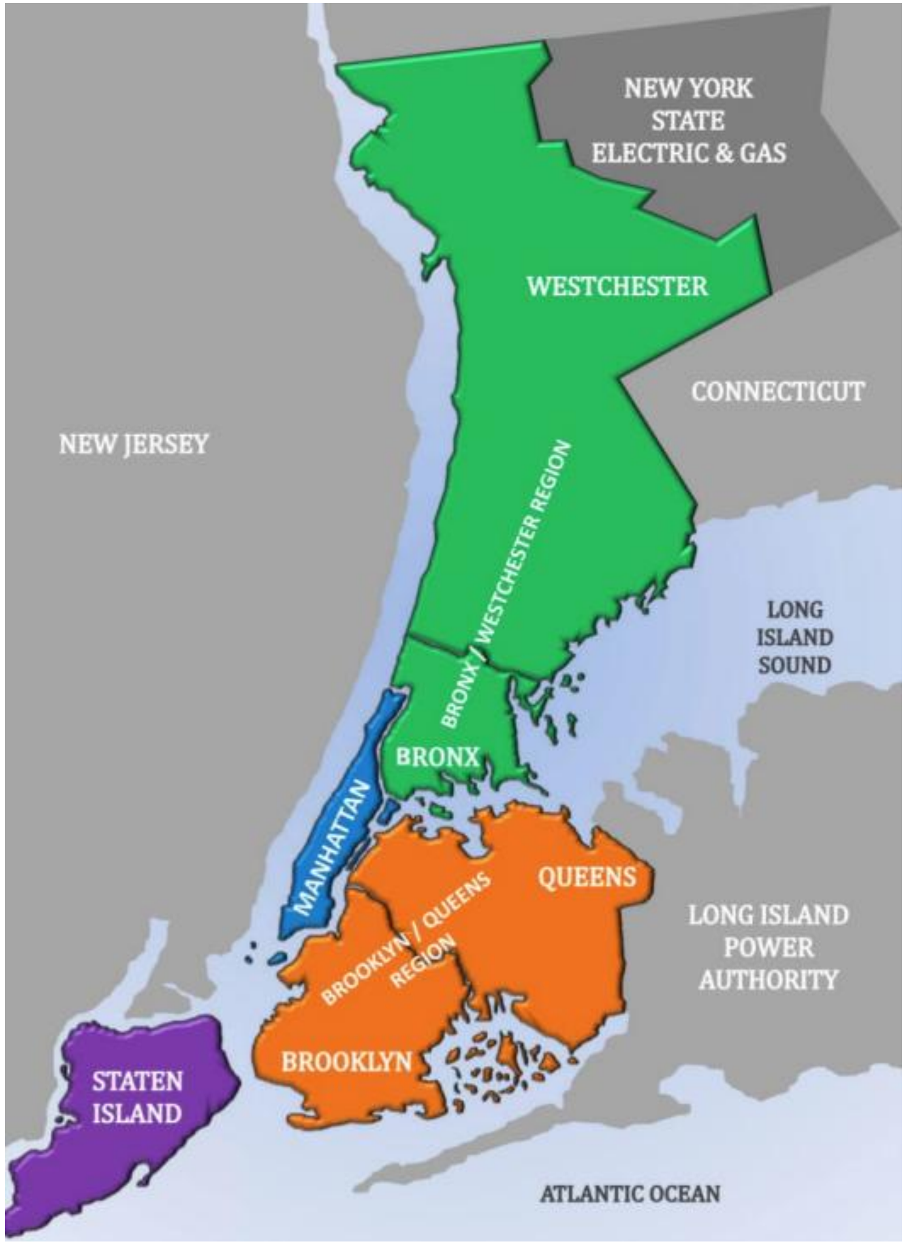
Only in NYC:

Lessons Learned from Con Edison’s Demand Rate Pilot

Agenda

- Pilot Overview & Rate Design
- Recruitment Campaign & Strategy
- Customer Experience\Surveys
- Bill and Load Impact Evaluation
- Select Pricing Plan
- Rate Reform



Pilot Overview & Rate Design

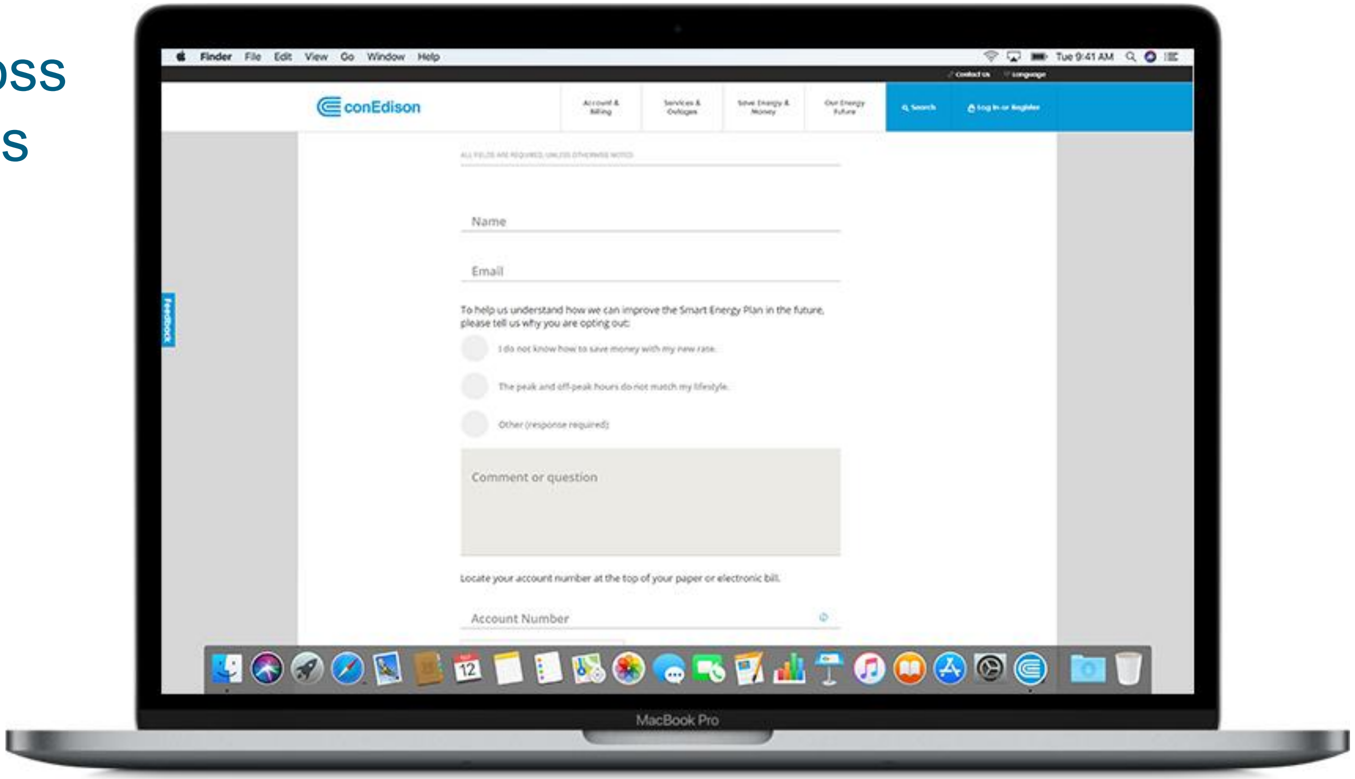
Overview

- Multi-year electric rate pilot
- Known internally as Innovative Pricing Pilot and externally as Smart Energy Plan or Fixed Delivery Billing Plan
- 7 demand-based delivery rates with peak and off-peak periods
- Monthly demands are calculated using average of 3 highest daily demands, measured in rolling 60-minute intervals
  - Subscription levels are based on average of previous 12 monthly demands
- Recruiting ~395k residential and small-commercial customers across service territory.
  - Enrolled population of ~165k

> "To maximize the benefits afforded customers through the introduction of AMI, innovative rate structures must be explored."
>
> – The New York State PSC

Evaluation Metrics

- Opt-in and Default Opt-Out rate across Pilot Rates and Recruitment methods
- Customer Survey metrics:
  - Acceptance
  - Satisfaction
  - Awareness
  - Understanding
- Customer load impacts
- Customer bill impacts



The Pilot Rates

Rate I: Demand delivery charges
+ peak & off-peak hours (Monday – Friday, noon to 8 p.m.)

Rate II: Rate I
w/ peak & off-peak hours for summer months only

Rate III: Rate I
w/ peak & off-peak hours of 2 p.m. to 10 p.m.

Rate IV: Rate I
w/ time-of-use for supply

Rate VII: Rate I
but demand accounts for 50% of delivery charges

Rate V: subscription rate
w/ no overage charges

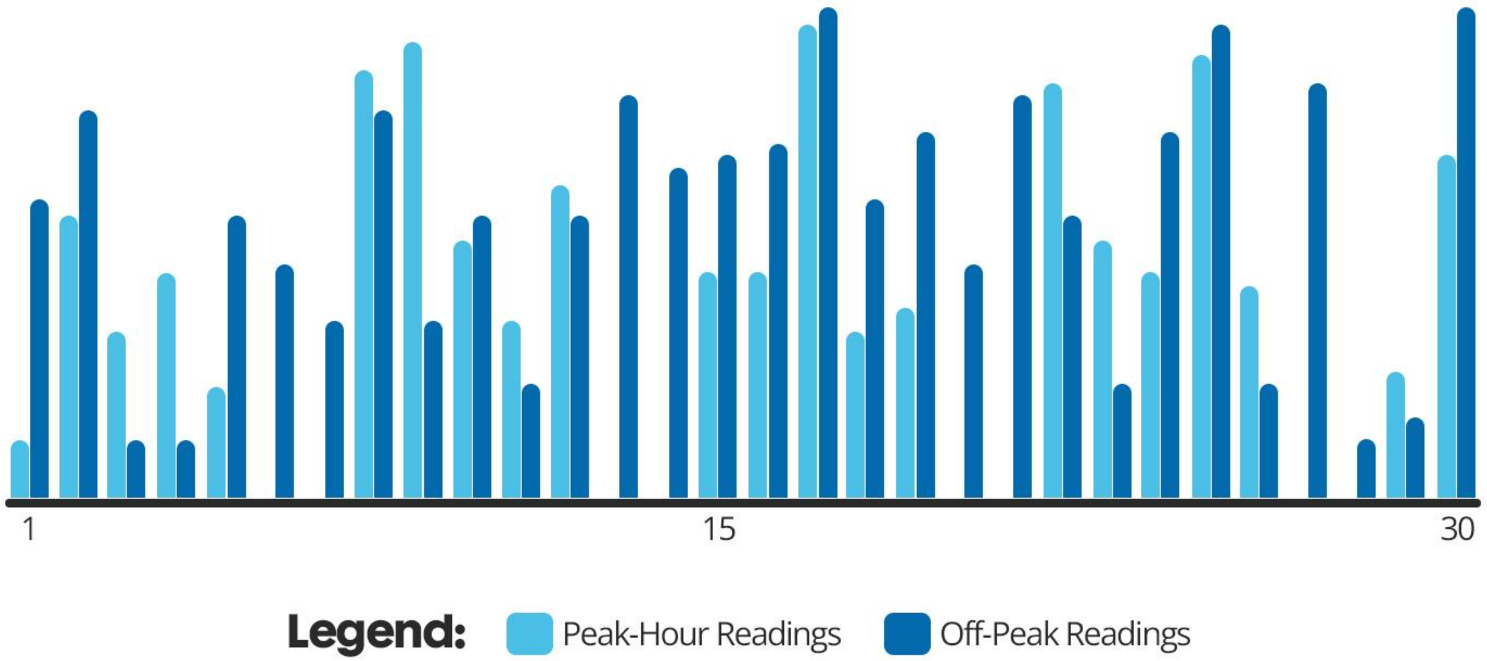
Rate VI: subscription rate
w/ overage charges in summer

