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*Associate General Counsel*  
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July 31, 2018

Hon. Kathleen H. Burgess, Secretary  
New York State Public Service Commission  
Three Empire State Plaza  
Albany, NY 12223-1350

Re: Central Hudson Gas & Electric Corporation's REV Demonstration Project Implementation Plan Status Update (Q2 2018) in Case 14-E-0318 – *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Central Hudson Gas & Electric Corporation for Electric Service* and Case 14-M-0101 – *Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision*

Dear Secretary Burgess:

Central Hudson Gas & Electric Corporation ("Central Hudson") submits for filing in the above-referenced cases its REV Demonstration Project Implementation Plan Status Update. A request for confidential treatment was submitted to the Records Access Officer today, along with Report Attachments 1, 2, 5 and 6.

If there are any questions related to this filing, please do not hesitate to contact Joe Hally, Manager-Energy Transformation & Solutions at 845-486-5373 (jhally@cenhud.com) or Laura Butler, Director-Digital Customer Experience at 845-486-5431 (lbutler@cenhud.com).

Respectfully submitted,

*/s/Paul A. Colbert*

Associate General Counsel  
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cc: Marco Padula (DPS)

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**Central Hudson Gas & Electric**

# **CenHub**

**Residential Energy Exchange**



**NEW YORK  
STATE OF  
OPPORTUNITY.**

**Reforming the  
Energy Vision**

## **Demonstration Project Implementation Plan 2018 Q2 Status Update**

**Regarding Case 14-M-0101, Case 14-E-0318**

July 31, 2018

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# Executive Summary

This report serves as the final report for Central Hudson's Reforming the Energy Vision (REV) Demonstration Project, CenHub, and status update for those projects still in progress. This report is being filed in response to Case 14-E-0318, Joint Proposal Order Approving Rate Plan dated June 17, 2015 and the Case 14-M-0101, Reforming the Energy Vision Demonstration Project Assessment Report dated November 10, 2015. This document provides an overall summary of the CenHub project and the second quarter ("Q2") of 2018 progress, next steps, roles, responsibilities, governance, work plan, budget and reporting going forward for Insights+.

The intent behind the creation of CenHub was to deliver the following benefits:

- Create a home energy advisory platform providing insight into energy usage for all residential customers and accessibility to energy efficiency programs such as rebates.
- Introduce new channels and cross promotion for customers to participate in energy and cost savings programs
- Increase awareness and customer choice associated with program enrollment and the purchase of products and services
- Introduce customer convenience
- Lower 3<sup>rd</sup> party customer acquisition and transaction costs
- Evaluate potential new revenue streams
- Introduce educational tools to assist customers in more effectively managing their energy bills

Prior to the creation of CenHub Central Hudson believed that limited consumer engagement related to household energy use could be increased through improvement of five (5) primary factors:

- A) Awareness
  - By employing a multi-channel marketing strategy to inform customers of options, discounts, program eligibility and educational tools.
- B) Availability of information
  - By providing energy usage information in multiple formats to speak to all types of customers in a way that informs and inspires action.
- C) Customer effort or and convenience
  - By improving accessibility of rebates, actionable tips and self-service tools to reduce effort and improve usability.
- D) Understanding the value of products and services
  - By providing mechanisms to deliver educational and instructive information about products, services and programs.
- E) Trust in available solutions
  - By delivering a platform built upon sound business processes and strong partnerships to ensure data accuracy and integrity, customer support along each step of a customer's journey, and program integration to ensure incentives and fees are accurate.

This was reinforced through ongoing benchmarking and research of digital engagement trends from the utility industry as well as those outside of utility industry.

**Figure 1: Customer Experience Industry Trends**



CenHub has shown that improvement in these areas can increase customer engagement levels and increase customer participation in energy efficiency initiatives. This is illustrated by the increase in visits to Central Hudson’s website and purchases of products on the CenHub Store. Additional detail is included later in this report. The personalized, action oriented and dynamic nature of the tools and messaging available through CenHub align with the expectations customers have of all of their interactions regardless of industry. Central Hudson has determined to continue offering CenHub to its customers beyond the REV Demonstration Project timeline and to continue to enhance the platform in order to keep up with the ever increasing customer expectations.

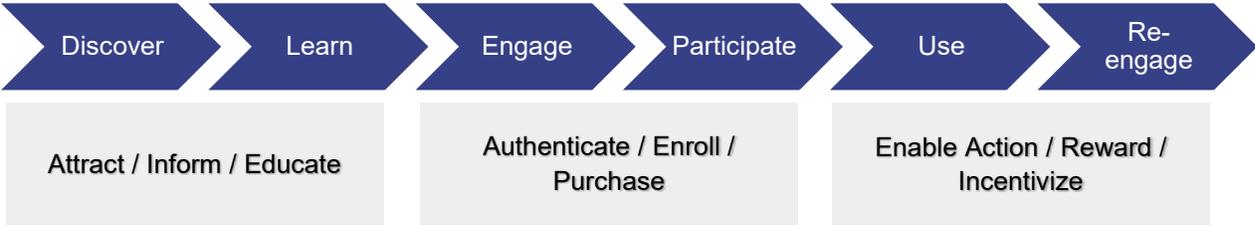
The value of Insights+ is still being explored. Although the Insights+ webpage is visited often, conversion rates are less than 1%. Central Hudson introduced a new marketing message after the introduction of the Voluntary Time of Use (“VTOU”) rate that bundled the rate and subscription of Insights+ at a lower monthly subscription cost. Again the offer has created interest but has seen low enrollment rates. Concurrently we have seen success in utilization of the Insights+ metering technology to satisfy new policy requirements such as those established through the Value of DER proceeding and for measurement and verification within the Targeted Demand Response program. Within the Targeted Demand Response program the Insights+ meters can be used for measurement and verification of the DER technology provided by Itron and customers are gaining access to advanced information at no additional cost. Therefore Central Hudson will continue the program to explore means to combine the Insights+ offer where it can offer customer benefits.

# Section 1: Organization Structure & Governance

In Q3 of 2015 Central Hudson created a new division, Energy Transformation & Solutions (ET&S), that includes a team solely dedicated to CenHub as well as teams dedicated to Energy Efficiency, Demand Response, non-wire alternatives, and other demonstration projects in order to more closely collaborate and deliver energy saving tools and programs to customers.

In order to develop new programs that fit within our strategy we have created a funnel for prospecting and evaluating potential partnerships, products and services. We have also adjusted our organizational structure to align the team within the Customer Services organization and bring the Marketing department within the ET&S department. We have developed trusted relationships through the build out of CenHub with Information Technology, the Contact Center, Corporate Communications, Engineering, Metering, Cost & Rate and Customer Accounting. In addition to the internal network we have developed an external network with REV Connect, NYSERDA, existing program partners, and fellow utilities through various industry meetings and conferences. Working together we are able to execute on developing programs that address the entire customer journey and create convenient, action oriented and enjoyable experiences for the customer.

