfaction are driven by:

- More robust numbers of product offerings that customers can avail themselves to;
- Increased levels of customer communications;
- Simplified processes from beginning to end (e.g., automated incentives).

**EEPS Residential Behavioral Programs**

National Grid's EEPS Electric and Gas Residential Building Practices and Demonstration Programs have been successful in engaging customers in management of their home energy consumption. These programs utilize a social marketing campaign, with normative messaging techniques, to encourage responsible energy behavior and choices. The campaign provides home energy reports (HERs) to households in National Grid-NY's combined gas and electric service territories in upstate New York. The HERs provide recipients with feedback on their household energy use including a comparison of the recipient household's energy usage with that of neighboring homes, thereby introducing a subtle form of peer pressure (often referred to as "social norming") among households to achieve energy savings. The recent program impact evaluation found that participating customers not only consumed less electricity and natural gas, but were also more likely to participate in other energy efficiency programs offered by National Grid when compared to the control group.

## **Central Hudson**

### **Energy Efficiency**

An example of customer engagement through EE is our Home Energy Report Program. This is an approved PSC program through 2015. We send 110,000 Home Energy reports to residential customers (both electric and dual fuel) to make them aware of their usage as compared to similar homes in their general area, and encourage them to take some type of action. Action includes, as easy as hanging clothes to dry to participating in one of our programs to receive a rebate.

Our other programs such as our Residential Electric and Gas HVAC and Commercial Gas HVAC are driven by our Trade Allies. 54% of the customers that participate in our programs have heard about them through their Trade Allies. Keeping the Trade Allies engaged in turn keeps our customers engaged. All of our programs have some sort of customer engagement. All of these programs have marketing components that work to educate the customer and provide information on what they can do to take control of their usage.

### **Solar Integration**

For four years, we have successfully hosted an Annual Solar Summit for installers, which have in turn, helped installers to engage homeowners and streamline the process of interconnection of DERs by better understanding the utility needs. External speakers have included Assemblyman Kevin Cahill, and representatives from the Ulster County office, NYSERDA, Sustainable CUNY, NYPA, TSEC, and NYSEIA, among others, facilitating a discussion of key challenges in the renewables industry. We also maintain a website dedicated to DG: <http://www.centralhudson.com/dg/>, which includes links to key information as well as the ability to apply for interconnection and review the status of an application via the web. Our call center includes a subset of employees specifically trained to answer billing-related DG questions, and our Engineering staff is available to walk installers and customers through the process. Our engagement has resulted in 1,878 DER systems installed and 327 pending which represents nearly 2% of our system peak load.

### **Smart Meter Pilot**

Central Hudson worked with NYSERDA and Consert on smart meter/load control project. The objective was to demonstrate the ability to manage customer load in order to reduce demand during peak or emergency events. Consert's Virtual Peak Plant (VPP) was used for the project. VPP allows both the customer and the utility, through a web portal, the ability to control the usage of central air conditioners, electric water heater, and pool pumps. A total of 240 residential customers that met the air conditioning requirement were targeted for the project and the final participation was 57 customers. A total of 16 test events were conducted spanning from 1-8 hours in duration on days when the anticipated high temperature was in excess of 90 degrees. During the events the average reduction per customer ranged from 0.52-1.76 kW.

Overall this project confirmed the ability of a utility to control and reduce customer demand through the modification of equipment temperature settings or by turning off the equipment. However there was limited type of load that could be curtailed; mainly central air conditioners. The northeast does not have a high saturation of central air conditionings as compared to other regions. Existing homes in the area

likely use window air conditioning for the limited amount of cooling required. Therefore it becomes difficult to realize a significant decrease in demand if the type of load that utility is controlling is not prevalent. In addition, the overall outcome of the program was hampered by limited participation within the targeted customer group. Customers were reluctant to participate unless there was an incentive or reward to justify their time investment and sacrifice. Customers had the option to “opt out” of an event and at times the rate was above 50%.

While Consert’s utility web portal was relatively easy to use to schedule load curtailment events there were issues with customer learning curves associated with their programmable thermostats. There were also equipment problems, both customers equipment not up to code and failure of cellular modem interface installed in the meter.

### **NYSEG/RG&E**

NYSEG and RG&E have seen active participation in our EEPS programs. NYSEG and RG&E operate a full suite of Energy Efficiency programs which successfully engage customers, supporting trade allies and ESCOs. A brief summary of those engagement efforts, including the YES portfolio advertising campaign and the current Silver Creek Targeted Demand Side Management Pilot Program, follows.

Residential and Commercial Rebate, Recycling and Direct Install Programs

For these programs, the Companies implement an integrated marketing plan engaging both customers and trade allies as appropriate. Individual vehicles may include but are not limited to direct mail, collateral materials, the Companies’ Web sites, news releases, events and individual and small group outreach. Each program uses a portion or all of the following engagement activities, often in concert with the program implementation vendor.

Specific engagement vehicles used to market to targeted audiences that have produced successful results:

- Email – Mailings to customers and specific trade allies to stimulate interest in the program.
- Webinars – General and specific sessions held to promote the programs and engage customers and trade allies.
- Collateral – Program forms, brochures, and applications will be presented in a collective folder during customer visits and are found online.
- Events and outreach – Program workshops/seminars to promote program awareness and dialogue on program features and processes. Attendance at various trade shows used to educate audiences, network with participants and stimulate participation.
- Advertising
- YES Campaign – general energy efficiency program advertising to promote overall program awareness (see more information below).
- Web site – nyseg.com and rge.com contain information to inform customers and trade allies about program features and updates. All program forms are available for download from the Companies’ Web sites.
- Press releases – program successes will be promoted through this medium as appropriate.
- Trade Ally Network (CIRP only) – organized periodic communications and program updates provided to the network participants.

- Outreach Staff – both Company Marketing personnel and individual program (vendor) personnel provide customer engagement for these programs.
- In some programs, free energy efficiency measures are used to engage customers with an initial opportunity for energy savings, which often leads to greater customer engagement.
- Leveraged engagement from third parties is often used as in the Refrigerator Freezer Recycling Program's partnership with Sears stores to engage customers at the point of sale.
- Fulfillment centers for low and no cost energy savings measures are being introduced to engage online customers.
- Program cross promotion (between energy efficiency programs) is also used successfully to more fully engage customers as participants.

#### Block Bidding Program

The Block Bidding Program is a unique program, utilizing a somewhat different engagement strategy which engages not only customers, but ESCOs and related service providers who aggregate customer projects. For this energy efficiency program, large customers and aggregators (offering combined project size of at least 100 MWH) are targeted through web site notifications, press releases, email, individual phone and in person contact, during an open Request for Proposal (RFP) period. The engagement of third party aggregators (ESCOs, energy services companies, suppliers, trade allies) is essential to meet the larger project thresholds needed for this program.

#### Silver Creek Targeted Demand Side Management Pilot Program

The Village of Silver Creek is located on the shores of Lake Erie, within the Town of Hanover, Chautauqua County, New York, in an area of Western New York known as the Concord Grape Belt. NYSEG would like to relieve some of the demand on two circuits in this area by helping customers use energy more effectively.

This Silver Creek Targeted Demand Side Management Pilot Program is the proposed solution using the Energy Efficiency Portfolio Standard (EEPS) nonresidential programs Small Business Direct Install (primary), Commercial and Industrial Rebate Program (secondary), and residential Refrigerator and Freezer Recycling Program (RFRP) (tertiary) offering various measures that will reduce summer peak load. This project will take place during June, July and August 2014.

- Small Business Direct Install Program Solution

Currently the Companies offer up to 70% customer incentives for measures in this program. This initiative will utilize available 2012 – 2013 SBDI funds to target customers who are within the designated capacity constraint areas with 100% customer incentives. Targeted outreach and customer communications, including a letter and telephone calls to the customers on affected circuits and outreach to public officials; will be provided. .

- Commercial and Industrial Rebate Program Solution

The CIRP solution targets Non-Residential customers within the designated capacity constraint areas with an average demand of over 110 KW who otherwise would not be eligible for the SBEE program. The CIRP program administrator will make personal calls to the potential customer base that fall into this demand range on these two circuits, explaining the program opportunity and urging them to respond quickly to realize the opportunity. While demand savings are difficult to quantify until a customer identifies a project scope and engineers the solution for implementation we would assume any projects that become realized will support the future demand reduction on these circuits.

- Refrigerator and Freezer Recycling Program Solution

The RFRP solution targets residential customers on Silver Creek circuits 178 and 179 with direct mail "Spring Cleaning" RFRP advertising and current rebate levels.

## YES Campaign

An advertising campaign consisting of television, billboards, online, newspaper and social media, the NYSEG and RGE “Your Energy Savings” (YES) campaign kicked off mid-March of 2014. YES uses a visual approach, driving people to a website to learn more about the programs offered. The Social Media campaign began in April with the introduction of the “Say YES to Energy Savings” page. The page gives energy saving tips each week as well as testimonials from customers who have participated in the program. Currently the page has 140+ followers, and we are looking to further promote it internally.

## **Con Edison**

Con Edison has energy efficiency, demand response and demand management programs with successful customer engagements at a number of levels from large commercial buildings to single family residential. A key marketing strategy is the creation and brand support of the Con Edison Green Team. The Green Team is a trusted group of employees, implementation contractors, market partners and outreach coordinators who bring energy efficiency, demand response and demand management solutions to customers. This brand and solution strategy is supported with advertising via traditional media such as television, radio and print as well as non-traditional digital media. At the end of 2013, the Green Team enjoyed a 76% awareness and favorability among commercial customers. Con Edison also utilizes social media platforms, its own website and content management to reach key customers. Internally, Con Edison leverages customer bill inserts, a customer newsletter, call center management and employee communications, such as the intranet and video screens, to promote programs. Community outreach is also a key strategy to create ambassadors and third-party endorsements for programs. The message is disseminated through the Con Edison public affairs group as well outreach coordinators reaching out to business improvement districts, business organizations, community boards and enterprise zones.

## **Orange & Rockland**

O&R has experienced examples of successful customer engagement involving EEPS programs. For example, several customers have participated in our programs multiple times receiving rebates for lighting, motors, HVAC and custom-designed projects. One customer who was skeptical of payback estimated in the Small Business Direct Install Program decided to participate at only one of his store locations. After the estimated savings was realized in the first few months, he decided to enroll all of his store locations and is very satisfied. In our C&I Existing Program several large customers including a large pharmaceutical and large shopping mall have worked with O&R staff to implement multiple projects. These successful relationships have been the driver in exceeding the C&I Program annual goal in 2013 and 2014. In addition, for the C&I Program over 50% of the total project participation is attributable to customers who have already participated in the program. This repeat participation is a direct result of the relationship that the O&R Green Team has developed with its customers as their energy efficiency expert.