Smart Energy Plan

Fixed Delivery Billing Plan

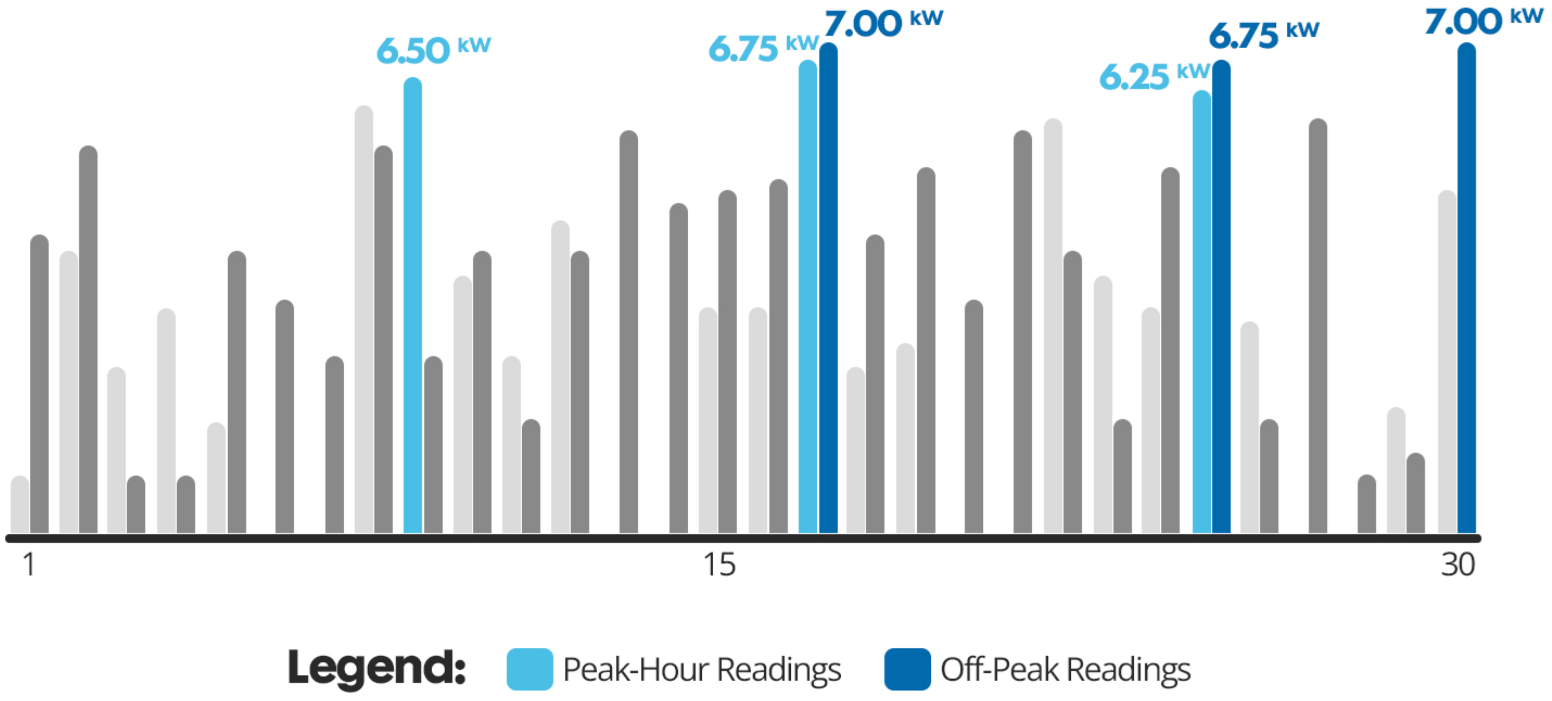
Measuring Demand

Each day of the billing cycle, we record the **one 60-minute period** when a customer uses the most electricity during both **peak and off-peak hours**



Calculating Demand Delivery Charges

At the end of the billing cycle, we identify the **three highest** daily peak and off-peak readings, which are used to calculate the **billing determinants**



Customer Protections

- All pilot customers receive one-year price guarantee.
- Low Income and Concern customers receive a two-year price guarantee.
- Customers may leave the two-year pilot at any time without penalty.

Try it risk free

- Starts in **April 2023** and will appear on your **May** bill
- **[One or Two]-year price guarantee**
  If your bill is higher on this new plan, you'll **get a credit** for the difference [at the end of your first year or every quarter for your first two years] on the plan. If you leave within the [first year or first two years], you'll get a credit for the months you were on the plan. If you save on the plan, the savings do not need to be repaid.
- **Opt out at any time**

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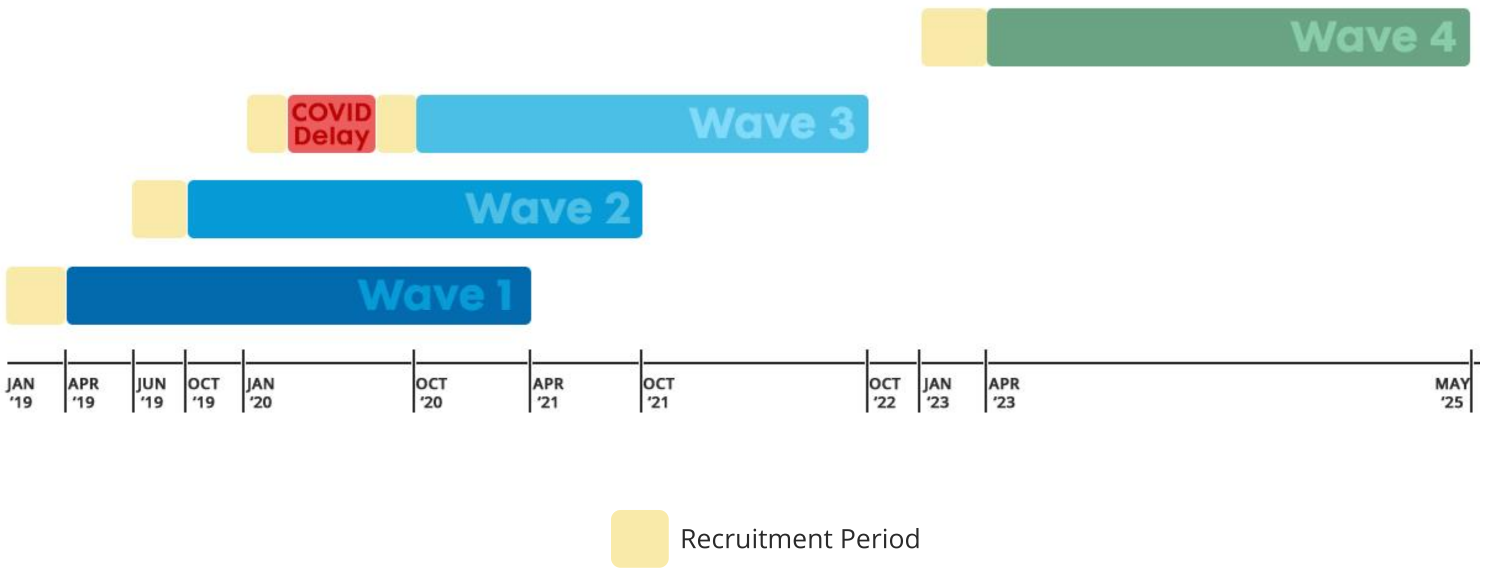
The Innovative Pricing Pilot Timeline



Wave 1
Default enrollment only
Rates I, III and SMB
14k customers in Staten Island & Westchester

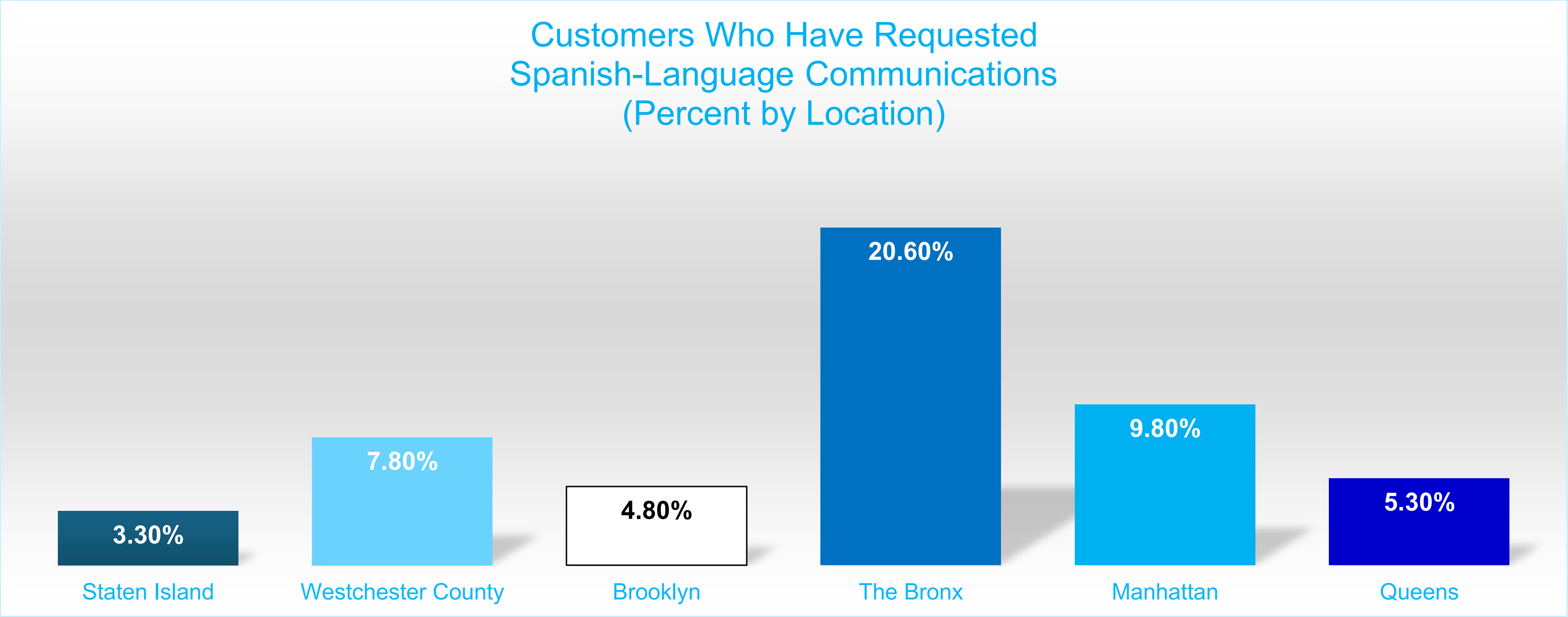
Wave 2
Default & opt-in enrollment
Rates I-VI and SMB
13k customers in Staten Island & Westchester