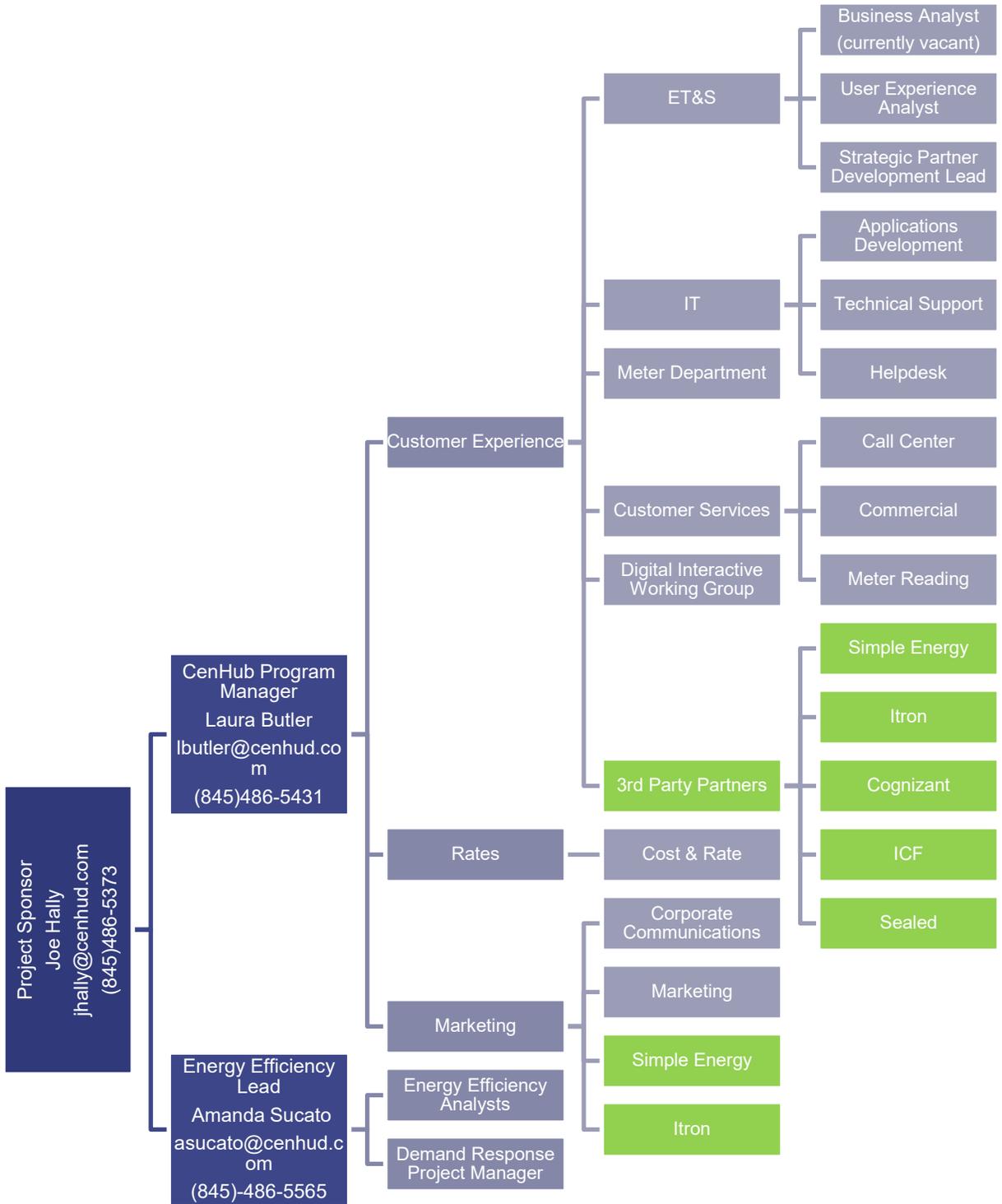
Figure 2: Sample Customer Journey



## A) Project Team Approach

Each department and external partner plays a key role in program development and execution. To execute on the creation and maintenance of CenHub we employed the project team detailed in Figure 6. This cross functional team approach ensured we had a mix of subject matter experts paired with dedicated resources to create the proper design, training and implementation plans paired with timely and informative marketing messaging. This method of cross-functional team involvement will be maintained going forward for continuation of the existing programs as well as for development of new products and services and new demonstration projects.

Figure 3: Program Execution Team



## B) Challenges

While this method of utilizing cross functional teams and extended external partners led to many successes it was not without its challenges. The key challenges to overcome were in (1)

stakeholder communications and (2) managing program objectives.

1. Stakeholder Communications:

In order to keep all parties informed and engaged we had to develop numerous methods and prioritization rules for communications. For day to day task oriented communications the project team utilized tools such as Slack, email, secure file sharing sites and stand up meetings to ensure development activities, marketing messaging, design documents and various other tasks were delivered on time and meeting expectations. At the next level up weekly progress meetings were held to inform program owners of progress and project status. Beyond this, the broader stakeholder community was informed on a bi-weekly basis through a project newsletter that evolved over time to explain current status, inform readers of upcoming tasks and events, how we were performing compared to business objectives and analytics to inform the group of trends we were seeing in sales and customer engagement. The team also engaged specific subject matter experts with process understanding authority to make decisions across phases and iterative development launches to ensure consistency, the ability to meet deadlines and the ability to support customer inquiries.

2. Managing Program Objectives:

The flip side of involving numerous stakeholders is that all have their own business objectives and at times these can be in conflict. Also, when business objectives are unclear it is difficult to gain internal support for an initiative. The team overcame this challenge by instituting new design and planning methods that focused first on definition of business objectives and getting agreement from all key stakeholders. Once agreed upon then design, process definition and the customer journey were mapped to the objective(s). This significantly decreased the time required to complete requirements gathering and rework related to scope changes.

## C) Roles and Responsibilities

To ensure success and accountability for all tasks, the Program and Project management team members outlined all project related responsibilities and identified the various levels of ownership for each task. The program objectives and tasks associated with meeting these objectives are captured in various forms starting with a Project Charter, architecture and design diagrams and prototypes, customer journey maps, detailed testing plans, training documents, marketing plans and collateral, results and bug fix prioritization and ending with a step by step deployment plan for moving the changes to the live system. This approach will continue for the ongoing management and enhancements of CenHub, continuation of the Insights+ Demonstration Project and Smart Home Rate Project, as well as to new projects that we pursue in the future.

**Table 1: Roles & Responsibility Matrix**

Central Hudson Gas & Electric	Description
Project Management	Central Hudson owns overall project delivery and success criteria.
Integration with Central Hudson website and Internal Systems	Central Hudson has integrated Simple Energy’s customer engagement portal (CenHub Insights) and marketplace (CenHub Store) into its existing website and mobile site and rebranded as a family of offerings through CenHub.
Testing Across Platforms	Central Hudson creates detailed test plans and scripts for each phase of the project and has performed multiple rounds of functional and user acceptance testing. Bugs are tracked, prioritized and remedied on an agreed upon schedule with project team members and vendors. The go live activities also include a round of validation testing before officially calling the launch complete. The project team utilizes a similar approach for all phases.
Access to Customer Data	Central Hudson is providing weekly and daily data feeds in the agreed upon file format to Simple Energy and Itron to facilitate associated program administration and marketing.
Customer Outreach and Marketing Strategy	Central Hudson is informing the customer base of the upcoming availability and functions of CenHub through a multi-channel marketing strategy developed in concert with internal resources, Simple Energy, Itron, Sealed and ICF.
Energy Efficiency Program Information, Requirements and Incentives	The ET&S team has been brought together in a collaborative work space that has facilitated frequent and effective information sharing, brainstorming, and decision making. A support ticketing system and internal FAQs have been made easily accessible to internal teams in order to track any issues and define escalation procedures. All aspects of CenHub are designed with Energy Efficiency targets and available programs in mind. The Energy Efficiency analysts define the incentive values to assign to the products on the CenHub Store.
Metering Solutions	Central Hudson will schedule and perform meter changes for subscribing customers. Central Hudson has expanded the use cases for the interval meters to address existing business challenges related to VDER and VTOU.
Data QA/QC	The ETS team works very closely with the internal Business Intelligence team to leverage all available program participation data and relevant customer insights
Sales & Partnership Development	Prospecting partnerships to develop additional customer offers
Partner	Description
Integration with Internal Systems	Simple Energy and Itron continue to provide requirements, information delivery standards, and assistance to support Central Hudson’s development of interfaces as we have looked to expand upon the CenHub platform.

	All partners will continue to work together with the Central Hudson team for future releases and ongoing enhancements.
Marketing Strategy	Simple Energy and Itron provide expertise, experience, and guidance in order to assist Central Hudson with the development of a Multi-channel marketing strategy.
Insights+ – Data Repository and Management (ITRON)	Itron hosts the Meter Data Management Repository for the duration of the project per contract terms. Itron will provide meter usage data in the agreed upon file format and time interval to facilitate program and partner support.
Project Management	Cognizant is continuing to provide overall Project Management for the technical releases of CenHub.  Each partner has assigned an Engagement Manager for ongoing relationship support and planning of future functionality as well as a ticketing/reporting mechanism for resolution management.
Products & Services	Central Hudson works in tandem with Simple Energy to evaluate addition of new products and remove underperforming products from the store.

## D) Governance

Central Hudson tracks progress, alignment to project objectives and performance in comparison to original hypotheses throughout the life of the project according to Table 7.