**Orange and Rockland Utilities, Inc.**  
**NYPSC REV Proceeding - Customer Engagement**  
**June 4 Question Response**

1. Please provide a list and brief explanation of your efforts to identify which individual customers are engaged in electricity management, usage and purchase (e.g., shopping) decisions. (E.g., compile and maintain lists of customers who have inquired about these issues, customers who have visited utility webpages containing this information, etc.) For each item on your list, please explain how your efforts differ among service classifications, and explain when you began that effort.

**Large Customer Engagement**

O&R has maintained relationships with its Service Classification 9 and 22 customers (> 1000 KW peak demand) and since the inception of the EEPS Proceeding has begun to engage these customers in their energy efficiency planning and shopping efforts. Our C&I Existing Buildings Program utilizes on-site meetings with facility managers and decision makers to provide customers with the resources and tools necessary to participate in our energy efficiency program and shopping for alternate suppliers. In addition, as a result of successful interactions with the SC9/22 customers, these on-site meetings have expanded to include customers with peak demands greater than 300 KW where utility experts address customer issues ranging from service reliability, tariff rates, energy efficiency and retail choice. These meetings have driven participation in the C&I program and provide the opportunity for valuable interaction to engage customers in meeting all their energy efficiency and shopping needs.

**Mass Market Green Team EEPS Marketing Campaign**

O&R has partnered with Con Edison to launch the Green Team marketing campaign to educate customers on the benefits of investing in energy efficiency and how the O&R Green Team can help. Radio spots, cablevision commercials, print advertising in newspapers, the ORU website, along with internet advertising highlight the benefits of investing in energy efficient technologies and drive customers to O&R's website to learn more about our direct install, rebate and recycling programs, and an on-line audit tool.

**Hourly Data for Mandatory Hourly Priced (MHP) Customers**

O&R offers a Customer Care (CC) tool to all of its MHP customers that provides access to their hourly usage data. Customers are given a login and password and download their usage using the software so that they can better manage their usage and shop for a competitive supply price.

**On-Line Audit Tool**

O&R provides customers with an easy to use on-line audit tool that links actual historical customer billing data with actual local weather data to disaggregate

customers' usage into easy to read end-use graphs. The resulting audit report highlights how their energy dollars are spent and provides no cost/low cost recommendations along with longer term cost-effective investments to lower their bills. O&R has begun to use the data obtained from the on-line surveys to develop targeted marketing lists to send email blasts that market specific programs that they may be eligible to participate in. For example, a targeted email blast was sent to customers that responded during the audit that they had a second refrigerator. The email blast highlighted \$50 rebate and the economic/environmental benefits of our refrigerator recycling program.

### **On-Line Shopping Tool**

O&R provides customers with an easy to use on-line shopping tool that allows customers to shop for an alternate electric and gas supplier. Customers anonymously request offers from alternate suppliers who provide both fixed and variable pricing offers. Customers then follow up with the offer that best fits their needs and contact their selected alternate supplier to facilitate enrollment in retail choice.

### **Outreach Events**

O&R attends home shows, fairs, school events and various community meetings to promote energy efficiency, provide customers with tools and resources to better manage their energy use whether shopping for an alternate supplier or seeking participation in O&R suite of programs. For example, O&R is a member of the Rockland Business Association, Rockland Economic Development Corporation, and the Orange County Partnership.

### **Voluntary Time-of-Use (VTOU) Rates**

O&R offers residential, commercial, and industrial customers VTOU (SC19, 20, and 21) rates for both delivery and supply.

O&R compiles and maintains list of all of EEPS participants and can also track email addresses for customers utilizing on-line audit and shopping tools. Follow up with EEPS participants is performed primarily for process and impact evaluation efforts.

**1. Please provide a list and brief explanation of your efforts to identify which individual customers are engaged in electricity management, usage and purchase (e.g. shopping) decisions. (E.g. compile and maintain lists of customers who have inquired about these issues, customers who have inquired about these issues, customers who have visited utility webpages containing this information, etc.) For each item on your list, please explain how your efforts differ among service classifications, and explain when you began that effort.**

**Customer Targeting, Profiling , Modeling**

National Grid uses extensive internal and external data including attributes, attitudes, transactional and interactions to form the foundation of how we connect with customers, including understanding who has or has not engaged in electricity management. For the past year or so, we have utilized our extensive customer data to inform how we reach and communicate/educate customers about electricity management. In leveraging the data, we develop both residential and commercial customer profiles which help us more effectively reach customers. These profiles help to depict groups/segments of customers and provide key insights such as which Energy Efficiency (EE) or other products they may be interested in, what are the best channels to reach them and what messages would more likely resonate with them.

Beyond Profiling, a further and more sophisticated use of our extensive data is utilizing it more analytically to develop propensity models. Propensity models use data mining technology to provide a quantified estimate of an individual customer's anticipated likelihood to participate in a specific solution, such as an EE program. From these models, we are able to produce a ranked list of customers based on their likelihood to adopt an EE program. In order to develop these models for a specific EE program, a significant number of data must be obtained and therefore time is needed to acquire it. We have undertaken developing these models for the NY EE programs, providing us with an understanding of who is more likely to participate in a particular program.

During this past year, National Grid developed propensity models for both EE eligible Residential and Commercial customers. For the most part, the methodology used to develop the models were similar for both Residential and Commercial customers. For residential customers we were able to use the target market identified through the propensity model to develop more robust customer profiles for a specific EE target market, such as the Refrigerator Recycling Program. These robust profiles were then leveraged to better market to customers. Results of this very targeted approach is under review however in other states we have seen this approach achieve up to double digit increases in customer response and participation thereby making our marketing more effective and efficient.

**Transactional Emails**

An average of 500,000 emails are automatically sent each month in Upstate New York after customers transact with us on the web. Within the email, we can promote Energy Efficiency and energy management tips, as well as drive customers to the National Grid Energy Efficiency landing pages where they can learn more about how to better manage their energy. Therefore, utilizing our email list is another avenue to understand who engages regarding energy management.

**National Grid Website**

Beyond our extensive database and email approach, our website is a key area of engagement for our customers and one which we utilize to track energy engagement. We have the ability to pull web data to identify online customer engagement with specific content/pages related to electricity management, usage data and purchase decisions. In the future we plan to utilize this information for targeted communications and identifying opportunities to increase engagement via, for example, content recommendations and improved site design.

Provided below is web activity for National Grid. This includes all National Grid regions except MA Gas and NYC Gas (Upstate NY electric and gas, Rhode Island electric and gas, New Hampshire electric, LI gas, Mass electric).

Page	URL	Average PageViews/Month*
Energy Efficiency Landing page	<a href="https://www1.nationalgridus.com/EnergyEfficiencyServices">https://www1.nationalgridus.com/EnergyEfficiencyServices</a>	19,200
Services and Rebates	<a href="https://www1.nationalgridus.com/EnergyEfficiencyPrograms">https://www1.nationalgridus.com/EnergyEfficiencyPrograms</a>	27,400
Savings Tips	<a href="https://www1.nationalgridus.com/SavingTips">https://www1.nationalgridus.com/SavingTips</a>	3,200
Preserve the Environment	<a href="https://www1.nationalgridus.com/PreserveTheEnvironment">https://www1.nationalgridus.com/PreserveTheEnvironment</a>	470
Path To Efficiency	<a href="https://www1.nationalgridus.com/PathToEfficiency">https://www1.nationalgridus.com/PathToEfficiency</a>	350
Usage and cost graph	Self Service	51,200
ESCo Calculator (UNY only)	<a href="https://www1.nationalgridus.com/ESCoCostComparisonChart">https://www1.nationalgridus.com/ESCoCostComparisonChart</a>	3,600

*\*Based on June 1, 2013 - May 1, 2014*

**ESCo Calculator - Upstate New York only**

An example of an energy management tool that provides another window to residential customers' engagement is our ESCo Calculator, found on our website. National Grid provides all UNY customers

National Grid

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with information needed for them to proactively manage their electricity costs by enabling them to choose their energy supplier. This tool allows customers to compare bill amounts that include marketer charges (from a customer's selected Energy Service Company) to bill amounts for the same periods for gas / electric usage that National Grid would have issued if we were purchasing energy on the customer's behalf.

**2. Do you measure the extent to which individual customers are engaged in energy management, usage and purchase decisions? If so, please explain how you do so and what you currently do with this information, how your answer may differ according to service classification and when you began such measurement.**

National Grid spends significant effort on measuring the effectiveness of how we engage customers on EE programs. Historically, we have done much of the measurement through manual tracking however in the year or so we have invested in an automation system, Gridforce, that enables us to track mid-sized and large Commercial customers from a response to through participation. Currently, this system is not being utilized for residential and small business customers as the programs for these segments are heavily dependent on vendor partners, who currently do not have access to our system. In addition to tracking and measuring our results, we also benchmark them against best-in-class results, regardless of industry. Attached is a sample of our EE dashboard which highlights key performance metrics, which then help to inform if any customer communication changes need to be made going forward.

In addition to measuring our results, we also have resources to analyze the information. For example, National Grid has used EE participation data to identify individual customers that have previously participated in EE measures. In 2013, electric commercial customer participation data was analyzed to determine which measures an individual customer had participated in. We then identified the progression of EE measures that a customer is likely to follow. This allowed us to market specific measures to individual customers based on what they had previously participated in and the natural progression for next step measures.