Wave 3
Default & opt-in enrollment
Rates I-VII and SMB
48k customers in Brooklyn

Wave 4
Default enrollment only
Rates I, II, IV, V and VII
90k customers in The Bronx, Manhattan & Queens

Engaging Customers

Spanish-Language Communications



Recruitment Campaign & Strategy

IPP Recruitment Marketing

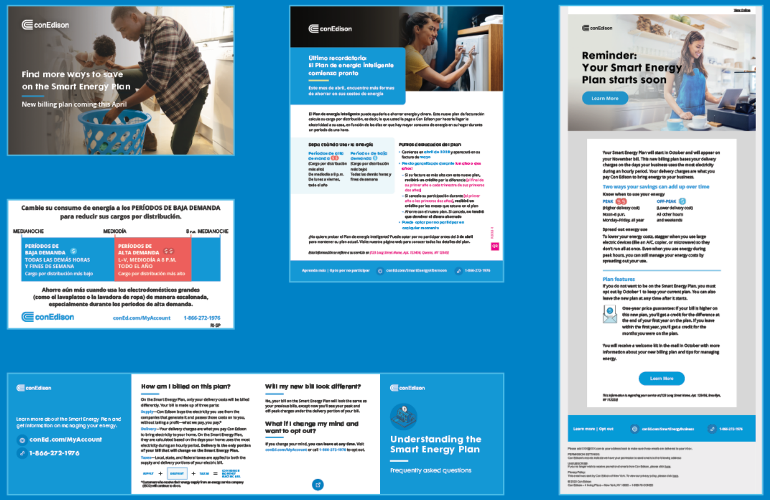
IPP Recruitment Marketing Overview

2.1+ million
Marketing pieces produced and delivered

6
Campaign phases

49
Different touchpoints

221+
Separate marketing recruitment and outreach templates created, deployed, and tested



Pre-recruitment Research

- **Focus Groups held prior to each wave (37 groups)**
  - Included ESL and Spanish language groups & SMB groups
  - Examined:
    - Effectiveness of marketing and messaging strategies and creative materials to attract/encourage engagement.
    - Grasp of key concepts, reactions to opt-in/opt-out creative, and recruitment preferences.

Key Takeaways:

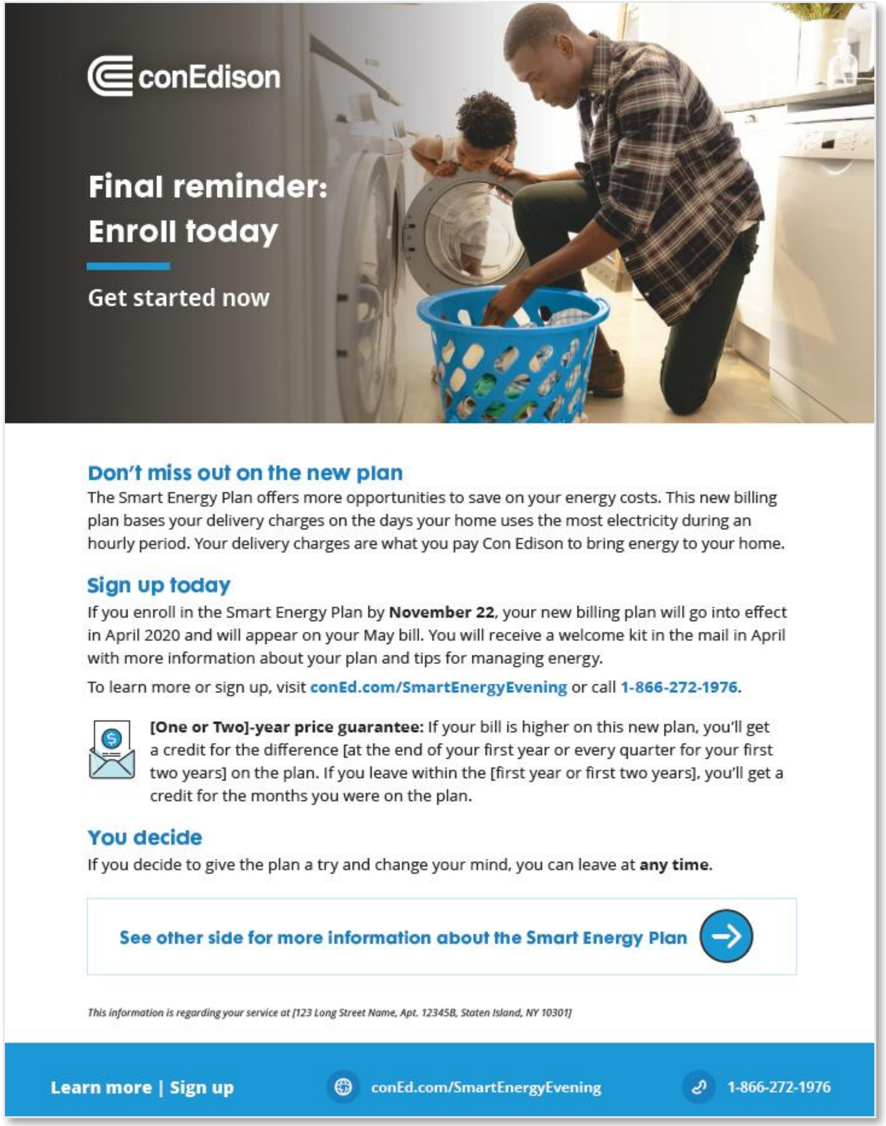
Conduct qualitative research before recruiting

- Focus groups directly informed our marketing and messaging strategies and led to successful recruitment campaigns

Focus Group Takeaways

What do customers care most about?

- Managing their bills and saving money
- Price Guarantee is key to customers trying the new plan, even if default-enrolled
- Straightforward and clear messaging
- Ability to compare their current plan to the new one


conEdison

Final reminder:
Enroll today

Get started now

Don't miss out on the new plan

The Smart Energy Plan offers more opportunities to save on your energy costs. This new billing plan bases your delivery charges on the days your home uses the most electricity during an hourly period. Your delivery charges are what you pay Con Edison to bring energy to your home.

Sign up today

If you enroll in the Smart Energy Plan by **November 22**, your new billing plan will go into effect in April 2020 and will appear on your May bill. You will receive a welcome kit in the mail in April with more information about your plan and tips for managing energy.

To learn more or sign up, visit **conEd.com/SmartEnergyEvening** or call **1-866-272-1976**.

[One or Two]-year price guarantee: If your bill is higher on this new plan, you'll get a credit for the difference [at the end of your first year or every quarter for your first two years] on the plan. If you leave within the [first year or first two years], you'll get a credit for the months you were on the plan.

You decide

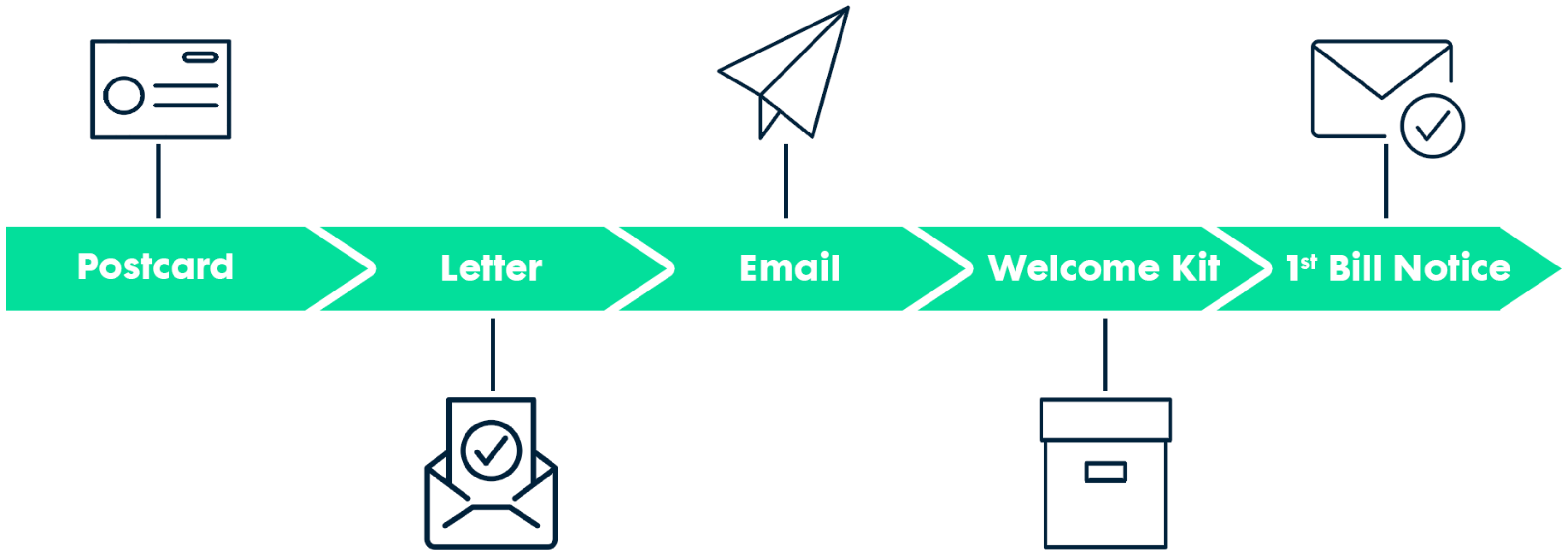
If you decide to give the plan a try and change your mind, you can leave at **any time**.

See other side for more information about the Smart Energy Plan

This information is regarding your service at [123 Long Street Name, Apt. 12345B, Staten Island, NY 10301]

Learn more | Sign up conEd.com/SmartEnergyEvening 1-866-272-1976

Recommended Recruitment Campaign



Use several touchpoints with a 90-60-30 cadence across multiple channels

Use a progressive messaging strategy

90d

Introduce customers to new rate with basic info in a brief format

60d

Progress to more details that gives context and highlights benefits.