**Table 2: Governance Approach**

Format	Frequency	Participants
Standups – short in person discussion to identify any blockers or clarify tasks items	As needed based on criticality of project tasks	All project team members
Program short term planning – in person review of all requirements and assignment of tasks to team members	As needed based on criticality of project tasks	ET&S, vendor partners as appropriate
Status report – combination of written documentation and in-person/conference call discussion	Weekly and Bi-Weekly	Core Team, Project and program managers with project sponsor and key stakeholders as needed
Product and sales reviews – combination of written documentation and in-person/conference call discussion	Quarterly	Project team, Simple Energy and Energy Efficiency SMEs
Marketing plan reviews – combination of written documentation and in-person/conference call discussion	Weekly (Central Hudson only) Monthly – all relevant leads	Marketing director, project and program managers, SMEs as needed, project sponsor, vendor leads

Project Update – documented newsletter of the latest progress for high level awareness	Bi-Weekly	Created by the ET&S team and distributed to all relevant stakeholders across Central Hudson and partner vendors
Sponsor Meeting – review scope and schedule, risks, impacts and next steps	As needed	ET&S, Marketing, IT
Data Audit – review all data reports being exchanged between Central Hudson and Simple Energy to build out a data dictionary and identify, prioritize and resolve data discrepancies	Weekly	ET&S, BI, IT and SE
REV Connect Innovation Sprints – Central Hudson participates in idea evaluations, workshops and sprint presentations to define system needs pertaining to various topic areas	As scheduled by the REV Connect Committee	ET&S, REV Connect Committee, NYS Utilities, NYSERDA, DPS Staff, other organizations as appropriate

## Section 2: Customer Populations

Central Hudson analyzes customer populations within the service territory in an attempt to understand what online behaviors and DER program participation rates are prevalent among varying customer segments. Through preliminary analysis, customers can be defined according to the Test Populations defined in Table 3. The team continues to dive deeper into this data to enhance our overall marketing strategy and to develop new programs and demonstration projects.

**Table 3: Test Population**

Test Population Description	Selection Method	Q1 2016 Population Size	Q2 2018 Population Size
<b>Residential PV Customers:</b> <ul style="list-style-type: none"> <li>to be analyzed within Channel and Segment Tests</li> </ul>	Identification / Selection Method: <ul style="list-style-type: none"> <li>Net Meter installation record</li> </ul>	4,883	7,649
<b>Digitally Engaged Residential Customers:</b> <ul style="list-style-type: none"> <li>to be analyzed within Test Statement #1</li> <li>to be analyzed within Test Statement #5</li> <li>to be analyzed within Channel and Segment Tests</li> </ul>	Identification / Selection Method: <ul style="list-style-type: none"> <li>Current My Account users</li> <li>Opt-in to enrollment in CenHub following project go live</li> </ul>	103,309	121,298
<b>Digitally Unengaged Residential Customer:</b> <ul style="list-style-type: none"> <li>to be analyzed within Test Statement #1</li> <li>to be analyzed within Channel and Segment Tests</li> </ul>	Identification / Selection Method: <ol style="list-style-type: none"> <li>Paper bill recipient</li> <li>non-My Account user</li> </ol>	158,325	142,843
<b>Existing customer transferring service(s) / 'Moves':</b> <ul style="list-style-type: none"> <li>to be analyzed within Channel and Segment Tests</li> </ul>	Identification / Selection Method: <ul style="list-style-type: none"> <li>Existing customer – transferring service</li> </ul>	51,934 <sup>1</sup>	55,203 <sup>1</sup>
<b>Home Energy Report Recipient:</b> <ul style="list-style-type: none"> <li>to be analyzed within Channel and Segment Tests</li> </ul>	Treatment Group listing	103,000	97,524
<b>Insights+ Subscriber:</b> <ul style="list-style-type: none"> <li>to be analyzed within Test Statement #5</li> </ul>	Identification / Selection Method: <ul style="list-style-type: none"> <li>Voluntarily Subscribes</li> <li>Pays the Associate Subscription fee</li> </ul>	N/A	89

<sup>1</sup> Based on a rolling 12 month average

<ul style="list-style-type: none"> <li>to be analyzed within Channel and Segment Tests</li> </ul>			
<p><b>Residential Traditional Rate Customer:</b> Pre-existing interval metered homes that are part of the load research program. Meters have been installed prior to the Smart Home rate program for the purposes of load research. This population will represent the average residential customer and associated energy usage behaviors.</p>	Pre-existing population - Locations anywhere in the service territory with usage patterns and demographic data that indicate central air conditioning is present will be used.		234 (statistical sample)
<p><b>VTOU:</b> All residential customers receiving service via the voluntary time-of-use rate available on 12/1/17</p>	Self-selected - customers voluntarily take an action to become part of this population		18
<p><b>Targeted Demand Response:</b> Residential customer who voluntarily enrolled in CenHub Peak Perks and Insights+</p>			255
<p><b>SHR Participant:</b> All residential customers who voluntarily enroll in the Smart Home Rate and as a result are migrated on to the VTOU rate, receive enabling technology and have the ability to access Insights+</p>	All customers in this group must have central air conditioning		TBD
<p><b>Digitally Engaged SHR Participant:</b> All SHR Participants that have logged in at least once to the Insights+ portal.</p>	Self-selected – customers voluntarily take an action to become part of this population		TBD
<p><b>Digitally Unengaged SHR Participant:</b> All SHR Participants that have never logged in to Insights+ or set up their CenHub account.</p>	Self-selected – customers choose not to act and as a result become part of this population		TBD
Percentage of heating customers using fuel oil or propane			~ 60%
Percentage of customers with central air			~ 33%

## Section 3: Completed Demonstration Projects - CenHub

### A) Phases

As of June 30, 2018 the CenHub demonstration project has been completed. Within the 2.5 years of the project CenHub introduced:

- Successful integration and delivery of the CenHub Insights, Insights+ and CenHub Store online platform and CenHub Insights paper reports
- Successful migration of the online experience to a web content management system
- Expansion of the CenHub Store to include dynamic enrollment in Insights+ and the Voluntary Time of Use RateExpansion of the Insights and Insights+ visualization tools to include min, max and average data points and billing information
- Expansion of the Insights and Insights+ visualization tools to include net generation amounts
- Expansion of the partner network to include Sealed and offer a new business model for customers to receive home energy upgrades
- Expansion of the existing partnership with Itron to include Insights+ as a free service to customers within the Targeted Demand Response area (CenHub Peak Perks) who participated in the whole home generator program or where part of a statistical sample of DLC customers.
- The CenHub Newsletter
- Engaging in person experiences at the Poughkeepsie Home Show, Ulster County Fair and Dutchess County Fair

The project was implemented in 3 core phases with multiple enhancement iterations completed within each phase. The project team worked with agile and waterfall approaches to project execution dependent on the scope and complexity of the deliverables. For the majority of the user experience modifications an agile 2 week sprint approach worked best. For project deliverables that involved more technical back end infrastructure changes the waterfall approach was more successful.

### B) Hypotheses

Central Hudson's customer base is very diverse and falls into various categories of digital engagement. A segment of Central Hudson's customers are highly active with digital outlets, such as on-line shopping, social media, and banking. Central Hudson saw a significant increase in downloads when it first launched its mobile app and outage map. The Company is actively communicating with its customers via Facebook and Twitter and there is the potential to delight our customers through more digital channels. Therefore the Company aims to increase the number of digitally engaged customers through the evolution of CenHub and better understand the drivers behind their engagement.

In order to measure the success of CenHub, Central Hudson defined five (5) hypotheses to test throughout the life of the project. These hypotheses were targeted at understanding Central Hudson's residential customers. The hypotheses test statements spanned the elements of customer engagement, customer behavior, and customer preference. The aim of understanding the customer is to ensure alignment of business offerings and introduce business models that benefit the customer through increased choice and control. In order to test the success and influence of the CenHub platform the following test statements were established and monitored:

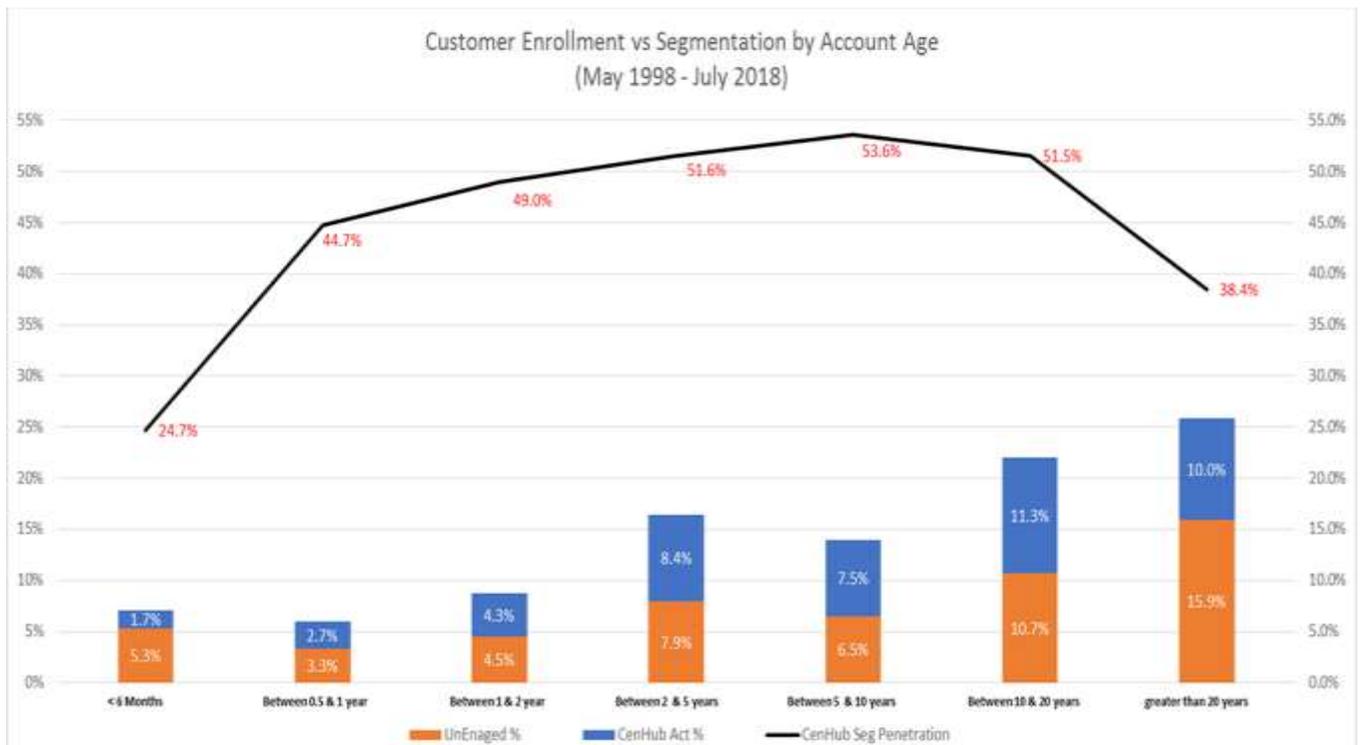
***Customers may be more engaged in their energy usage and energy management if they have greater awareness of available products and services that are relevant to them and the opportunity to interact with applicable tools through a fun, educational and engaging online experience.***

- *If Central Hudson utilizes a Multi -Channel marketing campaign, specifically inclusive of email and social media to market CenHub to residential customers...*
  - *then Central Hudson will increase the number of Digitally Engaged Residential Customers to 60% of the residential customer base within 12 months of the April 1, 2016 Phase 1 Go Live Date.*
- *If Central Hudson utilizes gamification, reminders and relevant savings opportunities to encourage and prompt customers to complete the digital home energy profile...*
  - *then 5% of the Digitally Engaged Residential Customers will complete the home energy profile within 12 months of the April 1, 2016 Phase 1 Go Live Date.*
- *If Central Hudson develops an engaging platform that informs customers about their energy use, provides actionable energy savings tips linked to available products and services, and reinforces behaviors through gamification and social interaction...*
  - *then on average Digitally Engaged Residential Customers will become more energy efficient than their digitally unengaged counterparts*
- Program Results:
  - Through the introduction of CenHub and its associated products and programs, marketing campaigns, and website enhancements Central Hudson increased the population of online account registrations from 36% to 46%. This was shy of our goal of 60% enrollment but was still a substantial increase in engagement. Figures 4 and 5 illustrate how customer enrollment trends have changed over the life of the program. On average from the start of tracking in Q3 of 2016 to Q2 of 2018 we have seen an average of just over a five percentage point increase in each customer segment with the customers creating an online account within 6 month to 1 year of starting service segment seeing the largest growth at over 8%.

**Figure 4: Customer Longevity and CenHub Penetration Q3 2016**

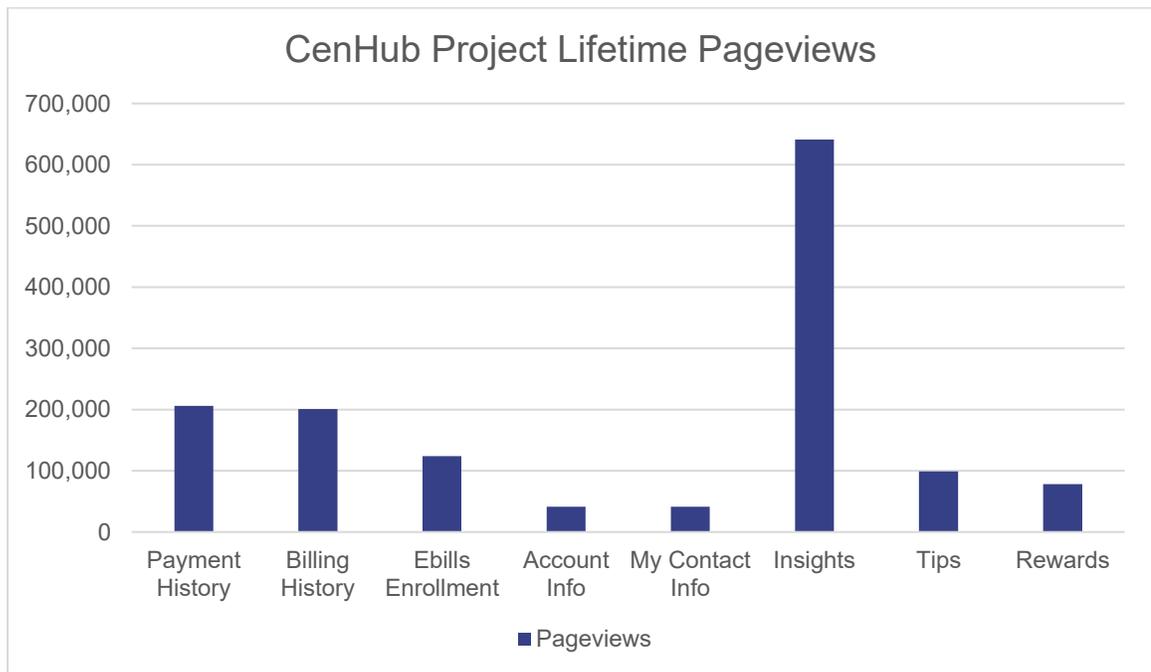


**Figure 5: Customer Longevity and CenHub Penetration Q2 2018**



- Looking at Pageview performance, the Insights page far exceeds pageviews of the top five CenHub My Account pages. This proves that customers prefer the visualization features over viewing billing information in a tabular format which has been historically available on the Billing History page. The Tips and Rewards pages within the Insights experience also outperformed the number 4 and 5 top visited pages within MyAccount, further reinforcing that the CenHub features increased overall customer engagement.

**Figure 6: CenHub Webpage Activity**

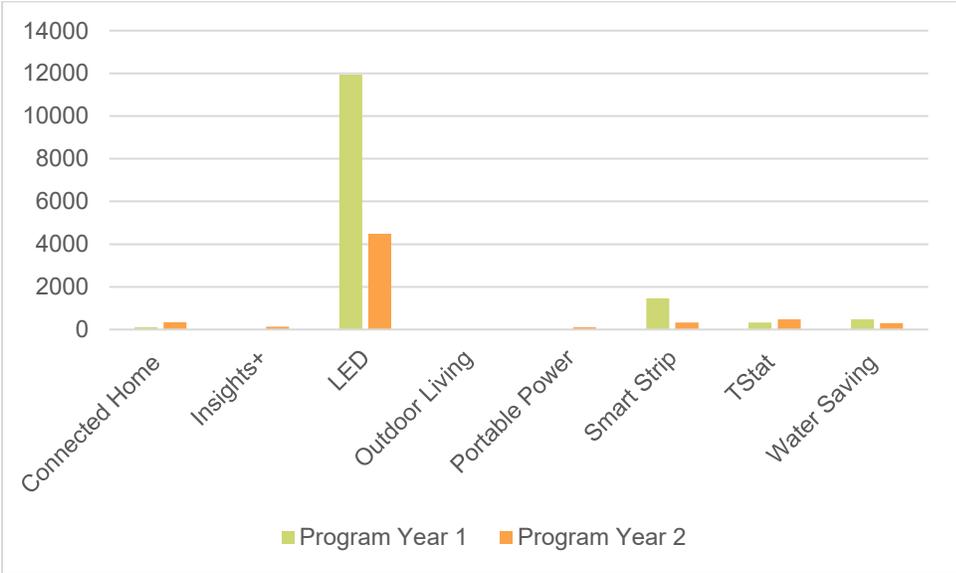


- We exceeded expectations on Home Profile completions reaching an 8% completion rate with a target of 5%. Due to the success of the Home Profile experience, the value of the information collected, and the engagement levels in the Loyalty Program components (Tips and Rewards) we chose to build additional capability into the Home Profile experience to create digestible Energy Saving Challenges that provide clearer calls to actions, more opportunities to earn rewards and most importantly quantifiable actions to save energy. We did a soft launch of Energy Challenges on June 28<sup>th</sup> 2018 and will begin mass marketing in August through email, direct mail and at the Dutchess County Fair.