# 2014 EE Marketing: Q1 Results & Q2 Calendar

**Contacts:**

Kate Ringe-Welch: Residential & Business Marketing

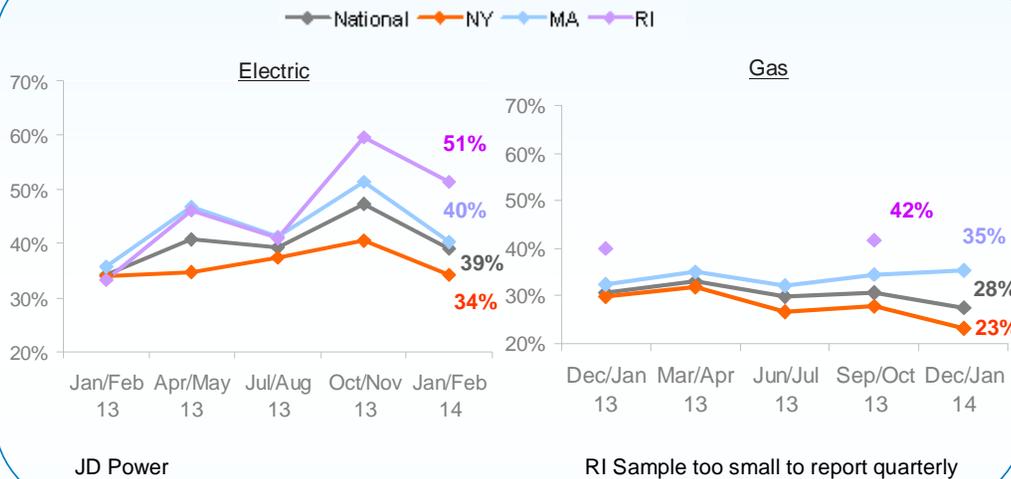
Mel Berger: Trade Marketing

Doreen Lucas: Sales & Channel Support

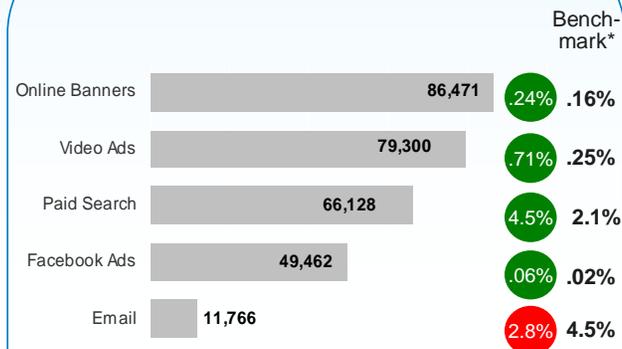
## Executive Summary

- Latest National Grid EE residential awareness for all jurisdictions at 39% for electric and 28% for gas. RI leading the pack. Refreshed EE awareness campaigns in MA (radio, print, digital) and RI (radio, digital) in Q1. Plan to launch EE umbrella campaign theme in Q2 across the footprint. Added EE awareness question to Brand Image Relationship Tracker survey for monthly tracking.
- Digital major driver of strong residential customer responses of 293,300 from marketing activities.
- Residential program Committed Appointment goals are on track or exceeding goals for MA and RI. NYC and UNY programs in building mode.
- MA Communities Marketing RFI received positive response to identify 5 communities to drive wider EE participation.
- Developing tracking of household measure penetration (1, 2, 3+) to determine depth of measure adoption. Chart will be included in upcoming dashboard.

## EE Awareness



## Customer Responses



## Committed Appointments



## Highlights



MA

- Lighting & Products Special Facebook Offer
- Ref Rec \$100 Limited Time Offer in Print
- Educational HES video
- Co-branding guidelines prepared for HES Home Performance Contractors



RI

- Providence Journal Deals
- Educational video for EnergyWise
- Local papers for EnergyWise

- Digital (Facebook, banner ads and paid search) for HEHE



NY

- Digital (Facebook, banner ads and paid search) for HEHE

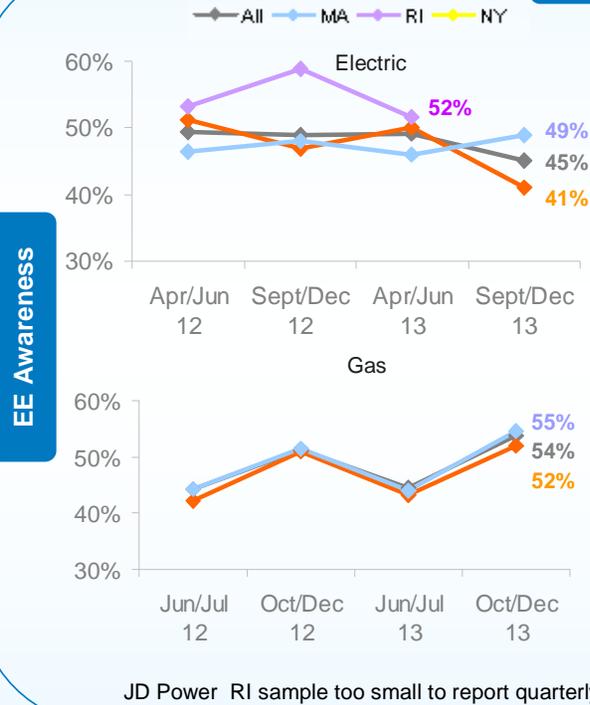
ALL

- EE Landing Page Live

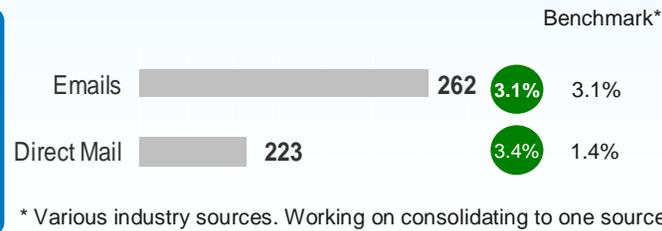
## Executive Summary

- “Yesterday’s Office” Campaign digital suite generated strong click-thru’s (14,600). Social media posts included links to video and new EE business tips.
- Small Business Program Goals on track in MA, RI and NY. EE Awareness measured 45% for electric and 54% for gas.
- Thought Leadership Agency RFI developed and sent to potential bidders.
- Internal focus groups conducted with Sales, Implementation and Jurisdictional teams to develop Vertical Value Propositions for large/ small businesses.
- Thought Leadership survey requirements scoped to validate value propositions (focus groups) and benchmark/ track large business EE awareness, customer satisfaction and perceptions of National Grid as a trusted advisor.
- NEEP Business Leader Award nominations were completed. Citizen’s Bank in RI and Union College in NY selected as state champions. Cedar Foods and Chestnut Hill Realty were selected as Business leaders winners in MA. Additional Case studies were created for Manth Brownell, Tapecon and Industrial Color Labs.

## Small Business Metrics



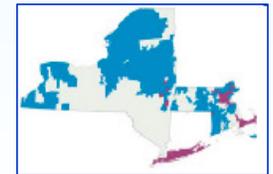
### Customer Responses



### Customer Appointments

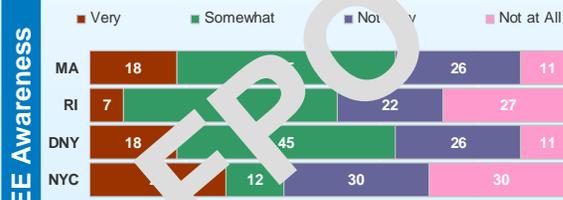


## Marketing Highlights- All

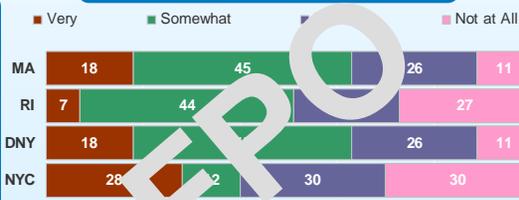


- Value Proposition Focus Groups
- “Yesterday’s Office” Digital (NE)
- NEEP Business Leader Awards
- EE Landing Page EE Business Tips
- Vertical Sales Support Collateral
- Enhanced Online Ordering System
- Strategic Direction for Trade Allies
- NYC Multifamily Direct Install Promo
- Intro for SMB New Customer Options

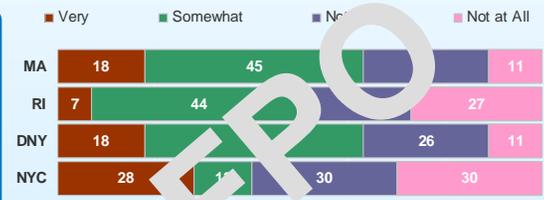
## Large Business Metrics



### Customer Satisfaction



### Trusted Advisor



Results will come from Quarterly Thought Leadership Survey under development

Large Business represents 56% of Total Shareholder Incentive

# 2014 Q2 EE Activity by Channel

Channel/Tactic for Broad-Based Channels

April

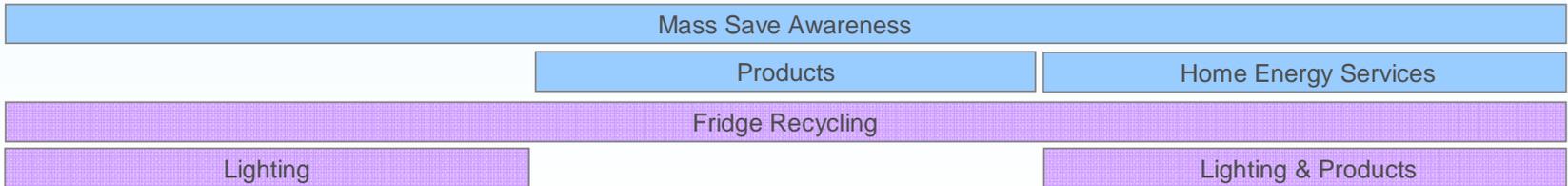
May

June

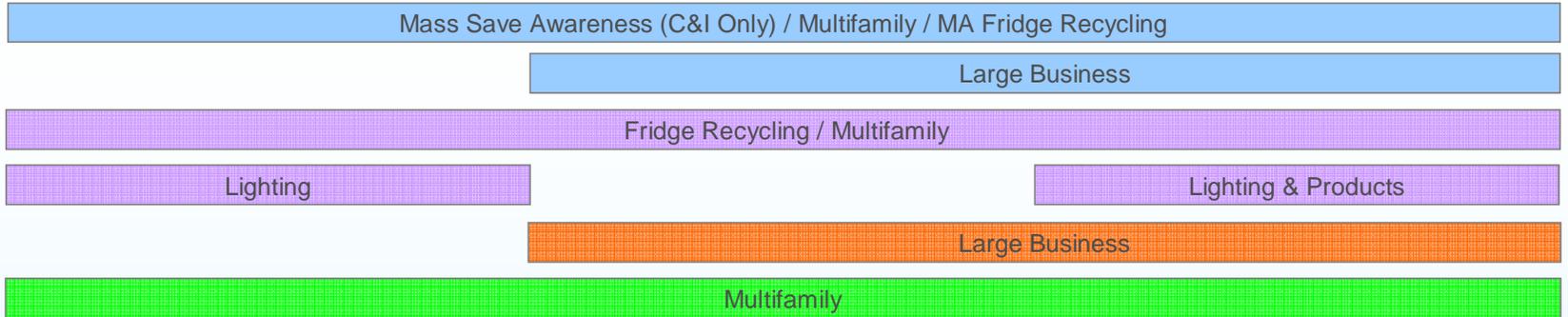
Umbrella Campaign

Comfort Zone

Radio



Print



Sponsorship/ Events



Out of Home



Jurisdictions:



# 2014 Q2 EE Activity by Channel

Channel/Tactic for Digital Channels

April

May

June

Mass Save Awareness / Home Energy Services / Fridge Recycling

Lighting

Lighting & Products

Large Business / Heating & Cooling

Fridge Recycling

Heating & Cooling

Energy Wise / Lighting

Lighting & Products

Large Business

Multifamily

Multifamily

Banner / Mobile Ads

Social Media

Mass Save Awareness / Lighting, Products & Fridge Recycling/Heating & Cooling

Lighting, Products & Fridge Recycling / Heating & Cooling

Heating & Cooling

Small Business

Paid Search

Mass Save Awareness / Home Energy Services / Lighting, Products & Fridge Recycling/Heating & Cooling