30d

Reinforce benefits and plan details. Final Call to Action reminder (opportunity to join is closing or plan is changing unless they take action)

Imagery Recommendations

- Reflect real-life customer scenarios
- Feature appliances customers can truly shift/stagger
- Leverage your brand credibility

Key Takeaways

What direct outreach channels work best?

- Include email in recruitment, but not email only
- Business Reply Card (BRC) was a particularly successful recruitment tool
- Include direct mail as a recruitment channel
- Welcome Kit was a successful engagement tool

Anything else?

- Segmentation is key for effective, engaging, and relevant communications to recruit and retain with high satisfaction and ensure benefiting
- Customers were minimally familiar with concepts of demand and delivery charges but that’s okay
- Critical to highlight and reinforce <u>many many</u> times how to succeed on new rate
- Understanding peak hours and ability to stagger usage has an impact on customer satisfaction and potential for savings/load reduction

So how did we do?

Waves 1-3 Recruitment Campaign Results

Recruitment Type	At Rate Go Live	Target
Opt-in	4.2%	3.5%
Opt-out (Default)	96.6%	80%

*Waves 1-3 Unenrollment Rates (after Rate Go Live)**

Recruitment Type	After 2 years	Target
Opt-in	8.8%	N/A
Opt-out (Default)	9.6%	20%

Location	After 2 years	Target
Staten Island / Westchester	12.2%	N/A
Brooklyn	6.4%	20%

**does not includes attrition due to account closure*

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Customer Experience/Surveys

Methods

- Longitudinal surveys: pilot begin, after first season on rate, pilot end
- Surveyed participants and non-participants (for control comparison) – over 15,000 surveys completed since 2019
- Oversample key segments: language, income status, and more
- Assessed: awareness, understanding, behavior change, CSAT

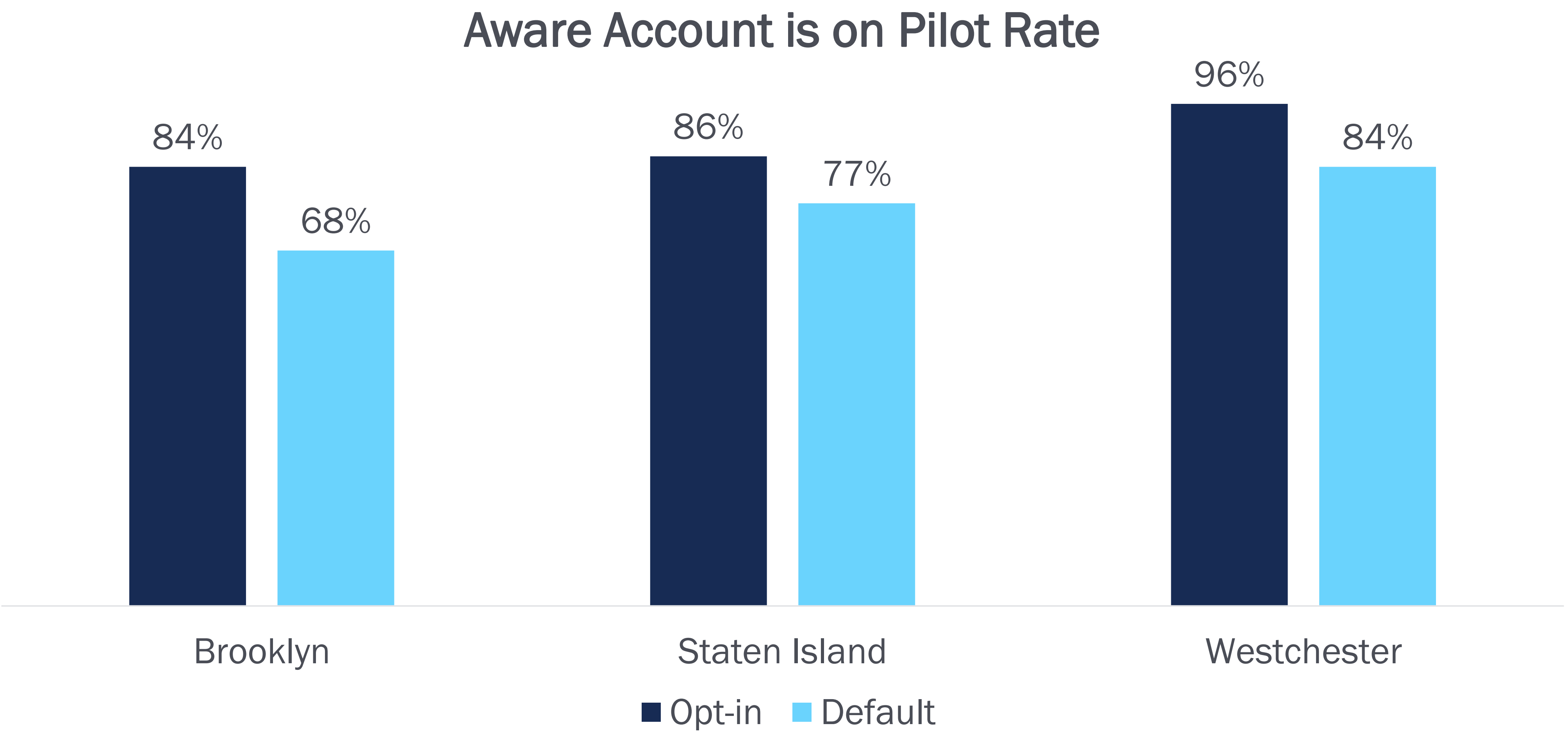
How do pilot outcomes differ by region and recruitment method?

- Selected results come from Wave 2 and Wave 3 Exit Surveys
  - Demonstrate key metrics as of pilot end
  - Aggregated across all sectors (residential, low income, SMB)

Total Sample Size	Opt-in	Default
Brooklyn	424	1091
Staten Island	262	403
Westchester	84	140

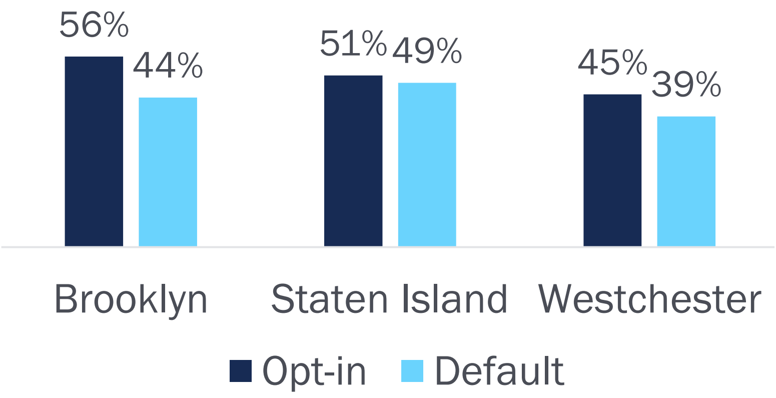
“Aware” Sample Size	Opt-in	Default
Brooklyn	356	742
Staten Island	225	310
Westchester	81	118

Key Customer Metric 1: Aware Home/Business is on Pilot Rate

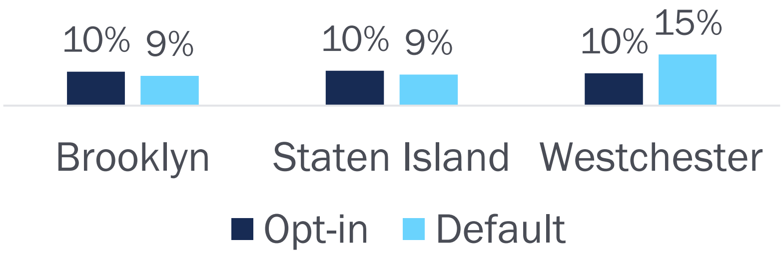


Key Metric 2: Understanding Rate Fundamentals and How to Save

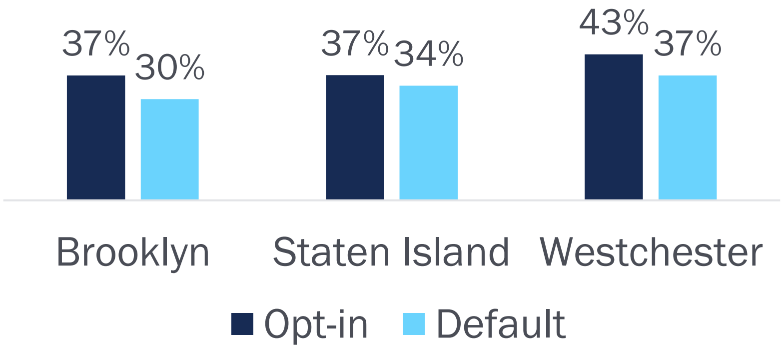
Correctly Identified Months with Peak Pricing*



Correctly Identified All Hours with Peak Pricing*

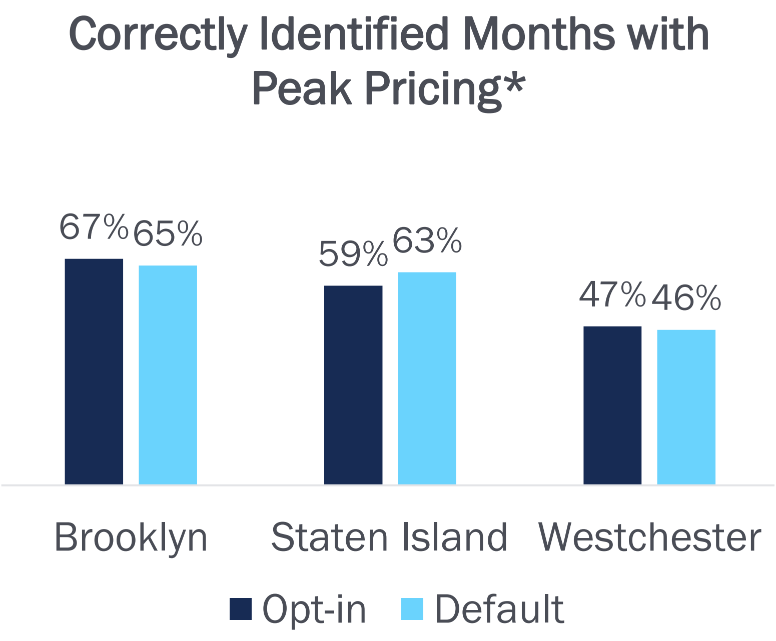


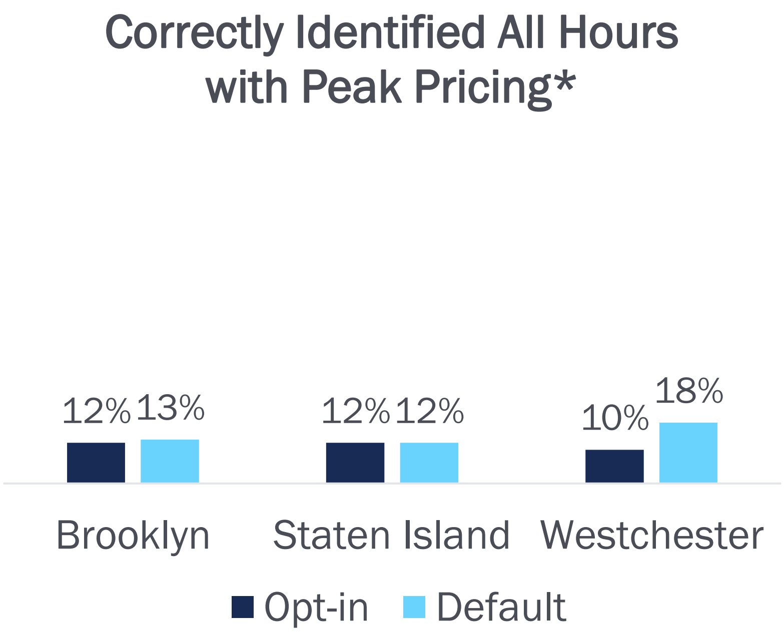
Correctly Identified How Staggering Can Save on Bills*