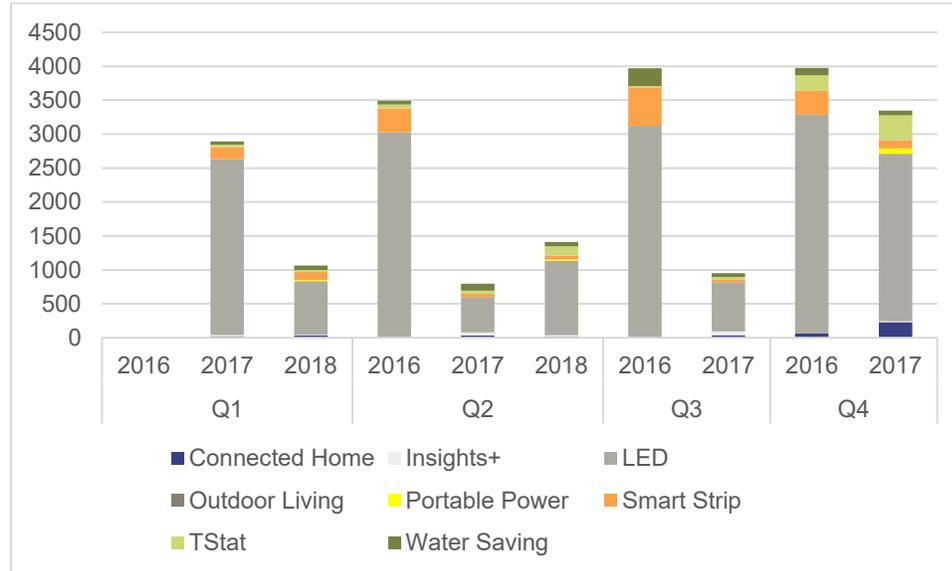
**Customers may become engaged in the purchase of energy products and services they value through an information driven, guided e-commerce experience, a social online experience that inspires competition and community action, and the availability of instant rebates and reward programs.**

- *If Central Hudson provides CenHub users with energy usage information and targeted actionable savings tips linked to products and services available on CenHub ...*
  - *then we expect to achieve 8,000 product purchases within the first 12 months of the April 1, 2016 Phase 1 Go Live Date.*
  - *Then we expect to exceed 8,000 product purchases per year.*
- Program Results:
  - We exceeded the sales goal in Year 1 with 14,640 and were shy of goal for Year 2 at 6,438 products vs. the goal of 8,000 per year. Program Year 2 sales mimicked the shape of Program Year 1 sales, however the quantities are significantly lower in Program Year 2 despite our marketing and outreach efforts and addition of new product categories and products. Central Hudson customers continue to purchase convenient, low priced products. Higher priced items such as Smart thermostats and connected home products are engaging a small subset of Central Hudson customers.

**Figure 7: Program Year Sales Totals by Product Category**



**Figure 8: Quarterly Sales Results Comparison**



- Variations from quarter to quarter correlate to the success of the marketing campaigns we were able to promote.
  - In Q2 of 2016 we launched our first \$1 lightbulb offer. Due to its success we launched another \$1 lightbulb campaign in August and continued the campaign from that point forward.
  - In Q4 of each year we ran a Black Friday/Cyber Monday sale which explains the drastic difference between Q3 and Q4 sales in 2017.
  - In Q2 2018 we ran a temporary increased incentive promotion on lighting and water saving products paired with manufacturer discounts for Father's Day.
- We found that when we provided educational information with the CenHub Insider email just prior to a Store email promotion customers were more likely to visit the product page for the items featured in the Insider and we were able to drive higher conversion rates than with other campaigns.
- Despite the low sales volumes the Store has proven to be a low cost delivery mechanism for energy efficiency savings. The Store is currently running at 10.5 cents/kWh, helping to drive down the overall cost of our Energy Efficiency portfolio.

***We believe Central Hudson will successfully implement a new business model leveraging our expertise and partnerships to create new revenue streams and that there are service providers willing to work with Central Hudson to deliver choice and value to our customers.***

- *If Central Hudson provides CenHub customers with energy usage information and actionable savings tips linked to products and services available on CenHub ...*

- then CenHub will generate approximately \$40,000 of Platform Service Revenues (PSRs) for Central Hudson within the first 12 months of the April 1, 2016 Phase 1 Go Live Date.
- Program Results:

As seen from the sales results in Figures 7 and 8, sales volumes are low and the products with the highest sales were the lowest cost items that also had the lowest profit margin. This made achieving the Platform Service Revenue targets extremely difficult and we were not able to meet the defined targets in either Year 1 or Year 2 of the program. In Year 2, we added an additional partnership with Sealed that provided success payments for each completed project to boost revenue potential, however the additional revenue was minimal due to low conversion rates on completed projects.

**Figure 9: CenHub Revenue by Quarter**

	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018
<b>Store</b>	\$ 8,955	\$ 11,941	\$ 15,452	\$ 14,268	\$ 7,755	\$ 7,720	\$ 13,835	\$ 5,200	\$ 7,914
<b>Other Partnerships</b>								\$ 1,400	\$ 350
<b>Total</b>	\$ 8,955	\$ 11,941	\$ 15,452	\$ 14,268	\$ 7,755	\$ 7,720	\$ 13,835	\$ 6,600	\$ 8,264

### C) Project Plan

From April of 2016 to June of 2018, we launched the three phases of CenHub as defined in the initial REV Demonstration Project filing. We also launched a number of iterative enhancements to the platform to accommodate a new rate option and to create cross promotional opportunities between the CenHub service offerings.

**Figure 10: Implementation Schedule by Quarter**

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018
Demonstration Project Proposal	◆										
Contracts Signed	◆										
Implementation Plan Filed	◆										
Launch of Energy Efficiency Behavioral Program		◆									
Launch of CenHub Phase 1			◆								
Launch of CenHub Phase 2				◆							
Launch of New Energy Efficiency					◆						

and Demand Response web pages											
Launched Insights+ for M&V with Itron						◆					
Launch of CenHub Phase 3 – Insights+							◆				
Billing Information on Graphical Displays									◆		◆
TOU Graphical Displays								◆			
Voluntary TOU Rate Enrollment									◆		
Launch of Bundled TOU and Insights+ Enrollment on CenHub Store											◆
Launch of Sealed Partnership										◆	
Launch of Whole Home Generator Program with Insights+										◆	
Launch of Energy Challenges											◆

◆ Project Deliverable

## D) Results

**Table 4: Targets and Results**

Target Date	Milestone	Target	Project Lifetime
12/31/2016	<i>Capital Expenditures<sup>2</sup></i>	\$1,200,000	 \$1.9M
7/1/2018	<i>Annual Maintenance Expense<sup>3</sup></i>	\$1,100,000 per year	 \$2.48M
4/1/2017	<i>Enrolled CenHub Customers as % of total Residential Customer Base</i>	60%	 46%
4/1/2017	<i>Product Purchases</i>	8,000 per year	 23,271
4/1/2017	<i>% of Enrolled CenHub Customers Completed Home Profile</i>	5%	 8%
4/1/2017	<i>CenHub Platform Service Revenues (pre-tax)</i>		 \$94,790
<u>Status Key</u>			
 On or exceeding target  Off target <=10%  Off target >10%			

## E) Future of CenHub

CenHub was constructed to become the core digital engagement platform for Central Hudson’s residential customers - a means to manage ones account, access incentives, enroll in programs and find educational materials to assist in making informed decisions. As such it is important to continue to provide customers with the tools available through the platform and to build upon the foundation that has been created. Central Hudson has built into its latest Rate Plan the means to continue operation of the site and to enhance it through the addition of new tools like a suite of calculators, personalization, and municipal aggregation that will be funded through the Digital Initiatives for Customer Engagement (“DICE”) budget included in the Rate Plan.