Lighting, Products & Fridge Recycling/Heating and Cooling

Energy Wise

Heating & Cooling

Heating & Cooling

Small Business

Pre-Roll Video

Mass Save Awareness

Home Energy Services

Heating & Cooling

Energy Wise

Heating & Cooling

Heating & Cooling

Small Business Program

Jurisdictions:



Massachusetts



Rhode Island



UNY



NYC

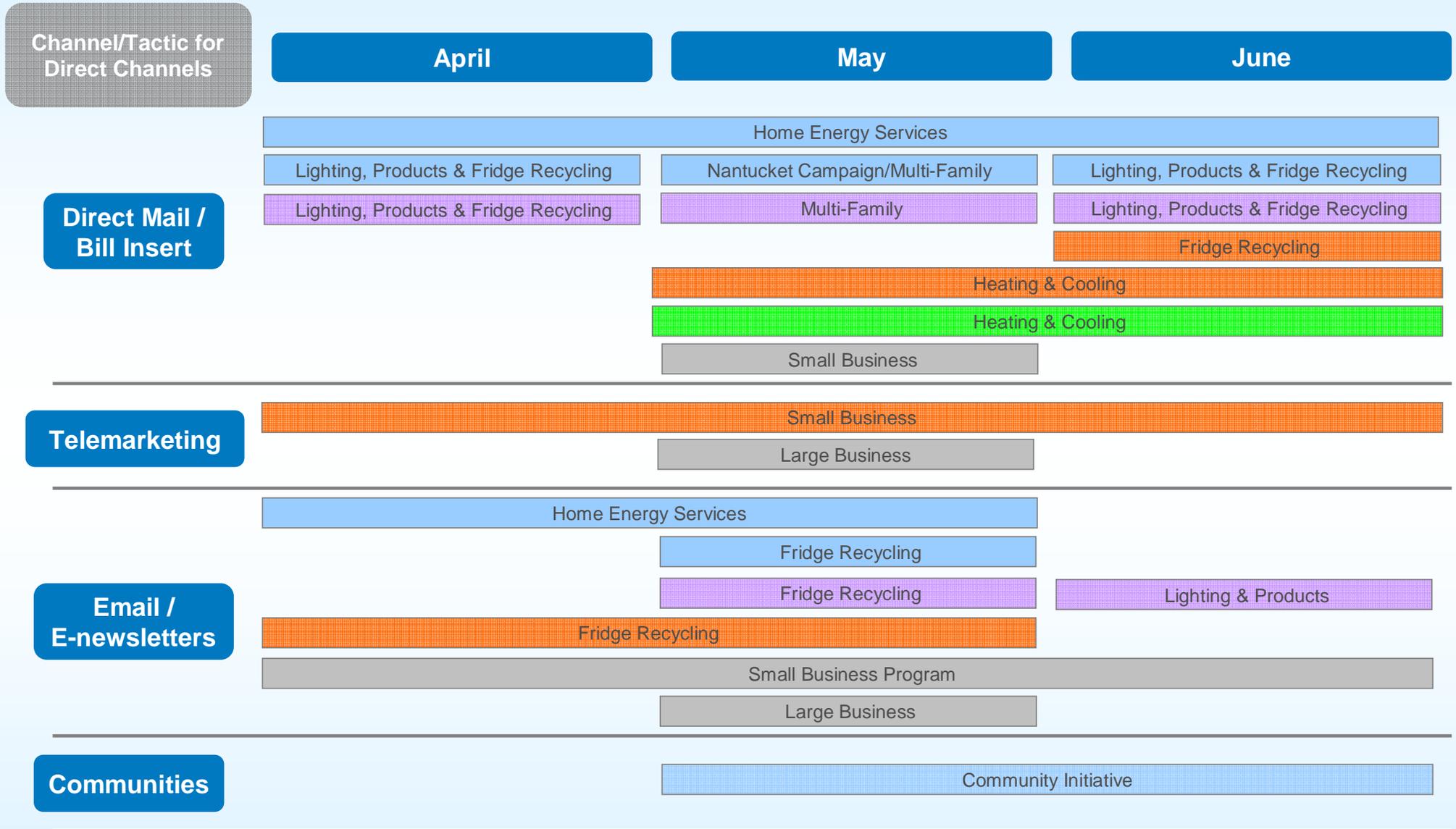


All



LI \* previously committed

# 2014 Q2 EE Activity by Channel



Jurisdictions: ■ Massachusetts ■ Rhode Island ■ UNY ■ NYC ■ All

**3. Regarding questions 1 and 2, please explain what you expect to do differently in the next 6 months, 12 months and 5 years.**

**Data Mining**

National Grid will continue to leverage its internal and external data, data mining technology and analytic capabilities to find new ways for engaging our commercial and residential customers engaged in energy management. (Ongoing)

**Usage Data**

National Grid has been collecting customer usage data from distributed energy resource solutions (including EV charging stations in Upstate New York) in market or in pilot to analyze and evaluate actual customer behavior. This will be used to inform and shape future solution development to drive greater customer engagement. (Begin within next 6 months and will be an ongoing source of customer knowledge)

**GridForce Implementation**

National Grid plans to further automate the tracking and measurement of the EE programs through automation. This will be an ongoing effort to further utilize its reporting capabilities. Longer term, we look towards potentially including residential and small business customers into the system.

**Customer Needs Research**

National Grid will continue to build on its market area research that it initiated in 2014 (Study mentioned in response to Question 5) around Grid Modernization, Alternative Fuel Vehicles and Distributed Generation and Storage to better understand customer awareness, interest and willingness to pay or participate in solutions in these markets. (Next 12 months and ongoing)

Customer expectations are also set by day-to-day experiences with companies outside the utility industry ranging from Amazon to Starbucks to Xerox, which reflect the rapid technology-driven changes in society and service. In addition to our primary research studies, National Grid will be looking externally at leading behavioral research and industry thought leaders for utilities and beyond to better understand our customers' increasingly diverse and evolving set of needs, including not only cost, reliability and quality, but also information, convenience, comfort, choice, control, security, community, and environment to identify ways to further engage them.

**Collective Customer Analysis**

To further augment our customer knowledge, National Grid will begin to analyze customer and demographic data at the region/town level (where possible) to balance the needs of our individual and collective customers. This will provide us with a "holistic" picture of our customer base.

**EE Market Potential Study**

National Grid is undertaking an EE Market Potential study that will include an in-depth analysis of eligibility requirements and potential barriers to participation as well as previous participation for each

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program. Ultimately we will be able to use the market potential analysis to provide customer and program (including subprogram and measure) specific targeting recommendations. (Next 5 years)

### **Green Button**

National Grid responded to the challenge from the White House to implement a standard format for customers to download their energy usage data online for the purpose of monitoring and controlling consumption and costs. We're on track to have both our UNY and DNY system information available for download via Green Button on our website by year end 2014.

### **Email**

As a key channel for communicating and engaging customers, National Grid will continue to grow our email address database. This is an ongoing effort and acquisition will continue in the out years as well.

### **Mobile**

Though still in its early stages, mobile will over time be another key channel for National Grid to engage customers as more customers utilize this channel of communication.

### **Web Redesign**

In the next 12 months: This year, we have embarked on a new Website Redesign Project where we will be improving the Customer Experience online. This includes providing simple and easy navigation to information and customer transactions, adding in a search feature, improving the view/pay bill process and cross promoting our payment options, assistance programs and Energy Efficiency where appropriate throughout the users journey.

### **Website Enhancements**

In the next 12-18 months: We are planning to integrate OPower web tools to assist customers in understanding and managing their energy usage. This will include tabs in the My Account feature on the National Grid web site to help customers understand their usage and provide visibility into how they can control and manage their usage / costs.

### **Preference Management**

National Grid aims to engage with customers in the arenas they prefer. Our digital roadmap plans include setting up a preference management system where customers can decide through what channels they would like to receive messages, alerts and information. This includes; Text Messaging, Emails and Mobile App Push Notifications.

#### **4. What do you believe are the near term opportunities for improving customer engagement in DER?**

##### **Customer Marketing**

National Grid understands customer needs are constantly changing and markets are always evolving, as such we utilize a yearly planning approach to develop our Customer Marketing Plans. See Appendix. The Plans provide a yearly roadmap on what we expect to do and how we need to engage customers. They are reviewed on a quarterly basis to ensure any customer or market changes are reflected going forward and results from our in-market test and learn methodology is constantly reflected.

The Plans are based on the value of continuous outreach and education to our customers so they can make informed decisions with regard to their energy purchases. Towards such ends, National Grid provides a strong understanding of its customers within the Plan, while also indicating what strategies and tactics are needed to achieve participation goals. By using marketing strategies that leverage customer insights National Grid is well positioned to market to our customers.

Near term opportunities to improve customer engagement were indicated in the Plan as follows:

- Developing a unified marketing approach – one consistent, integrated marketing campaign;
- Defining a clear value proposition by target audience – understanding the messages that resonate;
- Increasing emphasis on trade ally and sales support – utilizing partners as an extension of our Sales teams; providing better support to our Salesforce
- Shifting from campaign focus to thought leadership in C&I – from lead generation to relationship building and moving to trusted advisor
- Focusing the media mix to digital channels to optimize results – moving from traditional to more digital channels....reach them where they are today utilizing an integrated approach;

Though all the above opportunities are critical to improve engagement, of note is our very substantial investment and effort to move more aggressively on developing and/or improving our digital channels. As we look to reach all customers, traditional channels will continue to be utilized however as more customers use digital we need to ensure we reach them there too. As indicated earlier, web continues to be a key customer channel and social is becoming more so each day. To this end, we have developed a Social Conversation Suite in our Brooklyn facility where we track customer engagement in real-time, taking our conversation to a new level of sophistication. More details on our digital strategy or the other customer engagement strategies can be provided upon request.

In addition to the above key customer Marketing areas of engagement for this year, Events play an important role in National Grid customer engagement, education and outreach. Throughout 2014, National Grid will be participating in expos, state and county fairs and home shows throughout the state of New York. Informing and engaging our customers on Energy Efficiency Programs, safety and other relevant topics is a key priority of many of these events. Below is a complete list of planned events throughout New York for 2014.