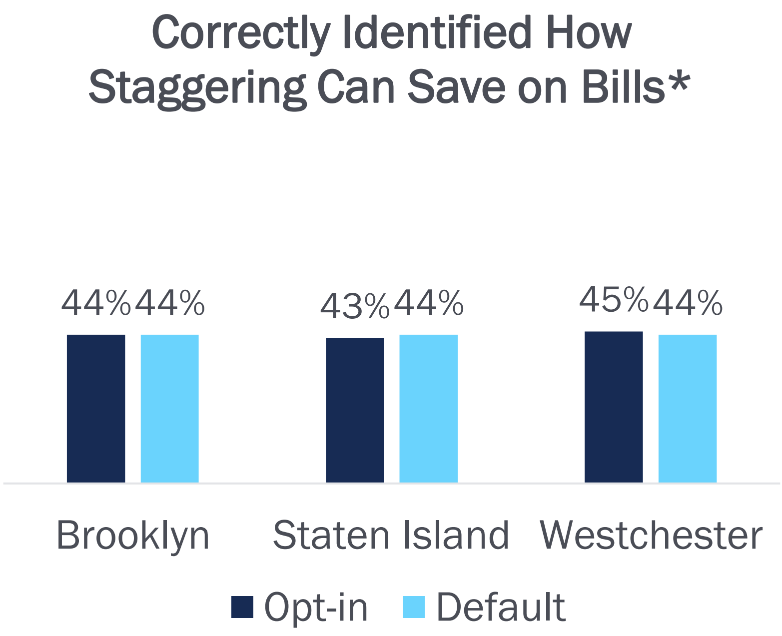


**Among all participants*

Key Metric 2: Understanding Rate Fundamentals and How to Save

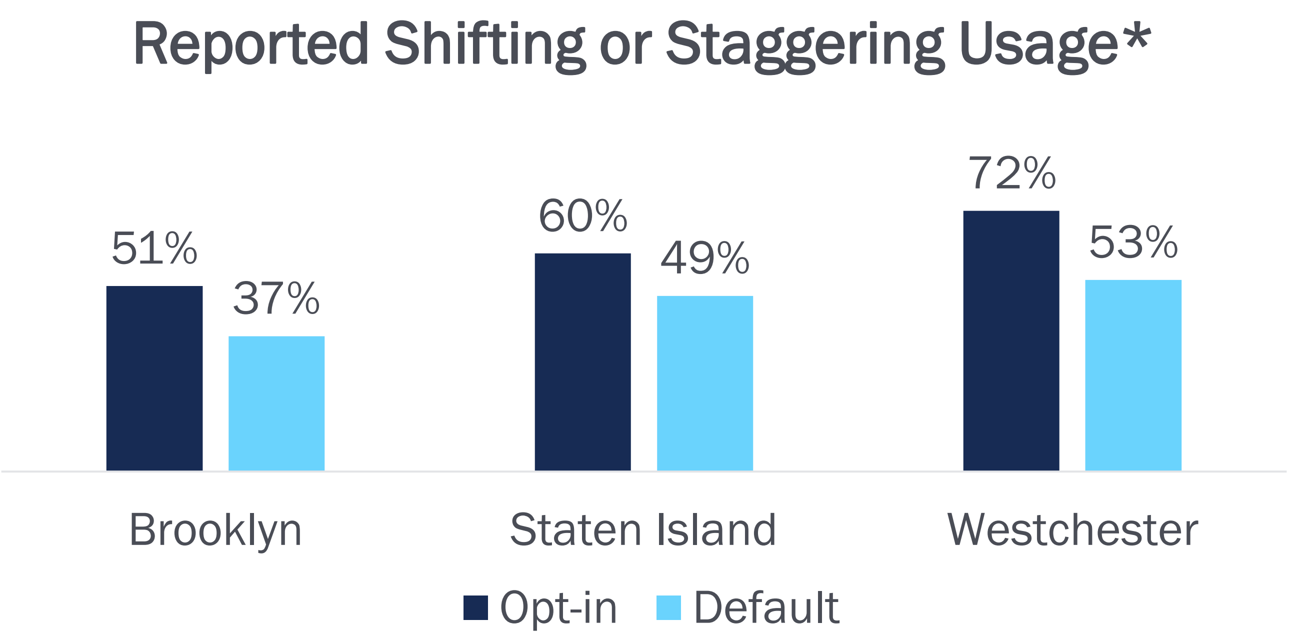






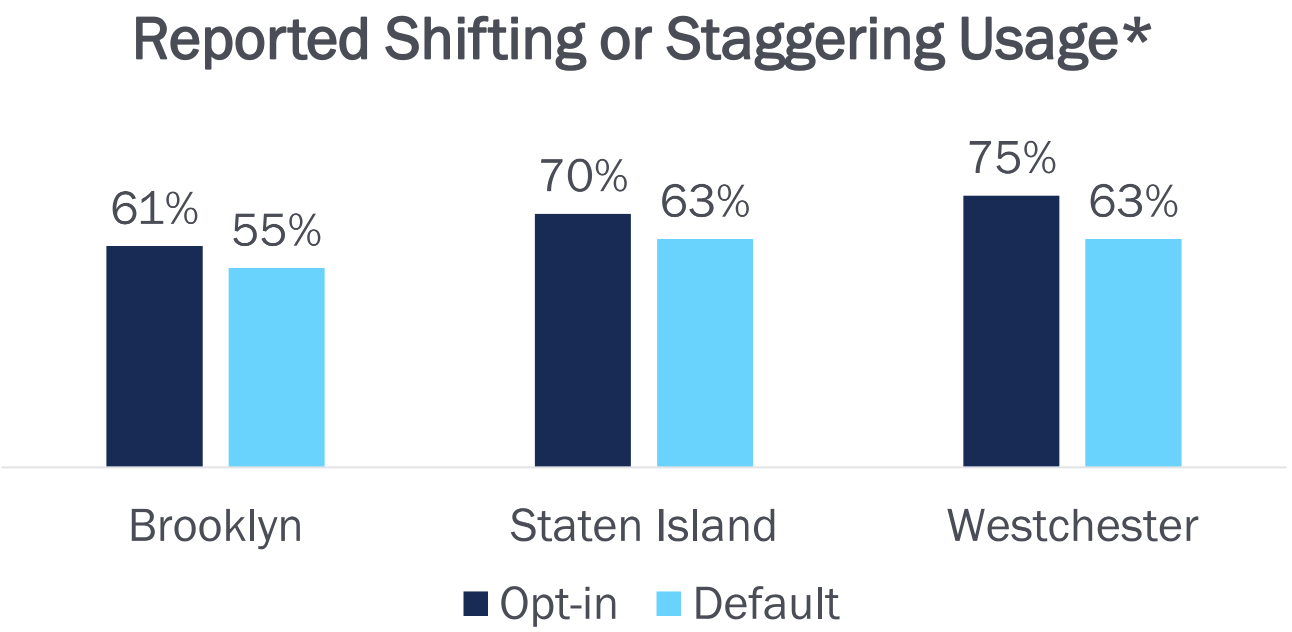
**Among those aware of pilot rate*

Key Metric 3: Behavior Change



**Among all participants*

Key Metric 3: Behavior Change



*Among those aware of pilot rate

Some segments are more difficult to engage

- Spanish speaking households
- Low-income households
- Small/medium businesses

Key Findings

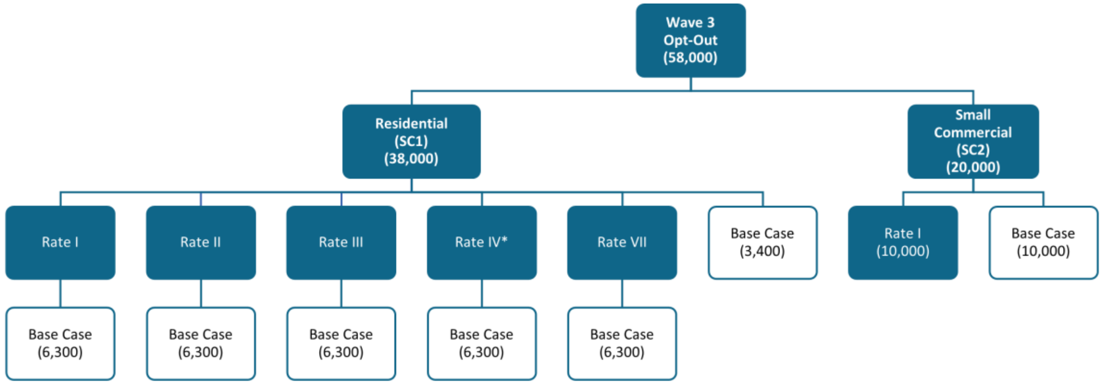
- Default > Opt-in
- Awareness of rate change is key
- Customer satisfaction maintained
- No one size fits all
- Simplified messaging works

Load and Bill Impact Evaluation

Analysis Approach

- Pilot designed as randomized controlled trial (RCT)
- Opt-out test cells used RCT framework and difference-in-differences (DiD) calculation
- Opt-in test cells used matched control groups and DiD calculation

