



REV Demonstration Project:
Smart Home Rate

Q2 2022 Quarterly Progress Report

Dated: August 1, 2022

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1.0 EXECUTIVE SUMMARY

Consolidated Edison Company of New York, Inc. (“Con Edison”) and Orange and Rockland Utilities, Inc. (“O&R”) (together the “Companies”) submit this second quarterly report for 2022 on the progress of the Smart Home Rate REV Demonstration Project (the “Project”) being implemented as part of the Reforming the Energy Vision (“REV”) proceeding, as required by the *Order Adopting Regulatory Policy Framework and Implementation Plan*, issued by the New York State Public Service Commission (“Commission”) on February 26, 2015.¹ The Company is filing budget information confidentially with the Commission.

1.1. Project Background

On February 1, 2017, the Companies submitted the Project for review by Department of Public Service Staff (“DPS Staff”). On July 5, 2018, Staff issued a Demonstration Project Assessment Report. The Companies subsequently filed an implementation plan for the Project with the Commission on August 24, 2018². On February 7, 2019, the Commission issued an Order Approving Tariff Amendments with Modifications³.

The Project is designed to demonstrate how alternative rate structures can provide price signals to customers to optimize value for the customer and the system. The Project recruits residential customers with Advanced Metering Infrastructure (“AMI”) meters to participate in a new electric rate and provides them with home energy management technologies to help them maximize savings under the new rate.

The Project originally included two research tracks, Track 1 and Track 2. Track 1 tests Smart Home Rates with automation of central air conditioning (“AC”) loads through smart thermostats in participants’ homes. Track 2, which had been designed to test Smart Home rates with home battery storage coupled with participants’ existing rooftop PV systems, has been discontinued. An updated Implementation

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

² REV Proceeding, Smart Home Rate Demonstration Project Implementation Plan (filed August 27, 2018).

³ Case 18-E-0548, *Tariff Filing by Consolidated Edison Company of New York, Inc. to Modify Its Electric Tariff Schedule, P.S.C. No. 10, to Establish Rider AB-Smart Home Rate, et al.*, Order Approving Tariff Amendments with Modifications (issued February 7, 2019).

Plan was filed on October 22, 2021⁴ and provides details of the project changes and lessons learned for Track 2.

The Companies continue to implement Track 1 of the Project with ICF and are deploying price-responsive home energy management platforms from Uplight.

⁴ REV Proceeding, Smart Home Rate Demonstration Project Implementation Plan Update (filed October 22, 2021).

1.2. Project Overview



Smart Home Rate REV Demo Project

The Smart Home Rate Demo Project (“Project”) tests how alternative rate structures can provide price signals to customers to optimize value for the customer and the system. The Project seeks to recruit residential customers with AMI meters to participate in a new electric rate and provide them with home energy management technologies to help them maximize savings on the new rate.

The Companies are implementing Track 1 of the Project with ICF and are deploying price-responsive home energy management platforms from Uplight. Uplight’s platform is being deployed to automate central air conditioning (“AC”) loads through smart thermostats in participants’ homes.

Project Inception:

February 2017

Market Launch: Track 1 - November 2019

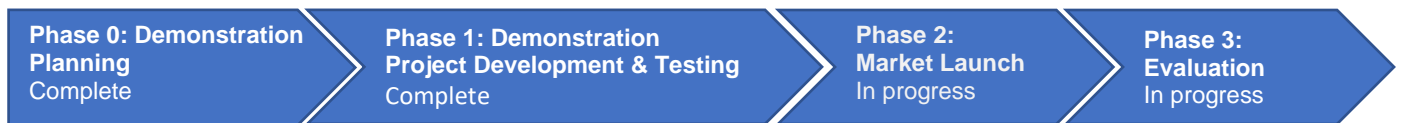
Project End Date:

December 2023

Budget: \$18.2M

Q2 2022 Spend: *Filed Confidentially*

Cumulative Spend: *Filed confidentially (on budget)*



Lessons Learned: Customers

- The SHR rate and thermostat automation software combined led to meaningful load shift during peak hours during SHR event days and to a lesser, but not insignificant, extent during non-event days.
- Participants were aware of the SHR events and report taking efforts over the summer event season to stagger or shift usage, particularly during events. The most common actions were staggering or shifting use of large appliances.