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<b>Start Date</b>	<b>End Date</b>	<b>Event Title</b>	<b>EventCity</b>
5-Jan-14	5-Jan-14	Hauppauge Industrial Association (HIA-LI)'s Annual Meeting & Legislative Breakfast	Commack
10-Jan-14	10-Jan-14	Long Island Association (LIA) Executive Breakfast	Woodbury
21-Jan-14	23-Jan-14	Air-Conditioning Heating & Refrigeration (AHR) Expo	New York
26-Feb-14	26-Feb-14	NYSERDA Combined Heat and Power (CHP) Expo	Flushing
11-Mar-14	11-Mar-14	Dance Africa with BrooklynAcademy of Music	Syracuse
13-Mar-14	16-Mar-14	2014 Home and Garden Show of Central New York	Syracuse
19-Mar-14	19-Mar-14	National Grid Annual Municipal Meeting	Malta
19-Mar-14	20-Mar-14	Buildings NY	New York
20-Mar-14	20-Mar-14	National Grid & Junior Achievement 2014 Youth Leadership Conf.	Brooklyn
24-Mar-14	24-Mar-14	National Grid's 3rd Annual Energy Solutions Partners Recognition Event	Albany
25-Mar-14	25-Mar-14	National Grid's 3rd Annual Energy Solutions Partners Recognition Event	Syracuse
26-Mar-14	26-Mar-14	National Grid's 3rd Annual Energy Solutions Partners Recognition Event	Buffalo
26-Mar-14	26-Mar-14	LIBI 24th ANNUAL TRADE EXPO	Melville
1-Apr-14	1-Apr-14	KingsboroughCommunity CollegeEcoFestival 2014	Brooklyn
9-Apr-14	9-Apr-14	Johnstone Supply 2014 Spring Trade Show	Flushing
28-Apr-14	29-Apr-14	Advanced Energy Conference (AERTC) 2014	Albany
30-Apr-14	30-Apr-14	Staten Island Eco Dev Corp. Annual Conference (SIEDC)	Staten Island
Apr. 2014	Apr. 2014	JDRF Diamond & Denim Gala	Verona
Apr. 2014	Apr. 2014	MetLife- Earth Day Fair	Oriskany
Apr. 2014	Apr. 2014	Utica National Insurance- Earth Day Fair	New Hartford
Apr. 2014	Apr. 2014	Bristol-Myers Squibb- Earth Day Fair	Syrcause
1-May-14	1-May-14	Big Rig Day	West Syracuse
7-May-14	7-May-14	United Way of Long Island Annual LIVE United Celebration Luncheon	Woodbury
8-May-14	8-May-14	The RensseleaerCounty Regional Chamber of Commerce 113th Annual Business Expo	Troy
8-May-14	8-May-14	Buffalo Bills Draft Day Event	OrchardPark
15-May-14	15-May-14	Corporate Challenge Race - Albany	Albany
22-May-14	22-May-14	Hauppauge Industrial Assoc. Business Trade Show (HIA-LI)	Brentwood
May. 2014	May. 2014	Renew ErieCounty Energy	Buffalo
5-Jun-14	5-Jun-14	Corporate Challenge Race - New York	New York
5-Jun-14	5-Jun-14	Staten Island Economic Development Corp (SIEDC) Green & Clean Expo 2014	Staten Island
6-Jun-14	6-Jun-14	American Red Cross- Mash Bash	Buffalo
10-Jun-14	10-Jun-14	2014 BrooklynHospital Foundation Founders Ball	Brooklyn
<b>Start Date</b>	<b>End Date</b>	<b>Event Title</b>	<b>EventCity</b>
14-Jun-14	14-Jun-14	Brooklyn Pride Annual Celebration	Brooklyn
17-Jun-14	17-Jun-14	Corporate Challenge Race - Syracuse	Syracuse
19-Jun-14	19-Jun-14	Corporate Challenge Race - Buffalo	Buffalo
19-Jun-14	19-Jun-14	Safety Fair	Wellsville
1-Jul-14	1-Jul-14	Long Island Workplace Challenge (Marcum)	Long Island
22-Jul-14	27-Jul-14	Saratoga County Fair	Ballston Spa

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Jul. 2014	Jul. 2014	VehicleDay-BornhavaSchool	Buffalo
Jul. 2014	Jul. 2014	Tri-CityValley Cats "Go Green Night"	Troy
Jul. 2014	Jul. 2014	UB-BEAM Day at NG	Buffalo
Jul. 2014	Jul. 2014	Shakespeare In Delaware Park- Measure for Measure	Buffalo
Aug. 2014	Aug. 2014	Batavia- Corporate Challenge	Batavia
6-Aug-14	17-Aug-14	Erie County Fair	Hamburg
20-Aug-14	20-Aug-14	United Way Day of Caring	Buffalo
21-Aug-14	1-Sep-14	New YorkState Fair	Syracuse
23-Aug-14	23-Aug-14	5k/10k walk run supporting cancer research and patient care at Roswell Park Cancer Institute in Buffalo	Buffalo
20-Sep-14	20-Sep-14	Back To School Expo (Science ,Technology, Engineering and Math and Wellness) Expo for Capital Region)	Albany
23-Sep-14	30-Sep-14	Climate Week NYC	New York
1-Oct-14	1-Oct-14	2014 Live United Community Festival	Brooklyn
1-Oct-14	1-Oct-14	Greater Long Island Clean Cities Coalition (GLICCC) Annual Advancing the Choice Conf.	Farmingdale
24-Oct-14	26-Oct-14	Long Island Brentwood, NY Fall Home Show	Long Island
Sep. 2014	Sep. 2014	University of Albany Career Fair	Albany
Sep. 2014	Sep. 2014	Rensselaer Polytechnic Institute (RPI) Career Fair	Troy
Sep. 2014	Sep. 2014	University at Buffalo Sustainable Living Fair	Buffalo
Sep. 2014	Sep. 2014	BuffaloNite in WashingtonD.C.	WashingtonD.C.
Sept. 2014	Sep. 2014	Saratoga Showcase of Homes	Saratoga
Sept. 2014	Sep. 2014	Showcase Schenectady	Schenectady
24-Oct-14	24-Oct-14	Hauppague Industrial Association (HIA's) 5th Annual Energy & Environmental Conference	Stony Brook
26-Oct-14	28-Oct-14	NYSSBA's 94th Annual Convention & Education Expo	Rochester
Oct. 2014	Oct. 2014	2014 School Facilities Management Professional Development Conference & Exhibit	Saratoga Springs
Oct. 2014	Oct. 2014	Central New York-Great Pumpkin Festival	Oswego
1-Nov-14	1-Nov-14	Vision LI Smart Growth Summit	Melville
Nov. 2014	Nov. 2014	All Star Night Gala	Buffalo
Nov. 2014	Nov. 2014	Facilities Management Expo-WNY	Depew
Nov. 2014	Nov. 2014	Hospital Hospitality Home Holiday Lighting (Kevin Guest House)	Buffalo
Dec. 2014	Dec. 2014	Fundraising Breakfast for Carly's Club	Buffalo

**Energy Data Management Tools**

Energy data management tools like the Green Button, that standardize the format of customer utility consumption data, and Portfolio Manager, that allows for benchmarking against peers, can help customer better analyze and understand their consumption patterns, and possibly opportunities for managing their energy use.

**Financing Opportunities**

Access to financing had been identified as a barrier to market acceptance of some clean energy technologies. By informing customers of opportunities like those available through On Bill Recovery, the

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New York Green Bank and program specific opportunities, customers are more able to move from awareness of clean energy opportunities to execution and implementation of DER projects.

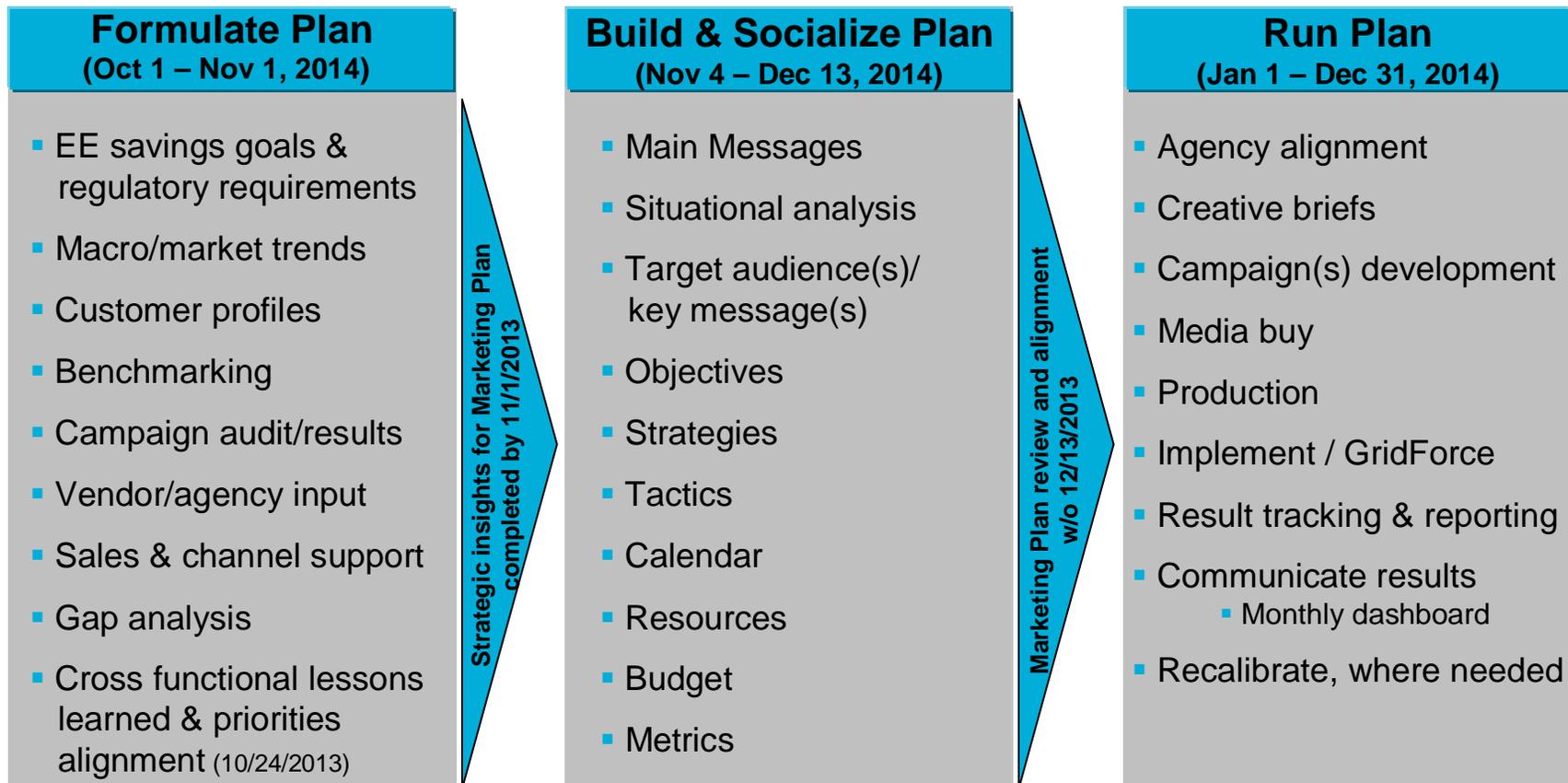
### **Time-of-use Rates**

National Grid is expecting deployment of a new voluntary time-of-use rate in the coming months. This particular rate will target owners of electric vehicles, though be available to all residential customers. Time-of-use rates provide opportunities for customers to respond to prices and lower their energy bills by adjusting their behaviors to consume energy during off-peak hours.