Wave 3 Opt-Out Design

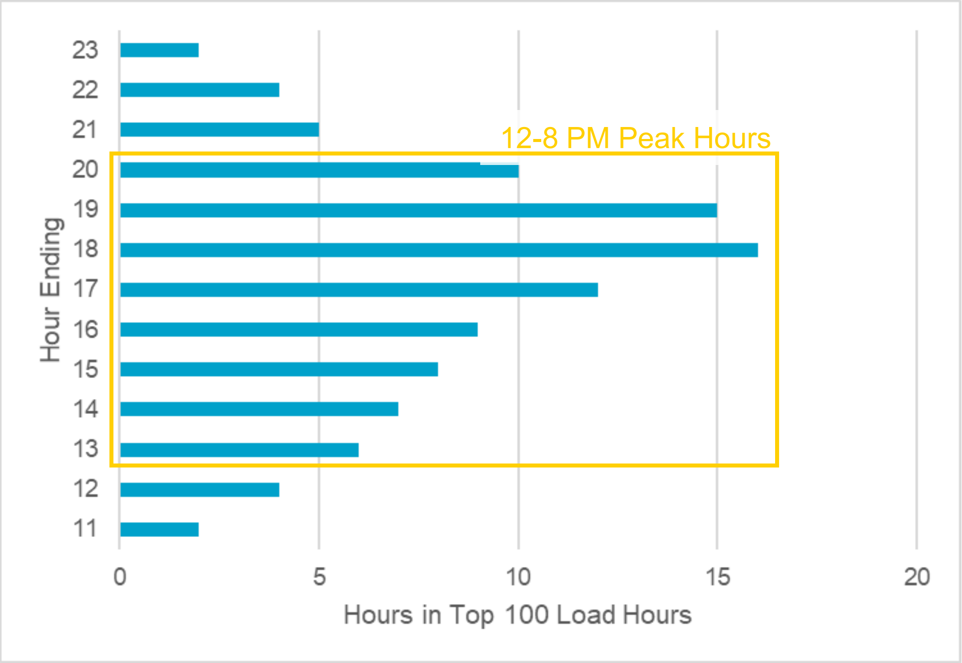


Pilot Design Summary

	Opt-out				Opt-in			
	Rate I	Rate II	Rate III	Rate IV	Rate I	Rate III	Rate V	Rate VI
Wave 1 (SI/W)	✓		✓					
Wave 2 (SI/W)	✓ *	✓	✓	✓	✓ *		✓	✓
Wave 3 (Brooklyn)	✓	✓	✓	✓	✓	✓	✓	✓

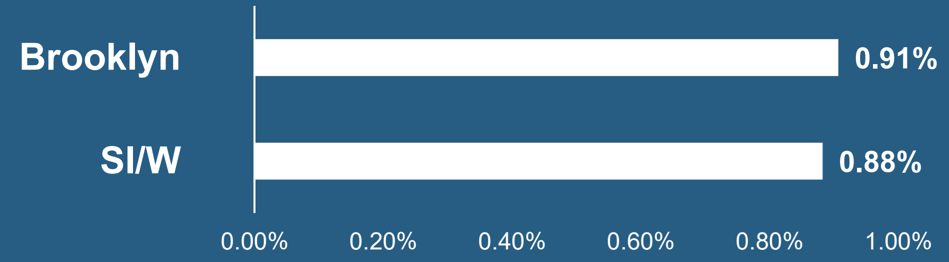
* Directly comparable between locations and enrollment type

Load Impacts:
Top 100 System Load Hours



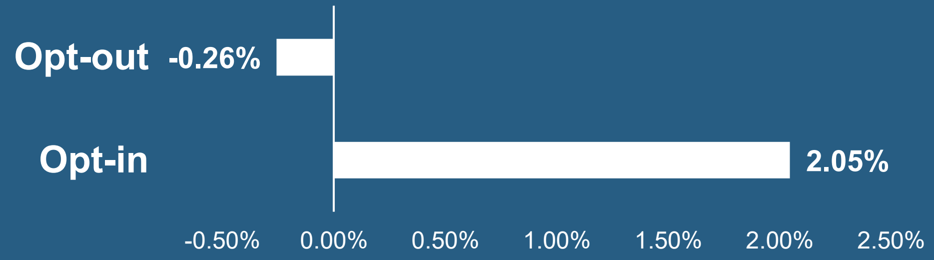
Top 100 system hours are concentrated around the 5-6 PM hour (Hour Ending 18)

Staten Island & Westchester vs Brooklyn (Rate I)



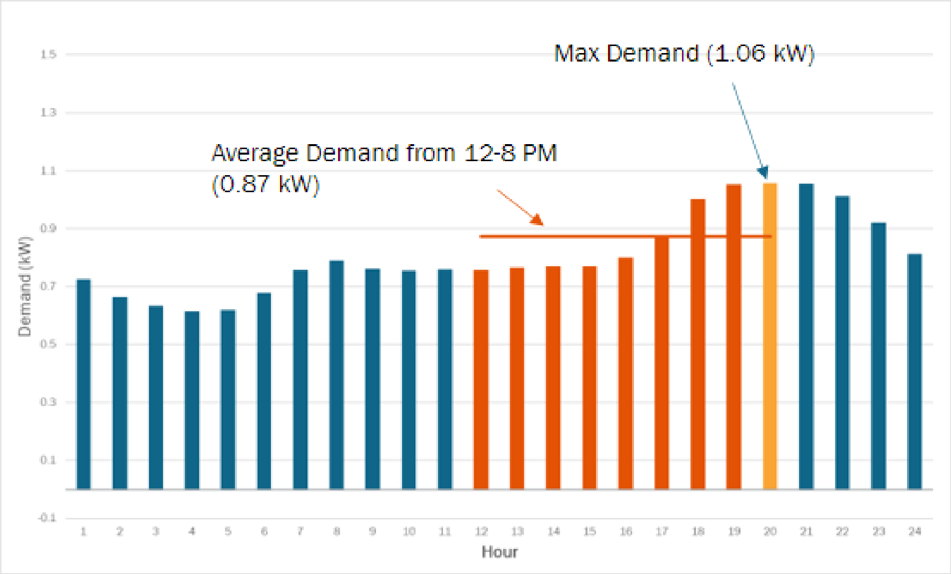
Percent impact reductions were similar between participants in SI/W and Brooklyn

Opt-in vs Opt-out (Rate I)



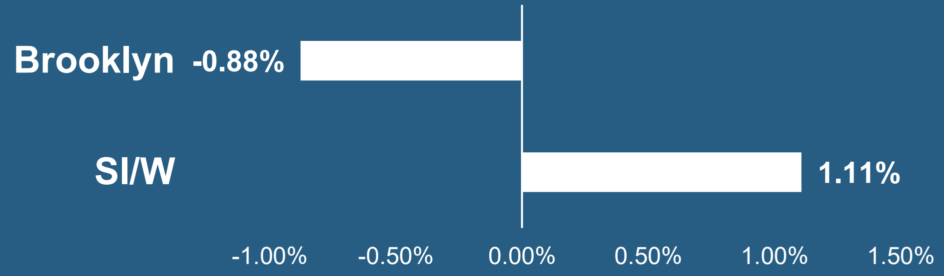
Opt-in customers provided larger reductions during the Top 100 System Load Hours

Load Impacts:
On-peak Billable Demand



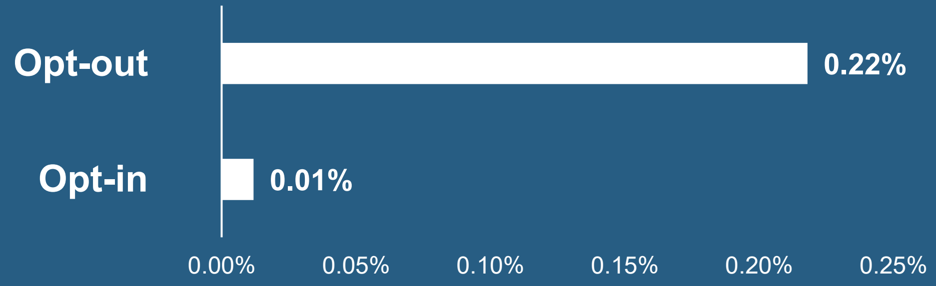
Charge is based on the rolling 60-minute interval during on-peak period with highest kW demand

Staten Island & Westchester vs Brooklyn (Rate I)



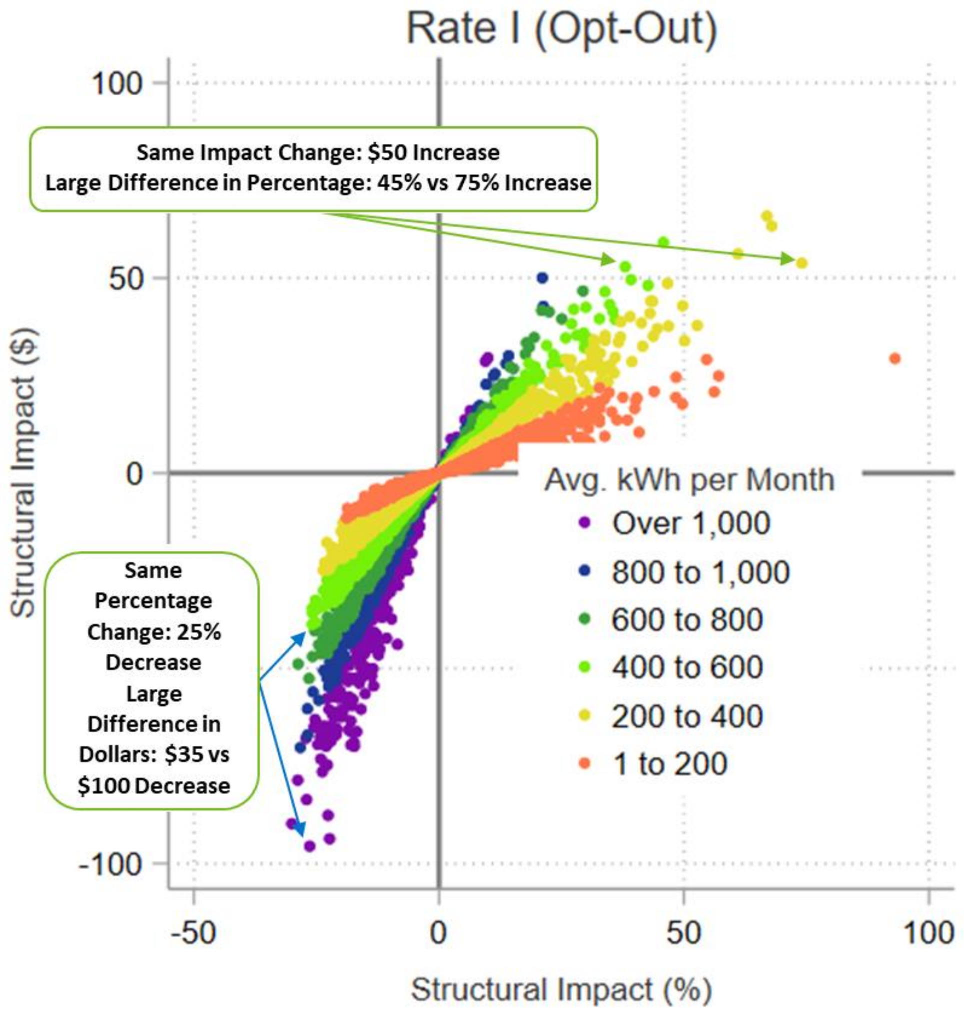
Participants in Staten Island & Westchester tended to show small reductions. Brooklyn participants showed small increases.