<sup>2</sup> Cumulative Capital Expenditures includes capital expenditures prior to April 3, 2016

<sup>3</sup> Cumulative Maintenance Expense includes expenses beginning on April 1, 2017

## Section 4: In Progress Demonstration Projects - Insights+

### A) Project Summary

The BCA for wide scale deployment of Advanced Metering Infrastructure (“AMI”) did not pass for the Central Hudson territory. However we recognize that there may be customers within our territory that desire more granular energy usage information. This led to the creation of the Insights+ offering, an extension of CenHub Insights. Insights+ builds on the user interface provided as part of CenHub to allow the customer to dive deeper into the data to see usage by month, week, day or hour. The Insights+ offering allows interested customers access to AMI data and services through a low cost subscription.

### B) Hypotheses

The subscription fee offer for interval data is unique within the Utility space. Therefore Central Hudson looks to test the willingness to pay and how availability of advanced meter data can influence customer behavior. The following hypotheses is being tested during the the Insights+ project.

**Table 5: Test Statements**

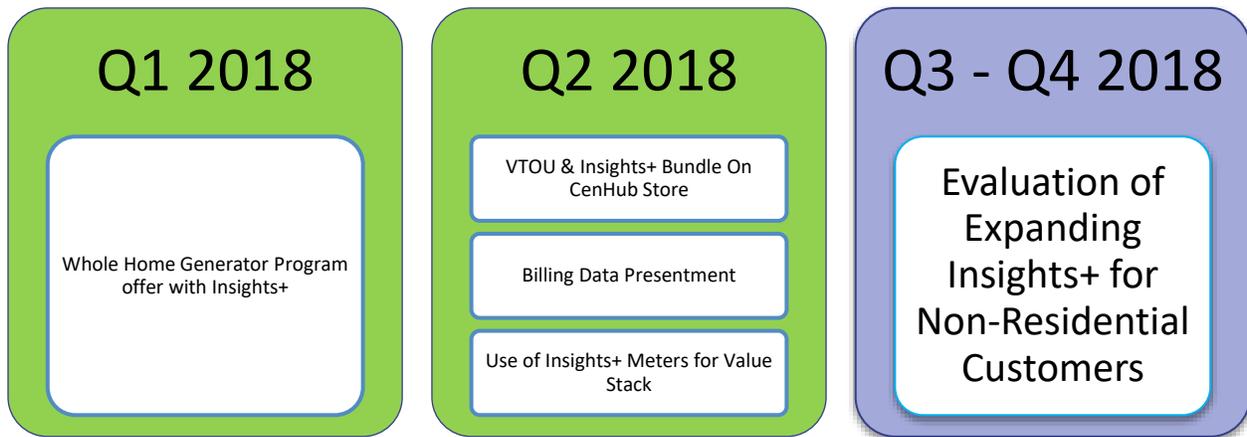
Test Statement	Hypothesis	Program Results
Customers may be willing to pay for Advanced Data Services.	<ul style="list-style-type: none"> <li>If we offer an Insights+ package featuring an intuitive and engaging user experience and utilize multi-channel and targeted marketing...</li> <li>then 1,000 customers will subscribe to the Advanced Data Services package within 12 months of the September 30, 2016 Phase 2 Go Live Date.</li> </ul>	<p>Total Insights+ Enrollments - 137</p> <ul style="list-style-type: none"> <li>Peak Perks M&amp;V enrolled population - 261</li> <li>Insights+ enrolled residential population - 94</li> </ul> <p>The Action Items within Table 8 detail the steps we are taking to try to improve upon this metric and increase participation.</p> <p>We are also finding that the Insights+ meters are satisfying evolving business needs that were not predicted at the initial conception of the program such as M&amp;V for the Peak Perks program and VDER. These opportunities result in reduced overall cost for the program and increase the availability of the platform features.</p>
Advanced Data Services may influence customers' behavior.	<ul style="list-style-type: none"> <li>If Central Hudson directly markets to Insights+ subscribers and provides insights and tips regarding management of their energy usage and cross-promotes programs such as Targeted Demand Response...</li> </ul>	<p>Central Hudson along with existing program partners has built an effective way to merge the Insights+ package with other offerings as an additional enrollment option for customers on the store.</p> <p>Customers can now dynamically enroll in TOU as well as Insights+ for a discounted</p>

	<ul style="list-style-type: none"> <li>o then customers with Insights+ subscriptions will make 10% more product purchases per customer than the 'Digitally Engaged Residential Customer' within the first 12 months of subscription enrollment (measured on a rolling 12 month avg. beginning 12 months after the September 30, 2016 Phase 2 Go Live Date.)</li> <li>o 25% of Advanced Data Services subscribers will elect a non-standard rate offering such as our existing Time of Use rate within 2 years of the September 30, 2016 Phase 2 Go Live Date.</li> </ul>	<p>subscription price. Customers that are also eligible for the Peak Perks Whole Home Generator program will see the offer when checking for their Insights+ eligibility.</p> <p>Central Hudson is also currently working with our Energy Efficiency evaluator to analyze the impact of Insights+ on energy usage.</p>
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### C) Schedule

Central Hudson successfully launched the Insights+ service offering for residential customers in June of 2017. Since that time we have not seen a significant uptick in voluntary enrollment despite the enhancements we have built in to the experience or through the reduced price offer when customers enroll in Insights+ with the Voluntary Time of Use Rate. For this reason the team is investigating the value that an Insights+ like experience and interval metering could offer to non-residential customers. We have been studying the experience currently available through the Hourly Pricing Provision for large C&I customers and have held focus group discussions with our New Business team and a sampling of our non-residential customers to collect feedback on the online experiences that they would find desirable. These efforts are on-going and the team will be making a recommendation on how to move forward in Q3 of 2018. In the meantime, the team has also been investigating ways to operationalize the use of the Insights+ meters to offer value to other programs. One example is using the meters for Value Stack customers as the data configured as part of the program meets the criteria defined for value stack and does not require any new metering programs to be created or system changes. Therefore we were able to meet the needs in the timeline required without any additional expenditures beyond meter inventory procurement costs.

**Figure 11: Insights+ Project Plan by Quarter**



**D) Revenue**

**Figure 12: Insights+ Revenue by Quarter**

	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018
<b>Insights+</b>				\$ 100	\$ 610	\$ 1,414	\$ 1,953	\$ 2,118	\$ 3,142

**E) Results**

**Table 6: Targets and Results**

Target Date	Milestone	Target	Project Life Cumulative Actuals	Program Year 1	Program Year 2
9/15/2016	<i>CenHub Phase 3 Insights+ Enrollment - Go Live</i>	9/15/2016	Complete	Release 1 (Comverge M&V) - 3/31/2017  Release 2 (Residential Enrollment) - 6/6/2017	N/A

9/15/2017	<i>Insights+<sup>4</sup> Cumulative Deferral</i>	\$125,000	\$182,271	\$125,886		\$56,384
9/15/2017	<i>Insights+ Capital Expenditures</i>	\$70,000	\$117,302	\$328,357		Complete
9/15/2017	<i>Insights+ Subscriptions</i>	1,000	N/A	0		355
9/15/2017	<i>Insights+ PSR</i>	\$24,000	N/A	\$710		\$8,627
<u>Status Key</u>						
 On or exceeding target  Off target <=10%  Off target >10%						

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<sup>4</sup> Formerly Advanced Data Services

## Section 5: Upcoming Demonstration Projects - Smart Home Rate

### A) Project Summary

Central Hudson is proposing a rate structure where residential customers within a specific geographic area will have the opportunity to enroll in a new time-of-use electric rate, and receive technology from Central Hudson to automatically reduce usage during peak pricing periods. Central Hudson expects to install a smart Wi-Fi thermostat on qualifying air conditioner systems at no cost. The thermostat will be equipped with software that automatically optimizes the customer’s usage based on time sensitive price signals that correspond to system peak usage periods. The technology will incorporate customer preferences, and refine the savings algorithm over time as temperature and runtime data are collected from the home.

Through this REV demonstration project, Central Hudson is looking to determine the viability of an approach to increase customer enrollment in dynamic rates and positively contribute to New York State Energy goals. The key variables to be included in the tests are:

1. Incentives – customers will be provided free Wi-Fi programmable thermostats and installation
2. Enabling technology – the Wi-Fi thermostats will come pre-programmed with an algorithm that coordinates with Central Hudson’s VTOU rate to provide a “set it and forget it” opportunity for customers
3. Education and empowerment – customers will have access to the Insights+ user interface that provides detailed hourly usage information, differentiation between peak and off-peak usage, weather and billing data

### B) Hypotheses

Through the Smart Home Rate project Central Hudson looks to test the hypotheses detailed in Table 7.