### **Expansion of Behavioral Programs**

There is potential opportunity to expand National Grid-NY's existing energy efficiency behavioral programs to all customers, transitioning traditional utility-customer relationships to relationships that empower customers, provide platforms to build the demand for energy services, and foster dynamic energy services economies. The utility's assets—a trusted brand, customer energy data, inexpensive channels, grid topology data, and ability to monetize demand reduction could help jump start the market for home energy automation with tools like smart thermostats and the establishment of inexpensive residential demand response programs.

# Approach to Marketing Plan Development



The marketing Planning process	The output of the marketing planning process Strategic marketing plan contents	Marketing theory (Structures, frameworks, models)	Financial theory / Structure
<b>Phase 1</b> Goal setting	Mission statement Financial summary		
<b>Phase 2</b> Situation review	<p><b>Market overview</b></p> <ul style="list-style-type: none"> <li>→ Market structure</li> <li>→ Market trends</li> <li>→ Key market segments</li> <li>→ Gap analysis</li> </ul> <p>↓</p> <p><b>Opportunities</b> <b>Threats</b></p> <hr/> <p><b>Strengths</b> <b>Weaknesses</b></p> <p>↓</p> <p><b>Issues to be Addressed</b></p> <p>↓</p> <p><b>Portfolio summary</b></p> <p>↓</p> <p><b>Assumptions</b></p>	<p>Marketing audit Market research Market segmentation studies Gap analysis Product life cycle analysis Diffusion of innovation Ansoff matrix Forecasting Market research</p> <p>Issue management</p> <p>Key success factors matrix Market research Market segmentation studies</p> <p>B.C.G. Matrix Directional policy matrix</p> <p>Downside risk assessment</p>	<p>Competitor analysis Industry/sector analysis Risk evaluation Ratio analysis, valuation studies Cost of capital NPV analysis Project evaluation Life cycle costing</p> <p>Profitability analysis by products / segments Comparative analysis of competitor products Experience curves and cost structures</p> <p>Cash flows and risk evaluation Sensitivity analysis</p> <p>Sensitivity analysis Decision trees Probability theory</p>
<b>Phase 3</b> Strategy Formulation	<p><b>Marketing Objectives</b></p> <ul style="list-style-type: none"> <li>(By product)</li> <li>(By segment)</li> <li>(Overall)</li> <li>→ Strategic focus</li> <li>→ Product mix</li> <li>→ Product development</li> <li>→ Product deletion</li> <li>→ Market extension</li> <li>→ Target customer groups</li> </ul> <p><b>Marketing Strategies</b></p> <ul style="list-style-type: none"> <li>(4 x 4 ps)</li> <li>(Positioning/branding)</li> <li>→ Product</li> <li>→ Price</li> <li>→ Promotion</li> <li>→ Place</li> </ul>	<p>Porter matrix Ansoff matrix Bcg matrix Directional policy matrix Gap analysis</p> <p>Market segmentation studies Market research Response elasticities</p> <p>→ McDonald PRODUCTIVITY MATRIX Blake mouton matrix</p>	<p>Performance targets / ratios Cost, price, volume (CPV) analysis Marginal and absorption costing Activity base costing</p> <p>Budgeting and financial planning Zero base budgets</p>
<b>Phase 4</b> Resource Allocation And monitoring	<b>Resource Requirements</b>	<p>Forecasting Budgeting</p> <p><b>Measurement and review</b></p>	<p>Integrated financial planning Limiting resource analysis</p>

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**5. Are you aware of any studies of what DER related services customers in different service classifications want, and what they'd be willing to pay for and, if so, please provide.**

National Grid has exceptional in-house customer research and insights capabilities. Our work in both quantitative and qualitative research has lead our efforts to inform and engage customers. Our work in the area of Innovative Solutions Development is one example.

National Grid is in the process of completing a marketing research study to provide customer needs input into Innovative Solution Development. The objective of this study was to better understand what our customers need and value in the context of new and future energy solutions for home, business, and transportation. In addition, we also explored the customers' awareness of interest in and opinion on these solutions. The study was conducted across the National Grid footprint and we surveyed both residential and commercial customers. The three solution areas studied include: Grid Modernization, Distributed Generation and Storage and Alternative Fuel Vehicles.

National Grid is available to discuss this study in further detail with DPS Staff.

**6. Are you aware of examples of successful customer engagement efforts (possibly through EEPs or DR Programs) and, if so, can you please provide.**

National Grid has been working with customer for many years in New York, Massachusetts and Rhode Island. We have observed, based on what we directly manage with other states we service as well as benchmarking efforts in other states, that customer engagement and customer satisfaction are driven by:

- More robust numbers of product offerings that customers can avail themselves to;
- Increased levels of customer communications;
- Simplified processes from beginning to end (e.g. automated incentives).

**EEPS Residential Behavioral Programs**

National Grid's EEPs Electric and Gas Residential Building Practices and Demonstration Programs have been successful in engaging customers in management of their home energy consumption. These programs utilize a social marketing campaign, with normative messaging techniques, to encourage responsible energy behavior and choices. The campaign provides home energy reports (HERs) to households in National Grid-NY's combined gas and electric service territories in upstate New York. The HERs provide recipients with feedback on their household energy use including a comparison of the recipient household's energy usage with that of neighboring homes, thereby introducing a subtle form of peer pressure (often referred to as "social norming") among households to achieve energy savings. The recent program impact evaluation found that participating customers not only consumed less electricity and natural gas, but were also more likely to participate in other energy efficiency programs offered by National Grid when compared to the control group.

## Utility Specific Time of Use Questions/Answers

### Central Hudson

(a) Give a brief description/overview of your VTOU rate(s). Was it created with electric vehicle customers in mind? How many periods does it include? What times do those periods encompass? Does the VTOU rate change seasonally as well as throughout the day?

Central Hudson's TOU rates were not developed with EV end use in mind; however in the Company's electric rate case 09-E-0588, CH was directed to eliminate its residential TOU delivery rates. However, following discussions between the Company and PSC Staff, Central Hudson filed and the Commission approved retention of its time differentiated delivery rates giving recognition to the fact that elimination of the TOU rates may have been premature in light of the evolving EV market.

Customers are billed on-peak and off-peak rates for the Energy Delivery charge, and on and off-peak rates for the Market Price Charge and Market Price Adjustment. Participants will receive an annual letter that compares total charges for their usage under the Time-of-Use and standard rates for each bill rendered.

Customers can choose from three time periods for their weekday, on-peak usage: 1) 8 a.m. to 8 p.m., 2) 9 a.m. to 9 p.m., or 3) 10 a.m. to 10 p.m. The on-peak and off-peak rates are the same for all three periods. All weekends and six major holidays per year (New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas) are considered off-peak.

Billing Line Items	Time-of-Use Charges	Standard Residential Charges
<b>Customer Charge</b>	\$27.00	\$24.00
<b>Energy Delivery charge, per kwh</b>		4.963 cents
On-peak energy delivery charge	6.144 cents	n/a
Off-peak energy delivery charge	4.022 cents	n/a
<b>Base MFC Administration Charge</b>	0.078 cents	0.183 cents
<b>MFCBase MFC Supply Charge</b>	0.085 cents	0.203 cents
<b>NYS Assessment</b>	0.333 cents	0.333 cents
<b>Market Price Charges</b>		Market supply charges
On-peak market price charge	118 percent of standard charge	n/a
Off-peak market price charge	89 percent of standard charge	n/a

All other billing charges that apply to both standard and Time-of-Use rates are the same.

Note: MFC Administration and Supply Charges and the NYS Assessment Charge are updated annually effective July 1.

(b) Describe the meters in use by your VTOU customers. What metering capabilities are required to facilitate a VTOU rate? What is the maximum number of periods that these meters can accommodate?

Central Hudson currently utilizes General Electric kV2 digital meters to measure TOU. There are several meter forms available for this meter type. The meter is required to be programmed to measure during the required time periods and to display the individual indexes per each period. The maximum number of periods that these meters can accommodate is 4.

(c) How many customers are enrolled on your VTOU rate(s) (i.e. number of enrolled customers, percentage of total customers enrolled on the VTOU rate, and percentage of total load enrolled on the VTOU rate)?

As of year-end 2013:

- There were 1,162 customers enrolled in our TOU program.
- This represents less than 1% of total customers.
- Percentage of load was less than 1% of total load.

(d) What percentage of load would an average customer have to shift to off-peak periods in order for the VTOU rate to make economic sense for that customer?

A customer must use more than 57% of their electricity during off peak periods in order to realize savings.

(e) Is there a difference in the monthly basic service charge between customers served under your VTOU rate(s) and customers served under the otherwise applicable standard rate for each service classification? If so, how much is the difference? What percentage of load would an average customer have to shift to off-peak periods in order to recoup any such difference under the VTOU rate?

Please see table above for basic service charge information. As stated above the customer must use more than 57% of their electricity during off peak periods in order to realize savings.

(f) Is your VTOU rate(s) offered in conjunction with other energy management or efficiency residential programs? Does it provide any rebates and/or special pricing?

TOU customers have the option to participate in other energy efficiency programs and rebates. There no TOU specific rebates.

## Con Edison

(a) Give a brief description/overview of your VTOU rate(s). Was it created with electric vehicle customers in mind? How many periods does it include? What times do those periods encompass? Does the VTOU rate change seasonally as well as throughout the day?

### Residential VTOU Rate

A new voluntary time-of-use rate (SC 1 Rate III) went into effect for Con Edison customers beginning on March 1, 2014. SC 1 Rate III was designed to encourage the shifting of residential energy use away from both supply and delivery peak periods. By offering attractive off-peak supply and delivery rates, particularly during the summer, it also encourages SC 1 customers who have a plug-in electric vehicle ("PEV") to engage in vehicle-charging at their residence during those off-peak hours.

A description of the peak, off-peak and super-peak periods is below, along with the delivery charges applicable to each period.

Peak	Off-Peak	Super-Peak*
8AM - 12 Mid	12 Mid - 8AM	2PM - 6PM

\*The super-peak period will be in effect Monday through Friday only during the summer months (June 1 — September 30). Super-peak pricing will apply only to a customer's supply charges.