Lessons Learned: Market

- Rapid evolution of smart home device business models presents risk during the program development phase.
- Environmental, health, and safety issues may cause delays during implementation of installation work in the field.
- Contracting for a unique business model among multiple stakeholders is complex and requires significant time to develop. Contracts with multiple vendors and subcontractors must be coordinated. Lead times when engaging internal resources have had significant impacts on timelines.

Issues Identified: At the start of the SHR event season in June F2022, some participants' thermostats were offline.

Solutions Identified: Send email communications to all participants to remind them of the SHR event season and provide tips. Proactively reach out by phone to participants with offline thermostats to coach them on how to turn them back on.

Application of Customer Lessons Learned: Finding the right balance between demand reduction, bill savings, and customer comfort during event days could result in increased customer satisfaction.

Recent Milestones: The Companies administered the 12-month price guarantee and began the second SHR event season.

Upcoming Milestones: The Companies will continue the second SHR event season through September 2022.

2.0 QUARTERLY PROGRESS

2.1 Activities Overview and Updates

In Q2 2022, the Companies administered the 12-month price guarantee, performed preliminary load impact evaluation analysis, implemented enhancements to the thermostat automation software, and started the second SHR event season.

For the 12-month price guarantee, the Companies used participants' bill and usage data from April 2021-2022 to compare the amount participants paid on the SHR to the amount they would have paid on their otherwise applicable rate. If participants paid more on the SHR, a credit for the difference was issued on their bills. The Companies sent participants a letter which described the amount they saved/paid more, including a summary of their average summer and winter bill charges, informed them that the 12-month price guarantee would expire, and provided the phone number to call if they wished to opt out. More discussion of the results of the 12-month price-guarantee and the preliminary load impact evaluation analysis is provided in the Key Metrics and Lessons Learned sections below.

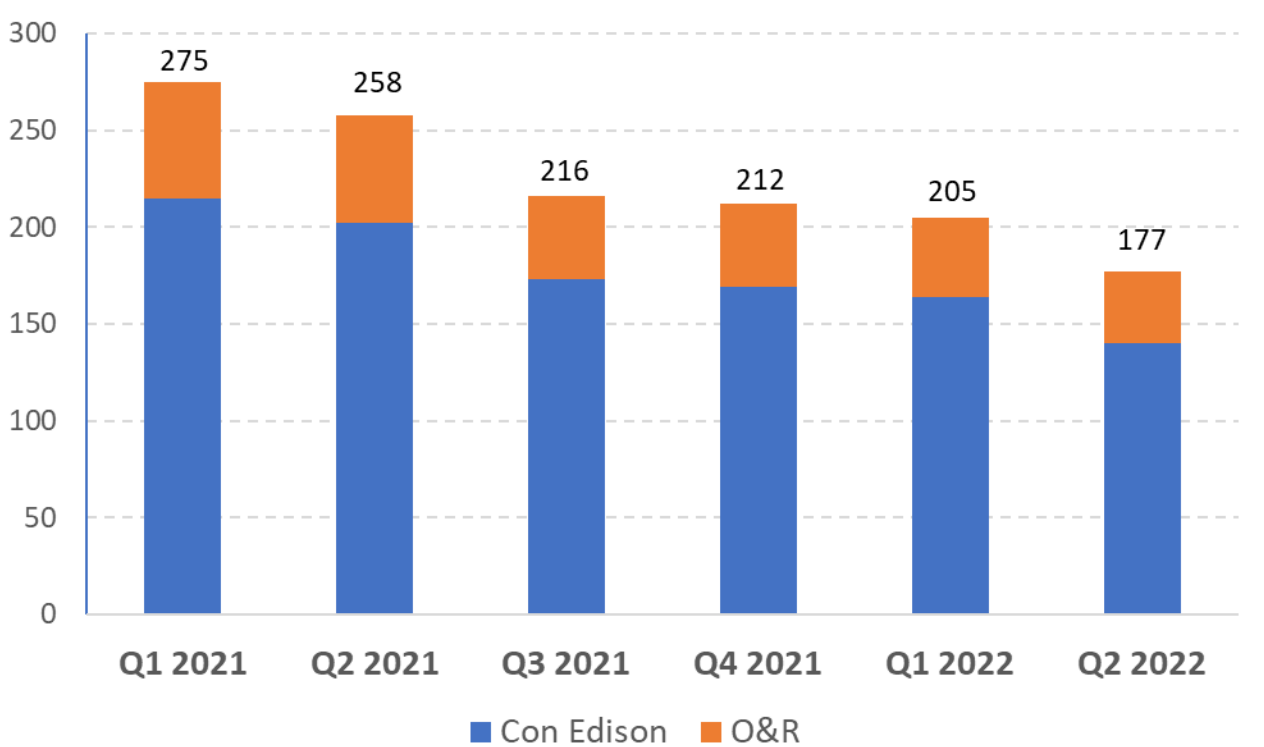
As part of the start of the second SHR event season, the Companies sent an email to participants reminding them of how SHR events work and providing tips on how to save during events. The Companies also implemented several updates to the thermostat automation software to enhance the customer experience. These included updates to how the algorithm handles the participants' comfort bands in