**Table 7: Test Statements**

Problem Statement	Hypotheses	Customer Populations
<b>1. Time differentiated rates alone are not enough to incentivize customers to alter their usage behavior.</b>	<p>If Central Hudson offers a Smart Home Rate with enabling technology to facilitate automatic load shifting, as well as actionable information to help customers further optimize usage, then</p> <ul style="list-style-type: none"> <li>○ Usage during the prescribed peak hours will be reduced in comparison to customers on Central Hudson’s traditional residential rates.</li> </ul>	<ul style="list-style-type: none"> <li>• Smart Home Rate (SHR) participant</li> <li>• VTOU participant</li> <li>• Residential traditional rate customer</li> </ul>

	<ul style="list-style-type: none"> <li>○ Usage during the prescribed peak hours will be reduced in comparison to customers using a Central Hudson Time-Of-Use rate alone.</li> <li>○ Adoption rate of the Smart Home Rate will be greater than the voluntary time-of-use rate.</li> </ul>	
<p><b>2. Behavior modification programs are costly and results are dependent on customer actions.</b></p>	<p>If Smart Home Rate customers are provided enabling tech with easy to override cost saving settings, then:</p> <ul style="list-style-type: none"> <li>○ The kW reduction achieved through the Smart Home Rate will not be more cost effective than the reduction achieved through the Targeted Demand Response Program in reducing system peak load.</li> </ul>	<ul style="list-style-type: none"> <li>● SHR participant</li> <li>● Targeted Demand Response (TDR) participant</li> <li>● Residential traditional rate customer</li> </ul>
<p><b>3. Time differentiated pricing structures including the difference between delivery and supply charges combined with a lack of information about home energy use make it difficult for customers to make energy wise decisions.</b></p>	<p>If Central Hudson provides free access to the Insights+ portal, then:</p> <ul style="list-style-type: none"> <li>a. Digitally engaged Smart Home Rate customers will use less energy during peak periods than their digitally unengaged counterparts as a percentage of their total load.</li> </ul>	<ul style="list-style-type: none"> <li>● SHR participant that has logged in to Insights+</li> <li>● SHR participant that has never logged in to Insights+</li> </ul>

### C)Project Schedule

Once final contracts are signed with our partner organizations we will be filing a comprehensive Implementation Plan.

# Section 6: Financials

Redacted

## Section 7: Risks, Opportunities and Mitigation Strategies

Table 8 details how we are expanding on our successes and creating action plans to improve in the areas where we are projecting to be off target.

**Table 8: Action Items**

Risk / Opportunity Category	Action Plan
<p>Opportunity – Brand Recognition</p> <p>Completion Date: On-going</p>	<p>Central Hudson is continuing with the build out of the CenHub product family and incorporating the upcoming Smart Home Rate and Time-Of-Use Rate into the online experience and future marketing plans.</p> <p>In preparation for 2018 we built a comprehensive marketing plan that includes outreach and education for our customers as well as internal employees.</p>
<p>Risk – CenHub My Account enrollment</p> <p>Projected Completion Date: On-going</p>	<p>Despite expanding our marketing partnerships and product offerings we have not made a marked increase in CenHub enrollments.</p> <p>An internal team has been assigned to investigate the registration and account transfer processes to identify and investigate solutions to remove customer barriers to entry and retention. The team has completed their final recommendation for process improvements and will be submitting a project request to act upon those recommendations.</p>
<p>Risk – NYS Meter Approval</p> <p>Status: Mitigated</p>	<p>The Itron Centron OpenWay residential single-phase meter with Verizon 4G cellular card is not yet approved in New York State. Approval is being sponsored by National Grid. To mitigate this risk the team has worked with Itron and negotiated pricing of the polyphase OpenWay meter at the residential meter cost for the life of the Insights+ Demo project. Central Hudson continues to explore metering options with Itron for potential future expansion of the program offerings.</p>
<p>Risk – Customer Engagement</p> <p>Projected Completion Date: On-going</p>	<p>Central Hudson continues to work with NYSERDA, REV Connect and other Utilities to prospect for new products and services that could appeal to Central Hudson's customer base.</p>
<p>Risk – Increasing Emphasis and Priority on Cyber Security</p>	<p>Protection of sensitive data is being ever more complex and the exposure risk both financially at to a company's brand it growing. Central Hudson's information technology group utilizes numerous tools and standards to protect our customers. We also have a robust vetting process for all vendors that we share data with or use their platforms. We also include protections in contract language. With the growing cost of cyber events agreement on contract language is becoming more difficult and resulting in prolonged timelines for contract negotiation.</p>
<p>Opportunity - Utilization of Existing Data</p>	<p>Through the introduction of the Home Profile customers have demonstrated a willingness to share information in return for a reward (in this instance points linked to gift card redemption). The information shared can be utilized to personalize the experience further and transition to advising the customer of program offers that are relevant to them based on the information shared. Central Hudson will use what we learned about customers and what customers have shared to enhance the platform and shape future programs.</p>

Report Attachment 1: Insights+ Incremental O&M

Report Attachment 2: CenHub Incremental O&M

Report Attachment 3: CenHub Insights Statistics

Report Attachment 4: Lifetime Traffic and Engagement

Report Attachment 5: Lifetime CenHub Ecommerce

Report Attachment 6: CenHub Energy Challenges Capital Work Order Details

Report Attachments 1 - 2

REDACTED

# Report Attachment 3

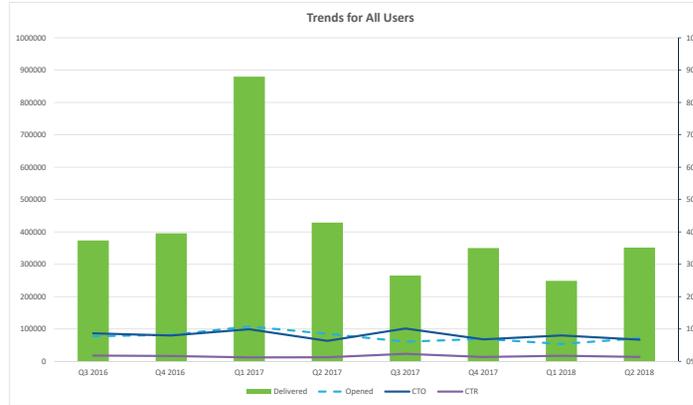


## CenHub Insights Weekly Marketing Report

LAST WEEK		School's Out			
Weekly Insights	Emails Delivered	10,504			
	Opened	210			
	(open as a % of delivered)	2.0%		NA	NA
	Clicked (unique)	28			
	(as a % of delivered)	0.3%		NA	NA
	(as a % of opened)	13.3%		NA	NA
	Unsubscribes	3			

Last week - Messages  
School's Out

This week - Messages  
BYE WEEK

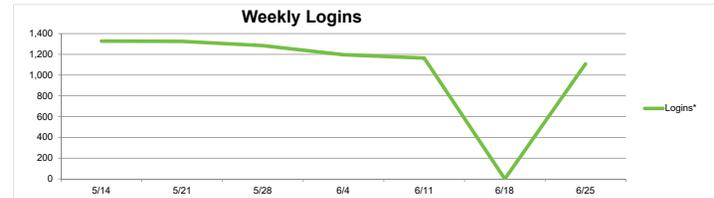


### Comments:

Terminology:  
 CTO: Click-to-open: Unique clicks / Unique opens, shows raw trend  
 CTR: Click through rate: Unique clicks / Emails delivered, isolates impact of those who actually opened the email