	Peak	Off-Peak	Super-Peak*
June 1 — Sept 30	19.01 cents/kWh	1.34 cents/kWh	19.01 cents/kWh
All other months	7.04 cents/kWh	1.34 cents/kWh	N/A

A customer/basic-service charge of \$19.87 per month applies, along with any applicable delivery charges and adjustments as specified in general rule 26 of the Con Edison electric tariff. Since the above Super Peak applies only to supply pricing, the Super-Peak delivery price is the same as the Peak delivery price. The Company also offers a VTOU rate (SC 1 Rate II), which has since been closed to new applicants. This rate was not specifically created with PEVs in mind. A description is as follows:

### Summer

On peak: Monday through Friday, 10 AM to 10 PM, excluding Independence Day (July 4) and Labor Day (the first Monday in September)

Off peak: All other hours of the week

### Non-Summer

On peak: Monday through Friday, 10 AM to 10 PM, excluding New Year's Day (January 1), Memorial Day (the last Monday in May), Thanksgiving Day (the fourth Thursday in November), and Christmas Day (December 25)

Off peak: All other hours of the week

	Peak	Off-Peak
June 1 — Sept 30	30.32 cents/kWh	1.16 cents/kWh
All other months	11.00 cents/kWh	1.16 cents/kWh

(b) Describe the meters in use by your VTOU customers. What metering capabilities are required to facilitate a VTOU rate? What is the maximum number of periods that these meters can accommodate? The Company uses meters that match the number of time periods such as a three-register meter (which is the maximum required under our current offerings).

(c) How many customers are enrolled on your VTOU rate(s) (i.e. number of enrolled customers, percentage of total customers enrolled on the VTOU rate, and percentage of total load enrolled on the VTOU rate)?

### Residential VTOU – 1,920

Based on historic data, the residential VTOU customers represented about 0.1% of total residential customers and 0.7 percent of total residential load.

(d) What percentage of load would an average customer have to shift to off-peak periods in order for the VTOU rate to make economic sense for that customer?

This would depend on the usage and the Service Class of the customer.

For example, an SC1 (residential customer) under Rate II using 450 kWh per month would need to consume more than 78 percent of their Summer usage in the off peak to see delivery savings. This same customer would need to consume more than 29 percent of their usage during off-peak in the non-Summer months to see delivery savings. At 1,000 kWh per month, these percentages would be 73 and 18 percent, respectively.

Correspondingly, an SC1 (residential customer) under Rate III using 450 kWh per month would need to consume more than 59 percent of their Summer usage in the off peak to see delivery savings. This same customer will always see delivery savings in the non-Summer months. At 1,000 kWh per month, the Summer percentage would be 54 percent, and again, for the non-Summer months the customer will always see delivery savings.

Please note, the above does not factor any savings that may occur under supply pricing.

(e) Is there a difference in the monthly basic service charge between customers served under your VTOU rate(s) and customers served under the otherwise applicable standard rate for each service classification? If so, how much is the difference? What percentage of load would an average customer have to shift to off-peak periods in order to recoup any such difference under the VTOU rate?

The monthly basic service charge for customers served under the Company's standard SC1 (residential) electric rate is \$15.76. Customers enrolled in the Company's VTOU rate pay an additional: (1) \$8.54 per month for a total of \$24.30 under Rate II, or (2) \$4.11 per month for a total of \$19.87 under Rate III. An SC1 Rate II customer (assuming monthly usage of 450 kwh per month) would need to shift an additional 7 percent of their usage to the off peak to see delivery savings during the Summer. This same customer would need to shift an additional 19 percent to the off-peak period to see delivery savings during the non-Summer months. At 1,000 kWh per month, these percentages would be 3 and 9 percent, respectively.

An SC1 Rate III customer (assuming monthly usage of 450 kwh per month) would need to shift an additional 5 percent of their usage to the off peak to see delivery savings during the Summer. This same customer would need to shift an additional 16 percent to the off-peak period to see delivery savings during the non-Summer months. At 1,000 kWh per month, these percentages would be 2 and 7 percent, respectively.

Please note the above does not consider any savings that may be achieved under supply pricing.

(f) Is your VTOU rate(s) offered in conjunction with other energy management or efficiency residential programs? Does it provide any rebates and/or special pricing?

The Company's VTOU rates are not specifically offered in conjunction with other energy management or efficiency programs. Our new residential VTOU rate does not include any rebates, but does include a one year price guarantee if the customer owns an electric

## NYSEG/RG&E

(a) Give a brief description/overview of your VTOU rate(s). Was it created with electric vehicle customers in mind? How many periods does it include? What times do those periods encompass? Does the VTOU rate change seasonally as well as throughout the day?

NYSEG has two voluntary residential time-of-use service classes, SC No. 8 Residential – Day Night Service and SC No. 12 Residential with Time-of-Use Metering. SC No. 8 is for customers with monthly usage of 1,000 kWh or more and SC No. 12 is for customers with annual usage of 35,000 kWh or more.

NYSEG also has a voluntary non-residential time-of-use service class, SC No. 9 General Service – Day Night Service. This service class is for customers with monthly usage of 1,000 kWh or more.

RG&E has a voluntary residential time-of-use service class, SC No. 4 Residential Service – Time-of-Use Rate. This service class has two schedules, Schedule I is for customers with an annual usage of 24,750 kWh or less and Schedule II is for customers with annual usage greater than 24,750 kWh.

The voluntary time-of-use rates were not created with electric vehicle customers in mind. The rates were established many years ago and the focus was on demand side management, primarily to encourage customers to move their usage to off peak periods

RG&E Residential TOU SC No. 4 has two periods, on-peak and off-peak.

NYSEG day-night services, SC 8 residential and SC 9 non-residential have two periods, on-peak and off-peak.

NYSEG Residential TOU SC No. 12 has three periods, on-peak, mid-peak, and off-peak.

RG&E			
SC4 Sch I and Sch II- Residential	All months	On-peak	Monday - Friday, 7:00 AM - 9:00 PM
		Off-peak	Monday - Friday, 9:00 PM - 7:00 AM, Sat and Sun all hours
NYSEG			
SC8 - Residential	All months	On-peak	7:00 AM - 11:30 PM
		Off-peak	11:30 PM - 7:00 AM
SC12 - Residential	Summer: June - August	On -Peak:	Monday - Friday, Except Holidays: 10:00 AM - 6:00 PM
		Mid-Peak:	Monday - Friday, Except Holidays: 7:00 AM - 10:00 AM and 6:00 PM - 11:30 PM;
		Off-peak:	Sat, Sun and Holidays: 7:00 AM - 11:30 PM
			All days: 11:30 PM - 7:00 AM
	Winter: December - February	On-Peak:	Monday - Friday, Except Holidays: 7:00 AM - 10:00 AM and 5:00 PM - 10:00 PM
		Mid-Peak:	Monday - Friday, Except Holidays: 10:00 AM - 5:00 PM and 10:00 PM - 11:30 PM;
		Off-peak:	Sat., Sun., and Holidays: 7:00 AM - 11:30 PM
			All Days: 11:30 PM - 7:00 AM
	Off-Season: March - May, September - November	Mid-Peak	All Days: 7:00 AM - 11:30 PM
		Off-peak:	All Days: 11:30 PM - 7:00 AM
SC9 - General Service Non-residential	All months	On-peak	7:00 AM - 11:30 PM
		Off-peak	11:30 PM - 7:00 AM

The VTOU rate changes seasonally only for NYSEG SC 12 Residential TOU, see the chart above.

(b) Describe the meters in use by your VTOU customers. What metering capabilities are required to facilitate a VTOU rate? What is the maximum number of periods that these meters can accommodate?

NYSEG and RG&E's existing meter population used on voluntary residential TOU accounts is a mix. For our simple dual (i.e. on-peak / off-peak) rate, we have a mixed population of mechanical double dial meters, hybrid meters and of course the more modern solid state meters. Our other residential TOU rate is a bit more complex and is a seasonal rate that contains three rate periods with three seasonal periods. The meters used to measure customers on this rate are mostly solid state meters but some hybrid meters are still in use.

The metering capabilities required to facilitate a VTOU rate is the use of more expensive TOU meters equipped with batteries. The batteries are required to maintain date and time during power outages. The TOU meters must also be equipped with a perpetual calendar function to eliminate calendar expiration issues and by extension, the need for future site visits to extend the calendar through reprogramming. Our current solid state TOU meter is capable of up to four TOU rate periods.

(c) How many customers are enrolled on your VTOU rate(s) (i.e. number of enrolled customers, percentage of total customers enrolled on the VTOU rate, and percentage of total load enrolled on the VTOU rate)?

At NYSEG, 135,074 customers participate in VTOU rates. This is approximately 15.3% of total customers. Through April, 2014, VTOU load accounts for approximately 15.7% of total load.

At RG&E, 5,090 customer participate in VTOU rates. This is approximately 1.4% of customers. Through April 2014, VTOU load accounts for approximately 37.1% of total Load.

(d) What percentage of load would an average customer have to shift to off-peak periods in order for the VTOU rate to make economic sense for that customer?

A large factor in determining the percentage of load that an average customer would have to shift to off-peak periods in order for the VTOU rate to make economic sense for that customer is the differential between peak and off peak energy costs. For this analysis, NYSEG-RGE used calendar year 2013 results. The results for other time periods will be different based on the peak/off peak differential. NYSEG-RGE has been studying the effectiveness of current residential time of use rates with staff, and has been analyzing the potential for a new voluntary residential time of use rate with electric vehicles in mind. This rate may be an alternative to the existing time of use rates.

Based on calendar year 2013 results a NYSEG SC1 customer using 1,000 kWh per month would have benefitted from the SC8 Residential Day/Night rate if they had used at least approximately 23% during the Off Peak hours. As monthly usage increases, the fixed monthly costs carry less weight and the percent of usage needed in the off peak hours decreases. For instance, at 2,000 kWh, the breakeven point would be 17% Off Peak usage.

For NYSEG SC12, based on 2013 results and a flat monthly usage pattern, there were limited opportunities for customers to realize a savings if they switched from SC1 to SC12.

For RGE SC4, based on 2013 results, customers have limited opportunities to realize a savings if they switched from SC1 to SC4. Customers that fall under schedule I that average 2,000 kWh/month would have needed to have nearly all their usage during the off peak hours in order to see a savings. Customers that would fall under SC4 Schedule II could see a savings in some months, but based on flat monthly usage, they would not see a savings over the twelve month span.

(e) Is there a difference in the monthly basic service charge between customers served under your VTOU rate(s) and customers served under the otherwise applicable standard rate for each service classification? If so, how much is the difference? What percentage of load would an average customer have to shift to off-peak periods in order to recoup any such difference under the VTOU rate?

Yes, there is a difference in basic service charges.