setting thermostat setpoints and updates to make the software more responsive to participants overriding the thermostat setpoints during SHR events.

2.2 Key Metrics

In Q2 2022, 177 Track 1 participants were active (i.e., customers have installed and activated their thermostats), comprised of 140 Con Edison customers and 37 O&R customers (Figure 1).

Figure 1: Active SHR Participants.



Attrition Since Rate Launch

Ninety-eight customers have dropped out of the Project due to ineligibility or requesting to opt out (Table 1).

Table 1: Participant attrition rate since launch

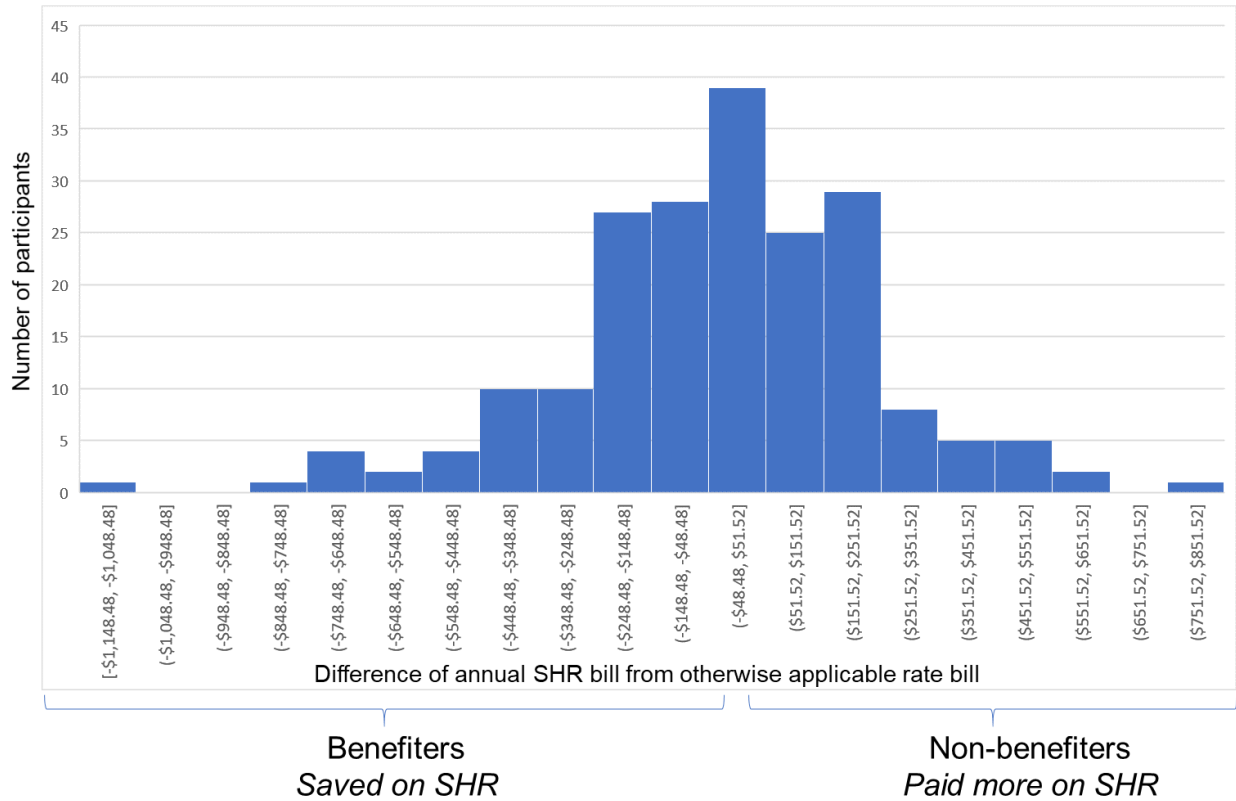
	Reason	Number of customers
Ineligible	Joined CCA/ESCO	1
	Moved	11
	Installed solar	3
	Deactivated Internet	1
Opt Out	Did not like thermostat or thermostat was incompatible	19
	Experienced uncomfortable temperatures and/or did not like thermostat automation	22
	Did not like rate or high bill	39
	Unconfirmed reason	2