Last Monday: 6/25/2018		4/30	5/7	5/14	5/21	5/28	6/4	6/11	6/18	6/25	Last Week
<b>Email 1</b>	Delivered	13853	34847	34890	34845	34845	1464	3525	16942	10504	
	Opened	5195	5917	5444	5179	5179	534	834	4674	210	
	Clicked	302	232	401	324	324	36	102	231	28	
	Open %	37.5%	17.0%	15.6%	14.9%	14.9%	36.5%	23.7%	27.6%	2.0%	
	CTO	5.8%	3.9%	7.4%	6.3%	6.3%	6.7%	12.2%	4.9%	13.3%	
	CTR	2.2%	0.7%	1.1%	0.9%	0.9%	2.5%	2.9%	1.4%	0.3%	
<b>Email 2</b>	Delivered	2383	0	3552	3548	3548	15084	34684	0	0	
	Opened	565	0	592	526	526	5368	7805	0	0	
	Clicked	44	0	44	47	47	262	797	0	0	
	Open %	23.7%	NA	16.7%	14.8%	14.8%	35.6%	22.5%	NA	NA	
	CTO	7.8%	NA	7.4%	8.9%	8.9%	4.9%	10.2%	NA	NA	
	CTR	1.8%	NA	1.2%	1.3%	1.3%	1.7%	2.3%	NA	NA	
<b>Email 3</b>	Delivered	0	0	0	0	0	0	0	0	0	
	Opened	0	0	0	0	0	0	0	0	0	
	Clicked	0	0	0	0	0	0	0	0	0	
	Open %	NA									
	CTO	NA									
	CTR	NA									
<b>Other emails (if necessary)</b>	Delivered	0	0	0	0	0	0	0	0	0	
	Opened	0	0	0	0	0	0	0	0	0	
	Clicked	0	0	0	0	0	0	0	0	0	
	Open %	NA									
	CTO	NA									
	CTR	NA									
<b>Total</b>	Delivered	16236	34847	38442	38393	38393	16548	38209	16942	10504	
	Opened	5760	5917	6036	5705	5705	5902	8639	4674	210	
	Clicked	346	232	445	371	371	298	899	231	28	
	Open %	35.5%	17.0%	15.7%	14.9%	14.9%	35.7%	22.6%	27.6%	2.0%	
	CTO	6.0%	3.9%	7.4%	6.5%	6.5%	5.0%	10.4%	4.9%	13.3%	
	CTR	2.1%	0.7%	1.2%	1.0%	1.0%	1.8%	2.4%	1.4%	0.3%	
<b>Logins*</b>	Total	1646	1329	1327	1325	1284	1196	1164	0	1108	
	New User Logins	147	136	143	126	113	112	100	0	91	

Period: 6/25 - 7/01	PROGRAM TOTAL	COMPLETED THIS WEEK	PROGRAM TOTAL LAST WEEK	2018 YTD	2017 Program Totals	2016 Program Totals
Logins	267160	1108	266052	69723	116223	81214
New User Logins	47981	91	47890	6385	16389	25207
Tips Completed	108268	389	107879	25615	52507	30146
Badges Earned	81202	192	81010	14780	30754	35668
Home Profile Completions	10305	18	10287	1804	3716	4785
Reward Redemptions	3140	5	3135	224	2812	104
Unsubscribes	4018	3	4015	318	1177	2523





# Traffic and Engagement

Apr 3, 2016 - Jun 30, 2018

All Users  
100.00% Sessions

## Sessions

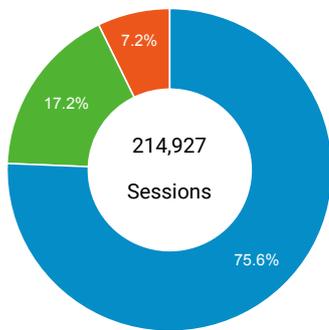
**214,927**

% of Total: 100.00% (214,927)



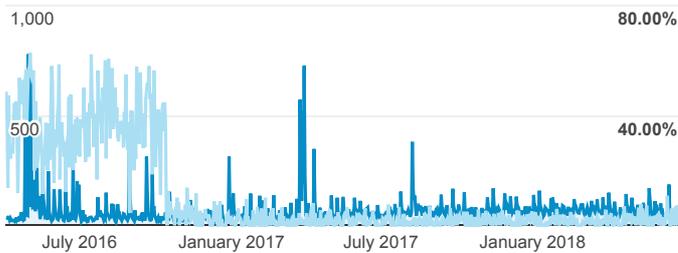
## Visits by Device

desktop mobile tablet



## Traffic From Mobile Devices

Sessions Bounce Rate



## Green Button Connect Downloads

Total Events

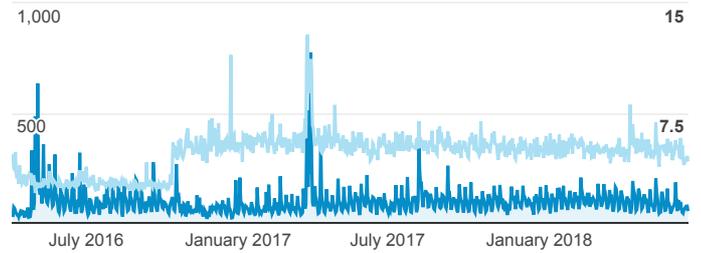


## More than once per week visitors

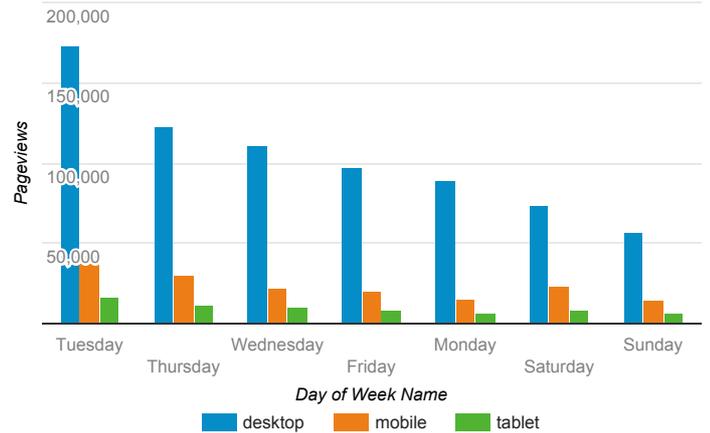
Device Category	Users	Avg. Time on Page
desktop	28,269	00:00:30
mobile	6,228	00:00:27
tablet	2,457	00:00:32

## More than once per week visitors

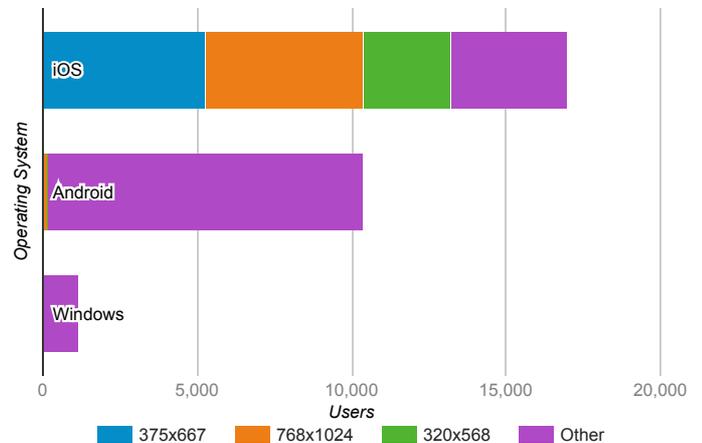
Users Pages / Session



## Most Active Day of the Week by Device



## Mobile Traffic Breakdown



## Engagement by Device

Device Category	Pages / Session	Avg. Session Duration
mobile	4.64	00:01:36
tablet	4.60	00:01:54
desktop	4.46	00:01:42

## Report Attachment 4

### Where do people enter your site?

Landing Page	Entrances	Pages / Session
/	204,878	4.47
/tips	3,343	5.83
/sso-error/	1,907	5.82
/#utm_source=MAS-Home-age&utm_medium=site-alert&utm_campaign=Home-Profile	886	6.22
/rewards	396	5.86
/unsubscribe_confirmation	354	2.32
/engager-feedback	335	4.27
/comparisons	324	3.82
/home-insights/home-profile	273	4.74
/tip_20_completed	240	2.20

### Most Engaging Traffic Sources

Source / Medium	Sessions	Pages / Session
uauth.cenhud.com / referral	111,134	4.57
Simple Energy EP Email / email	39,540	5.60
cenhud.com / referral	24,999	4.12
inet.cenhud.com / referral	13,101	2.01
cenhubstore.com / referral	10,079	5.51
(direct) / (none)	8,505	2.82
secure8.i-doxs.net / referral	4,035	3.65
MAS-Home-age / site-alert	1,020	5.90
google / organic	717	3.45
EPmarketing / paper_report	411	2.78

### Pages People Leave From

Exit Page	Exits	% Exit
/	114,386	35.02%
/tips	42,867	18.03%
/rewards	24,467	16.49%
/insights/usage	5,003	14.09%
/home-insights/home-profile	4,977	16.52%
/profile	3,694	12.59%
/insights	3,346	13.77%
/challenge/badges	1,482	11.73%
/challenge/leaderboards	1,310	13.52%
/challenge	1,305	11.37%

Report Attachment 5

REDACTED

Report Attachment 6

REDACTED