Opt-in vs Opt-out (Rate I)

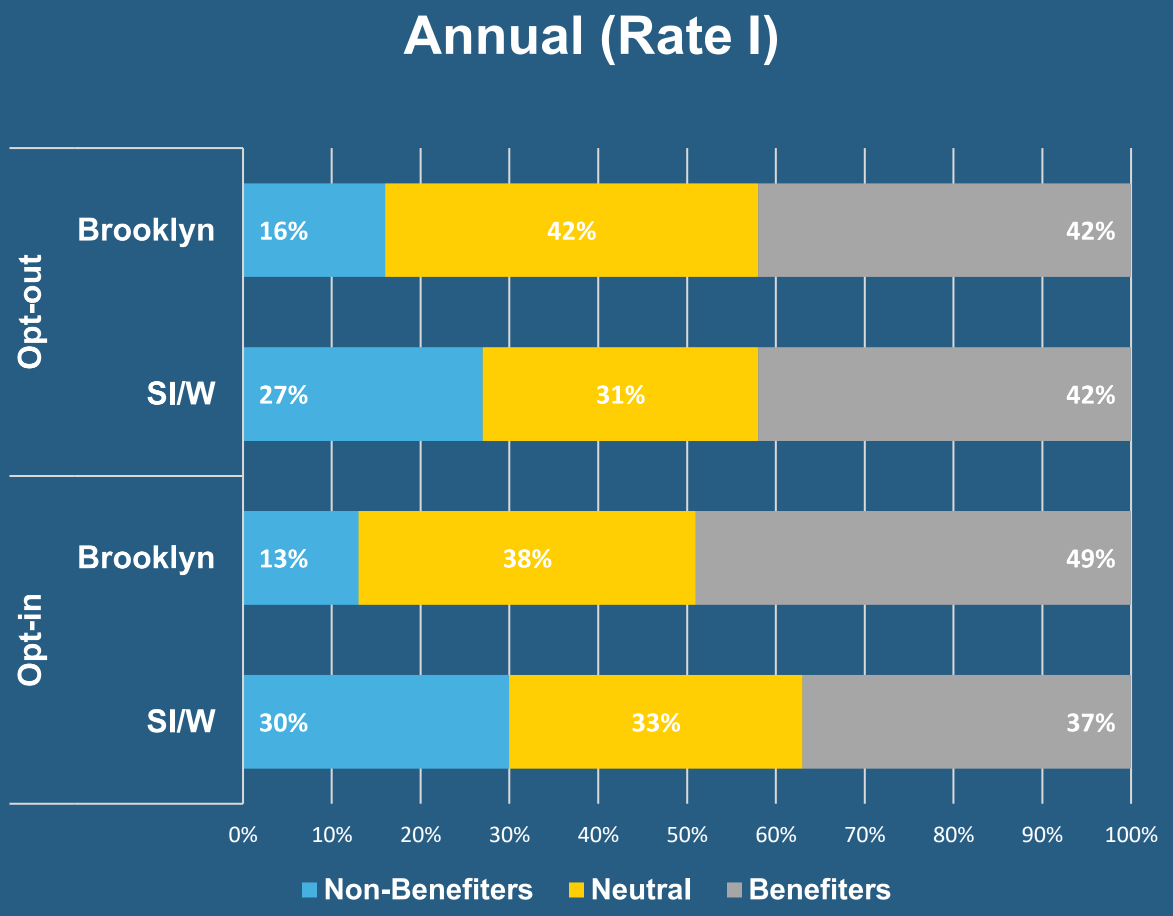


Opt-out customers provided larger reductions in On-Peak Billable demand. Year 2 results in Brooklyn significantly eroded Opt-in impacts.

Bill Impacts:
Benefiter / Non-Benefiter Analysis



Overall kWh usage is a key determining factor in which customers benefit on the rates



>70% of Rate I customers were either benefiters or neutral (+/- $5 or 5%) across both locations and enrollment type on an annual basis

Bill Impacts:
Structural, Behavioral, & Total

STRUCTURAL

Change in customer bills based solely on change in underlying structure of rate before customers change their energy usage

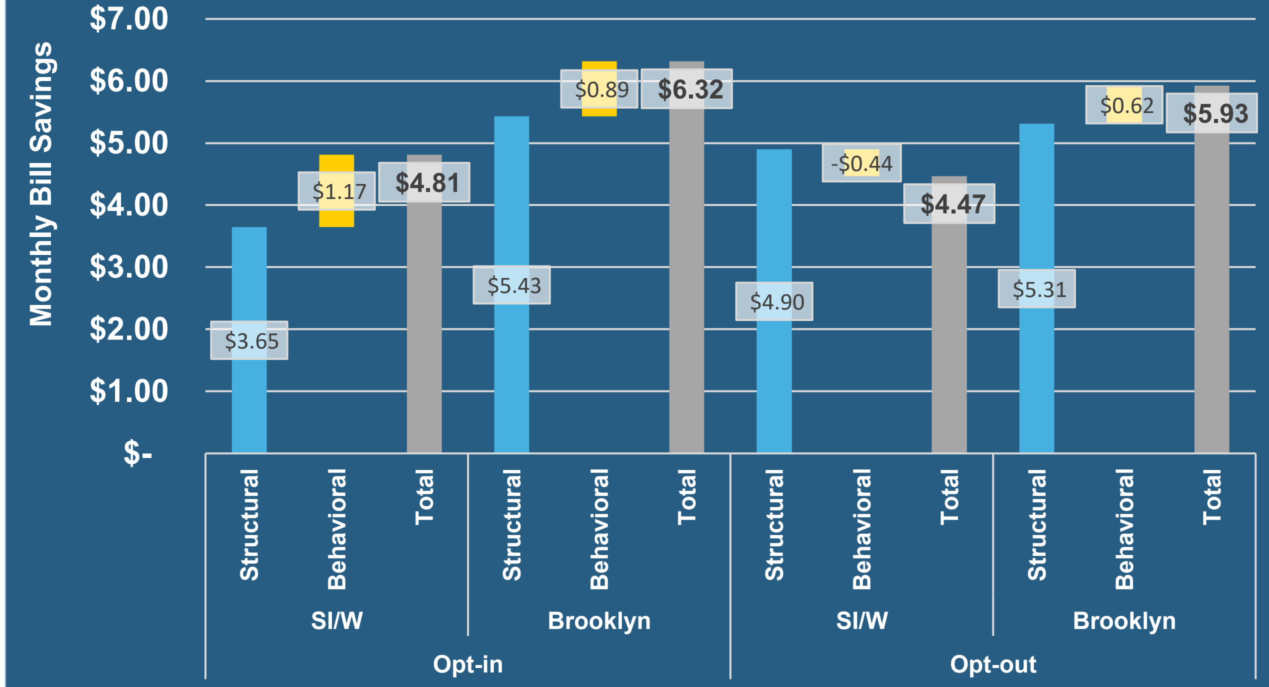
BEHAVIORAL

Reduction (or increase) in customer bills caused by changes in behavior

TOTAL

Total change in customer bills after they are enrolled in new rate and their energy usage has changed

Monthly Bill Impacts (Rate 1, Annual)



Average participants saved $4 - $6 per month, in total.

Majority of savings ($3 to $5 per month) was due to structural bill decreases. Monthly savings due to behavioral changes were typically around $1.

A similar pattern held up across most rates.

Impact Evaluation Key Takeaways:

- Pilot was successful in introducing demand-based rates to large number of customers and achieved better alignment between costs and rate structures
- Waves 1-3 of the Pilot were unavoidably conducted in the context of COVID-19 global pandemic
- Load impact results were mixed, but were generally small and often not statistically significant
- Peak periods associated with rates span 8 hours - a long timeframe for adjusting energy usage
- Pilot rates are complex, and survey responses indicate that customers struggled to understand the rates, including correct identifying of peak hours
- Average customer saved money on their bills—largely due to changes in the underlying structure of the rates—which may have contributed to a lack of load shifting response

Select Pricing Plan

Select Pricing Plan: SC1 Rate IV

A voluntary rate option designated SC 1 Rate IV in the Con Edison electric tariff

A time-variant rate, with peak and off-peak hours that apply to supply & delivery charges

A demand rate with no volumetric (i.e., per kWh) component for delivery charges

A rate that may be **beneficial to customers with heat pumps** installed in their homes

Evolution of Select Pricing Plan

January 2019
Con Edison files electric rate case

April 2019
Con Edison's Innovative Pricing Pilot introduces TOU demand rates for residential customers

October 2019
- Con Edison rate case settlement includes a new optional demand-based rate – the Select Pricing Plan
- Available to geothermal heat pump customers and up to 5,000 other customers

February 2020
Optional demand-based rate becomes effective

2019 2020 2021 2022 2023

August 2023
- Price guarantee becomes available to up to 500 air source and up to 500 ground source heat pump customers
- Participation cap is eliminated

December 2023
Con Edison assessment of optional demand rate bill impacts and potential improvements