12-Month Price Guarantee

Among the O&R and Con Edison participant population, 53 percent of participants saved on their bills during their first year on the Smart Home Rate compared to their otherwise applicable rate.

Figure 2 shows the distribution of benefiteres (those who saved on SHR) and non-benefiteres (those who paid more on SHR), among Con Edison participants.

Figure 2: Distribution of Con Edison participants' benefits under SHR



Since the administration of the 12-month price guarantee, 27 percent of the Con Edison non-benefitters and 3 percent of benefitters have chosen to opt out of the program.

Preliminary Load Impact Results

During the first SHR event season (June-September 2021), the average demand reduction during events ranged from 30 percent to 39 percent.

Participants reduced their average hourly demands during the hours 12pm – 8pm on all summer weekdays by 0.23 kW or 11 percent.

2.3 Lessons Learned and Recommendations

The preliminary load impact results show that the SHR rate and thermostat automation software combined led to meaningful load shift during peak hours during SHR event days and to a lesser, but not insignificant, extent during non-event days.

The event day demand reductions enabled slightly more than half of participants to have neutral or lower bills on the SHR compared to their otherwise applicable rate. These findings support the SHR Demo hypotheses about enabling price response through the rate design and smart home technology to benefit customers and achieve better system efficiency.

Sending participants bill comparison information from the 12-month price guarantee led some to opt out of the program, particularly those who were non-benefitters. A high proportion of participants also opted out due to either dissatisfaction with the thermostat device or dissatisfaction with the thermostat automation. This reflects the importance of the customer experience for retaining program participants and may also indicate their lack of readiness or acceptance of smart thermostat automation deployed in this manner. While the demand reductions observed during event days was significant (30-39 percent reduction), these findings may indicate that a better balance between demand reduction, bill savings, and customer comfort during event days could result in increased customer satisfaction.

3.0 NEXT QUARTER FORECAST

3.1 Planned Activities

In Q3 2022, the Companies will continue the second SHR event season through the end of September.

4.0 APPENDICES

The following appendices are included at the end of this Quarterly Progress Report:

Appendix A: Work Plan

Appendix B: Checkpoints and Milestone Progress

Appendix C: Procedures and Policies










Appendix A: Work Plan

Track 1




Act no	Activity Description	Lead	2018				2019				2020				2021				2022				2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Phase 0: Demonstration Planning	Con Edison																								
1.1	Partnership Agreement	Con Edison																								
1.2	Project Plan	Con Edison/ ICF																								
2	Phase 1: Project Development & Testing	ICF																								
2.1	Recruitment, Marketing and Communications Plan	ICF																								
2.2	Target Identification and Propensity Analysis	ICF																								
2.3	Sightline Setup/ Configuration	ICF																								
2.4	Enrollment Portal	ICF																								
3	Phase 2: Market Launch	ICF/ Uplight																								
3.1	Software	Uplight																								
3.2	Enrollment	ICF																								
3.3	Technology Installation	ICF																								
3.4	Customer Engagement	ICF																								
4	Phase 3: Evaluation	ICF/Nexant																								
4.1	Data Monitoring & Reporting	ICF/Nexant																								