For RG&E, the basic service charges are as follows:

Residential:

SC1 (non-TOU):	\$21.38
SC4 (TOU):	\$24.86

Non-Residential:

SC2 (non-TOU):	\$ 21.38
SC8(TOU):	\$589.54

For NYSEG, the basic service charges are as follows:

Residential:

SC1 (non-TOU):	\$15.11
SC 8 (Day/Night):	\$17.40
SC12 (TOU):	\$24.11

Non-Residential

SC6 (non-TOU):	\$17.60
SC9 (TOU):	\$20.41

(f) Is your VTOU rate(s) offered in conjunction with other energy management or efficiency residential programs? Does it provide any rebates and/or special pricing?

The VTOU rates separate from our energy efficiency programs. We do however, offer rebates for measures that might be useful to a customer with TOU rates. For example, Building Energy Management Systems and Lighting Controls would both be eligible for a Custom Rebate in our commercial EE programs. A programmable thermostat when installed with a new energy efficient gas furnace would be eligible in our residential gas program (electric savings from reduced running of furnace fan).

## Orange and Rockland Utilities, Inc.

(a) Give a brief description/overview of your VTOU rate(s). Was it created with electric vehicle customers in mind? How many periods does it include? What times do those periods encompass? Does the VTOU rate change seasonally as well as throughout the day?

O&R offers a residential voluntary TOU option under SC No. 19. SC No. 19 was not created with electric vehicle customers in mind. There are three periods in the summer and two periods in the winter. Below are those periods and the current delivery rates (as of June 1, 2014). In addition, the monthly Market Supply Charge contains a peak and off-peak pricing component.

Summer Periods (June – September)

Period I: 24.774 ¢/kWh: Monday – Friday (except holidays), 12:00pm – 7:00pm

Period II: 8.864 ¢/kWh: Monday – Friday (except holidays), 10:00am – 12:00 pm and 7:00pm – 9:00pm

Period IV: 1.595 ¢/kWh: All other times

Winter Periods (October – May)

Period III: 8.864 ¢/kWh: Monday – Friday (except holidays), 10:00am – 9:00pm

Period IV: 1.595 ¢/kWh: All other times

(b) Describe the meters in use by your VTOU customers. What metering capabilities are required to facilitate a VTOU rate? What is the maximum number of periods that these meters can accommodate? O&R uses a General Electric KV2C Encompass meter that can be programmed for up to four TOU periods and four seasons.

(c) How many customers are enrolled on your VTOU rate(s) (i.e. number of enrolled customers, percentage of total customers enrolled on the VTOU rate, and percentage of total load enrolled on the VTOU rate)?

At year-end 2013, there were approximately 3,700 customers on our residential VTOU rate, or 1.6% of total customers and 2.0% of total load.

(d) What percentage of load would an average customer have to shift to off-peak periods in order for the VTOU rate to make economic sense for that customer?

There are a number of ways a customer can shift load for a VTOU rate to make economic sense. For example, in the summer, a typical O&R customer using 677 kWh/month could shift approximately 75% of his or her electric load to Period IV (off-peak) and still use 5% in Period I (super-peak) and 20% in period II (peak) and see cost savings.

(e) Is there a difference in the monthly basic service charge between customers served under your VTOU rate(s) and customers served under the otherwise applicable standard rate for each service classification? If so, how much is the difference? What percentage of load would an average customer have to shift to off-peak periods in order to recoup any such difference under the VTOU rate?

The monthly basic service charge for customers served under the Company's standard residential service classification SC No. 1 is \$19.00. Customers enrolled in the Company's VTOU rate under SC No. 19 pay an additional \$13.00 per month or a total of \$32.00.

There are a number of ways a customer can shift their load to recoup the delta in the monthly basic service charge. For example, in the summer, a typical O&R customer using 677 kWh/month could shift approximately 86% of his or her electric load to Period IV (off-peak) and still use 2% in Period I (super-peak) and 12% in period II (peak) and see cost savings of approximately \$13.00 (i.e., the delta in the SC No. 1 and SC No. 19 basic service charges).

(f) Is your VTOU rate(s) offered in conjunction with other energy management or efficiency residential programs? Does it provide any rebates and/or special pricing?

O&R's VTOU rates are not specifically offered in conjunction with other energy management or efficiency program.

## Customer Engagement – TOU questions from DPS Staff

- a) *Give a brief description/overview of your VTOU rates. Was it created with electric vehicle customers in mind? How many periods does it include? What times do those periods encompass? Does the VTOU rate change seasonally as well as throughout the day?*

The Company currently has one residential time of use rate available for customers, Service Classification No. 1-C Residential and Farm Service – Optional Large Time of Use Rate (SC-1C). In addition, the Company also filed proposed tariff leaves for another residential voluntary time-of-use rate (SC-1 VTOU) that will offer both time of use delivery and commodity rates. SC-1 VTOU is still pending PSC approval and is scheduled to become effective September 1, 2014.

### **SC-1C**

The SC-1C rate has been in place since 1989 and was originally a mandatory time of use rate for large residential and farm service customers using 30,000 kWh or more annually. This rate was changed to an optional time-of-use rate for residential customers on September 1, 1998 in Case 94-E-0098 and 94-E-0099. This rate was not created with electric vehicle customers in mind. The time periods developed for this rate class generally favor large use customers like farms and religious institutions.

The SC-1C rate has one delivery charge for all kWh usage, but there are three time periods (with seasonal distinctions) for the pricing of commodity as shown below:

#### Winter (Dec, Jan, Feb)

On Peak: 5:00 p.m. to 8:00 p.m., weekdays  
Shoulder Peak: 9:00 a.m. to 5:00 p.m., weekdays  
Off Peak: 8:00 p.m. to 9:00 a.m., weekdays. All hours on weekends.  
Christmas and New Year's are defined as off peak.

#### Summer (Jun, Jul, Aug)

On Peak: 11:00 a.m. to 5:00 p.m., weekdays  
Shoulder Peak: 8:00 a.m., to 11:00 a.m. and  
5:00 p.m., to 8:00 p.m., weekdays  
Off Peak: 8:00 p.m. to 8:00 a.m., weekdays. All hours on weekends.  
Independence Day is defined as off-peak.

#### Off-season (Mar, Apr, May, Sep, Oct, Nov)

All hours of all days.

**SC-1 VTOU (proposed)**

In accordance with the Order issued on March 15, 2013 in Case 12-E-0201, the Company filed a proposal for a residential voluntary time of use rate that will become effective September 1, 2014 pending Commission approval. The primary goal of the SC-1 VTOU offering is to support New York State's Plug-in Electric Vehicle initiatives and to encourage off-peak charging. For this reason, the proposed SC-1 VTOU rate will include three rate periods: on-peak, off-peak and super-peak. Delivery rates will be charged based on a customer's on-peak (including super-peak) and off-peak usage. Commodity rates will be charged based on a customer's on-peak, off-peak and super-peak usage. All of the summer capacity costs will be collected during the super-peak period. There will be an incremental customer charge of \$3.36/month to recover the costs of the enhanced metering required to bill the SC-1 VTOU rate. In addition, the Company will offer a price guarantee for PEV full service customers for the first twelve months on the VTOU rate.

Super-Peak: Summer (Jun-Aug) 2:00 pm to 6:00 pm, weekdays only (excluding weekends and holidays)  
On-Peak: 7:00am to 11:00pm, all year round  
Off Peak: 11:00 pm to 7:00 am, all year round

- b) *b) Describe the meters in use by your VTOU customers. What metering capabilities are required to facilitate a VTOU rate? What is the maximum number of periods that these meters can accommodate?*

For Service Classification No. 1-C, the Company is currently using New York State approved meters which are equipped with an AMR module that is capable of transmitting three channels of data. These meters allow the Company to pick up three readings from the meter to register total kWh, on-peak kWh and shoulder-peak kWh. The billing system then calculates the off-peak kWh values. This type of meter is the most cost effective and also allows customers to participate in both the SC1-C rate and net metering if applicable. These same types of meters will also be used for the SC-1 VTOU offering and the register that records shoulder-peak for SC-1C will record the super-peak period for SC-1 VTOU.

The metering for the residential time-of-use rates must have at least three channels to facilitate the Company's current SC-1C rates and proposed SC-1 VTOU rates because each offering has three periods. As explained above, the meters register the on-peak kWh, shoulder/super-peak kWh and total kWh and the billing system calculates the off-peak kWh. The meters in use today can only accommodate three periods.

Customer Engagement – TOU Responses  
June 9 National Grid

- c) *How many customers are enrolled on your VTOU rate(s) (i.e. number of enrolled customers, percentage of total customers enrolled on the VTOU rate, and percentage of total load enrolled on the VTOU rate)?*

As of April 2014, National Grid has 6,083 customers on the SC-1C rate which represents approximately 0.9% of total customers and 0.4% of total load.

- d) *What percentage of load would an average customer have to shift to off-peak periods in order for the VTOU rate to make economic sense for that customer?*

SC-1C: A customer using an average of 650 kWh per month would need to shift 21.5% from on-peak and 50% from shoulder-peak to off-peak to break even on the SC-1C rate compared to SC-1 standard rates. Any additional shifts to the off-peak period would increase the savings for these customers.

SC-1 VTOU: A customer using an average of 780 kWh per month (650 average usage + 130 additional kWh for a plug-in electric vehicle) would need to shift approximately 5% from super-peak to on-peak and 17% from on-peak to off-peak to break even on the SC-1VTOU rate compared to SC-1 standard rates. Any additional shifts to the off-peak period would increase the savings for these customers.

- e) *Is there a difference in the monthly basic service charge between customers served under your VTOU rate(s) and customers served under the otherwise applicable standard rate for each service classification? If so, how much is the difference? What percentage of load would an average customer have to shift to off-peak periods in order to recoup any such difference under the VTOU rate?*

The monthly basic service charge for standard residential rates (SC-1) is \$17/month. The monthly basic service charge for SC-1C is \$30/month. The monthly basic service charge for the proposed residential VTOU rate will be \$17/month plus a \$3.36/month incremental metering charge for the additional costs related to the time of use meter needed to bill the rate. As explained in question d) above, a customer on SC-1C rates would need to shift approximately 21.5% from on-peak and 50% from shoulder peak to off-peak in order to break even on SC-1C rates compared to SC-1 standard rates. A customer on SC-1 VTOU rates would need to shift 5% from super-peak to on-peak and 17% from on-peak to off-peak to break even on SC-1VTOU compared to SC-1 standard rates. This analysis takes into account not only the difference in the customer charge, but also the differences in delivery charges and commodity costs for these customers because these are also factors that determine how economic the time of use rate would be for a particular customer at a particular usage level.

Customer Engagement – TOU Responses  
June 9 National Grid

*f) Is your VTOU rate(s) offered in conjunction with other energy management or efficiency residential programs? Does it provide any rebates and/or special pricing?*

Customers on VTOU rates are eligible to participate in the same residential energy efficiency programs that they would have been eligible for under SC-1 standard residential rates. There are no rebates or special pricing related to energy efficiency programs on VTOU rates.