Delivery Rate Design Considerations

Charges

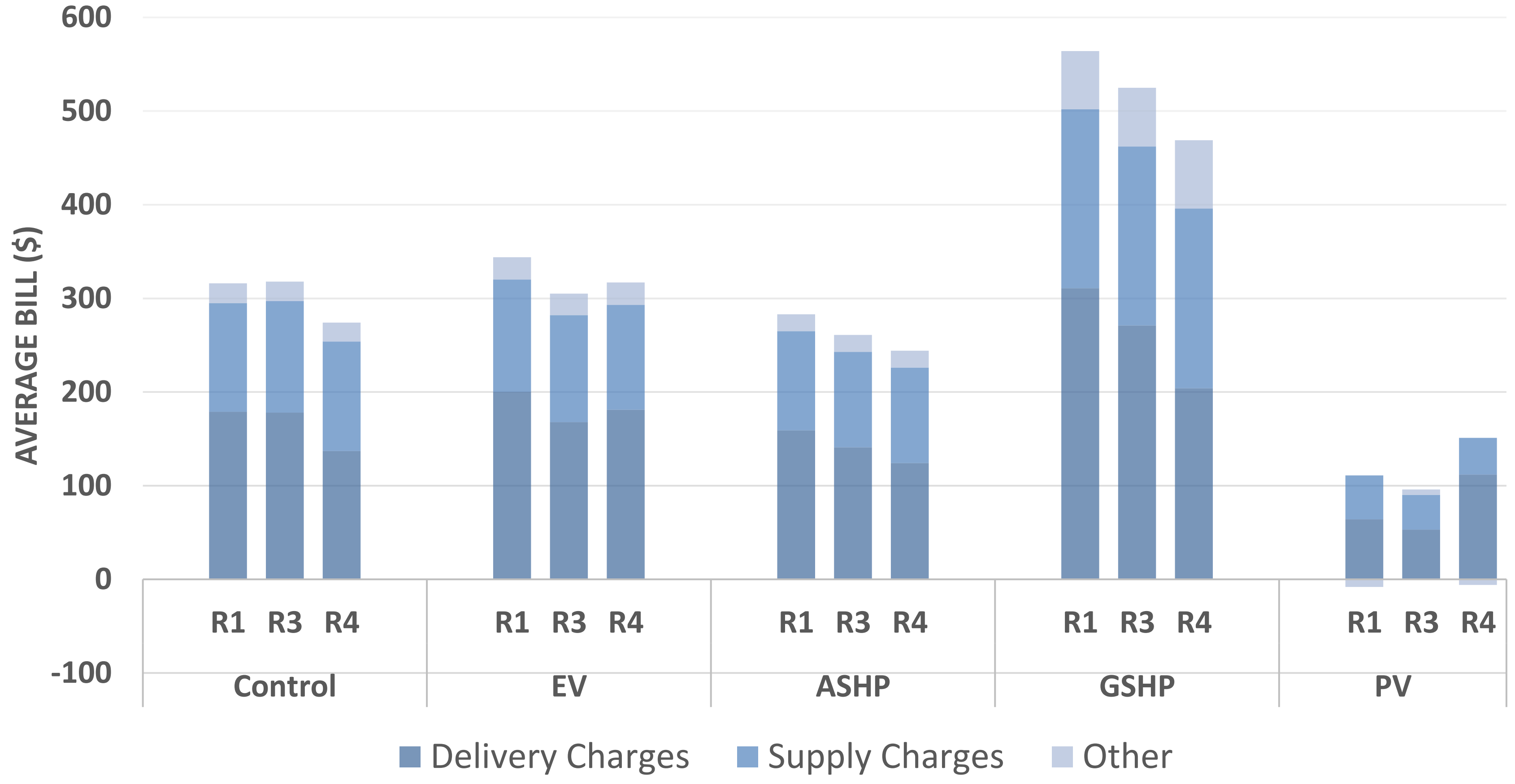
- Customer charge set at full customer cost
- All kWh-based delivery rates replaced with demand rates that vary with time of day
- Peak and off-peak periods are fixed each day
- Weekends are off peak
- Peak rates vary seasonally
- Rates determined on a revenue-neutral basis

Demand Measurement

- Sixty-minute demand measurement interval, measured every 15 minutes
- Billed demands are averages of top 3 daily peak demands in each time period

Bill Impact Assessment Results: 12-Mo Avg Monthly Bill

Control, ASHP, and GSHP average bills are lowest under Rate IV



Customers that Save on Rate IV

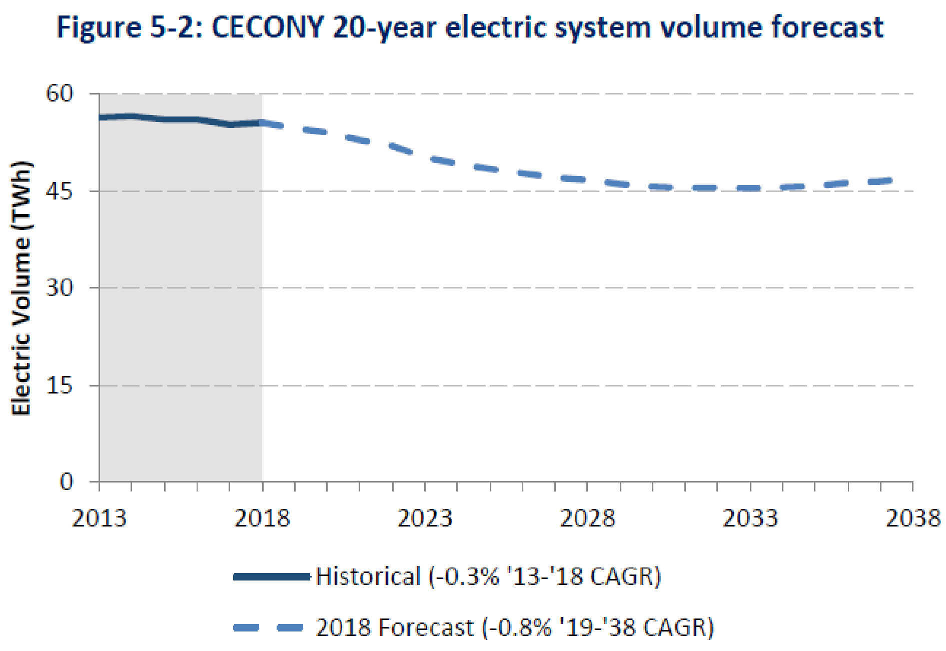
	From R1	From R3
Control	58.3%	63.4%
EV	67.5%	31.8%
ASHP	80.1%	65.5%
GSHP	88.9%	72.2%
PV	12.3%	8.3%

Rate Reform

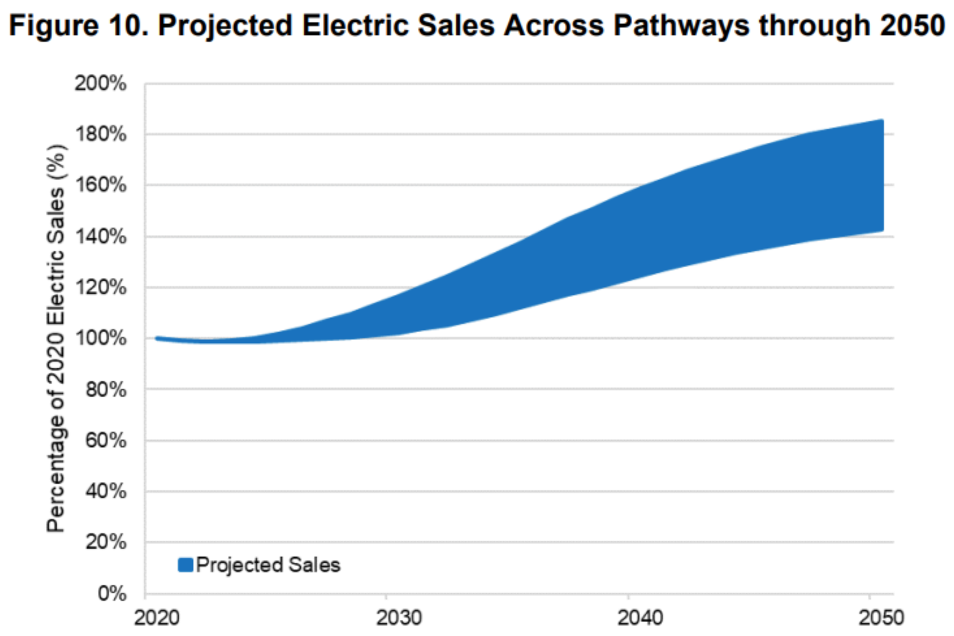
Developments Impacting Future of Rate Design / Costing

Shift in electric sales outlook from a projected decline due to distributed energy resources (DER) to a projected increase due to electrification of heating and transportation.

2019 Con Edison Electric Long-Range Plan



2022 Con Edison Electric Long-Range Plan



Rate Reform: What's Next

Developments Impacting Future Rate Design/Costing

Short Term

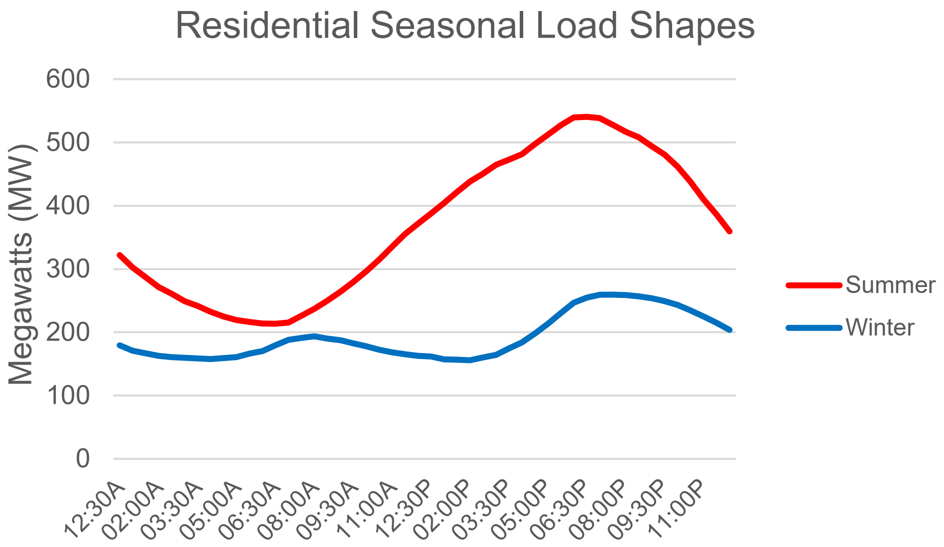
- Extend Rate IV customer bill impact assessment:
  - To SC1 Rate V (mass market standby service rate)
  - To customers with multiple end-use technology ownership (e.g., heat pump, EV, solar)

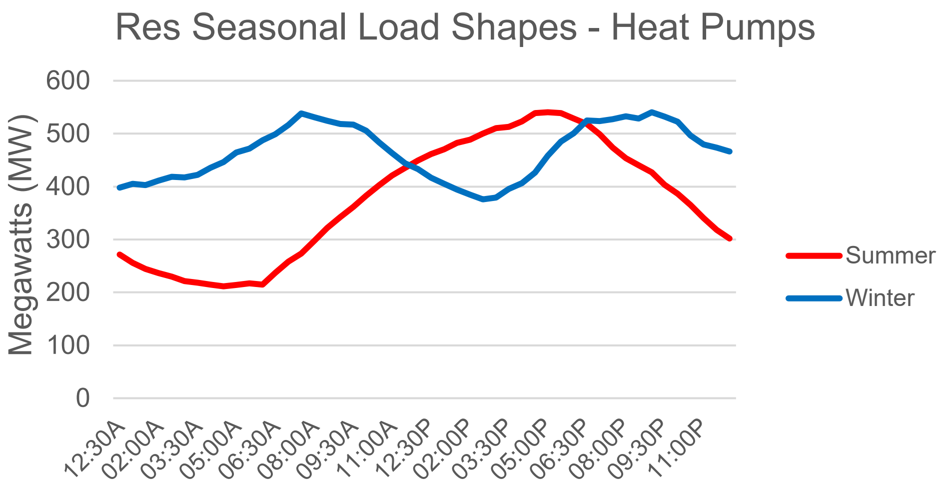
Long Term

- Embedded Cost of Service Study
  - Analyze impact of electrification on load shapes and cost allocation among classes
  - Prepare for potential shift from summer to winter peaking system

Rate Reform: Considerations for future rate design

- Electrification may change class load shapes and cost allocation among classes
- Potential to change from summer to winter peaking system
- Consider broader definition of a peak day
- Electrification requires having an effective rate design strategy that aligns system needs with customer satisfaction





Thank you / Questions?