Appendix B: Checkpoints and Milestone Progress

Track 1

Checkpoint/Milestone	Timing	Status
Bill impacts	T1 Phase 2 Midpoint	  
Technology installation	T1 Phase 2 Start	Complete
Technology performance	T1 Phase 2 Midpoint	  
Recruiting and enrollment	T1 Phase 2 Start	Complete
Customer satisfaction	T1 Phase 2 Midpoint	  

Legend

 On Schedule	 Delayed w/out Major Impact	 Delayed or Stopped – Project Goals Impacted
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Track 1 Planned Activities

Bill impacts

Status: Green

Expected Target by Phase 2 Midpoint: Calculate bill impacts from the first few months of the demo and compare average annual customer bill to what it would have been on their previously selected rate.

Actual by Phase 2 Midpoint: Customers began receiving SHR bills in Q2 2021. The Companies administered the 12-month price guarantee in Q2 2022.

Solutions/strategies in case of results below expectations: Plan to adjust messaging to enhance participants' understanding of bill impacts, such as providing them with a mid-program assessment report.

Technology installation

Status: Complete

Expected Target by Phase 2 Start: Complete technology installations at sufficient levels to meet enrollment targets.

Actual by Phase 2 Start: Thermostat installations began in October 2020 and ended in March 2021.

Solutions/strategies in case of results below expectations: The Companies adjusted the self-installation approach to make outbound calls to confirm HVAC system compatibility and set up virtual installation appointments prior to shipping out thermostats.

Technology performance

Status: Green

Expected Target by Phase 2 Midpoint: Monitor price communication and response capability of technology platforms.

Actual by Phase 2 Midpoint: Thermostat treatment occurred May – Sept. 2021.

Solutions/strategies in case of results below expectations: Plan for continuous iteration and improvements to technology platforms in response to performance tracking.

Recruiting and enrollment

Status: Complete

Expected Target by Phase 2 Start: Obtain enrollment levels sufficient to answer key research questions.

Actual by Phase 2 Start: Recruitment campaign restarted in September 2020 and ended in March 2021.

Solutions/strategies in case of results below expectations: The Companies determined that targets for enrollment into a second treatment group for Rate B would not be met. The Project will proceed with all participants enrolled into the Rate A treatment group.

Customer satisfaction

Status: Green

Expected Target by Phase 2 Midpoint: Assess customer satisfaction with the program and technology.

Actual by Phase 2 Midpoint: The Companies will field several surveys among participants and control customers. The Welcome Survey was administered in Q2 2021. The Post-summer Survey was administered in Q3 2021.

Solutions/strategies in case of results below expectations: Develop plan for ongoing messaging to enhance the customer experience.

Appendix C: Procedures and Policies

Cybersecurity and Personally-Identifiable Information Protection

Consistent with Commission policy related to cybersecurity and the protection of personally-identifiable information (“PII”), each partner agreement executed for the implementation of the Project includes specific protections related to cybersecurity and PII. This protection is critical in encouraging customers to sign up with new and innovative services offered by utilities.

Accounting Procedure Established

On February 16, 2016, in Case 15-E-0229, Con Edison filed an accounting procedure for the accounting and recovery of all REV demonstration project costs.⁵ O&R filed an accounting procedure on September 1, 2016. Each accounting procedure establishes a standardized framework that will govern how the Companies categorize and allocate the costs of the REV demonstration projects, and will facilitate analyzing each project to determine the overall financial benefits of the program to customers.

Costs, Benefits, and Operational Savings

Budget information for all of Con Edison and O&R’s REV demonstration projects is being filed confidentially with the Commission, concurrently with the filing of this document. All costs filed are incremental costs needed to implement the projects. To date, no tax credits or grants have been available to reduce the net costs of the projects, but the Companies will take advantage of such offsetting benefits when they are available. Due to the early stage of implementation for the Project, there are no operational savings to report at this time.

⁵ Case 15-E-0229, *Petition of Consolidated Edison Company of New York, Inc. for Implementation of Projects and Programs that Support Reforming the Energy Vision*, General Accounting Procedure (filed February 16, 2016).