



NYSERDA

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Pay-for-Performance Initiative

Home Energy Savings Pilot Program

September 2019

Agenda

- Welcome, Objectives, & Overview
- P4P Initiative
- Home Energy Savings Pilot
 - Design
 - Target Customer Demographics
 - Bid Process
 - Rules, Requirements & Support
- Measurement & Verification
- Resources for Portfolio Managers
- Green Bank presentation
- Next Steps

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Meeting Objective

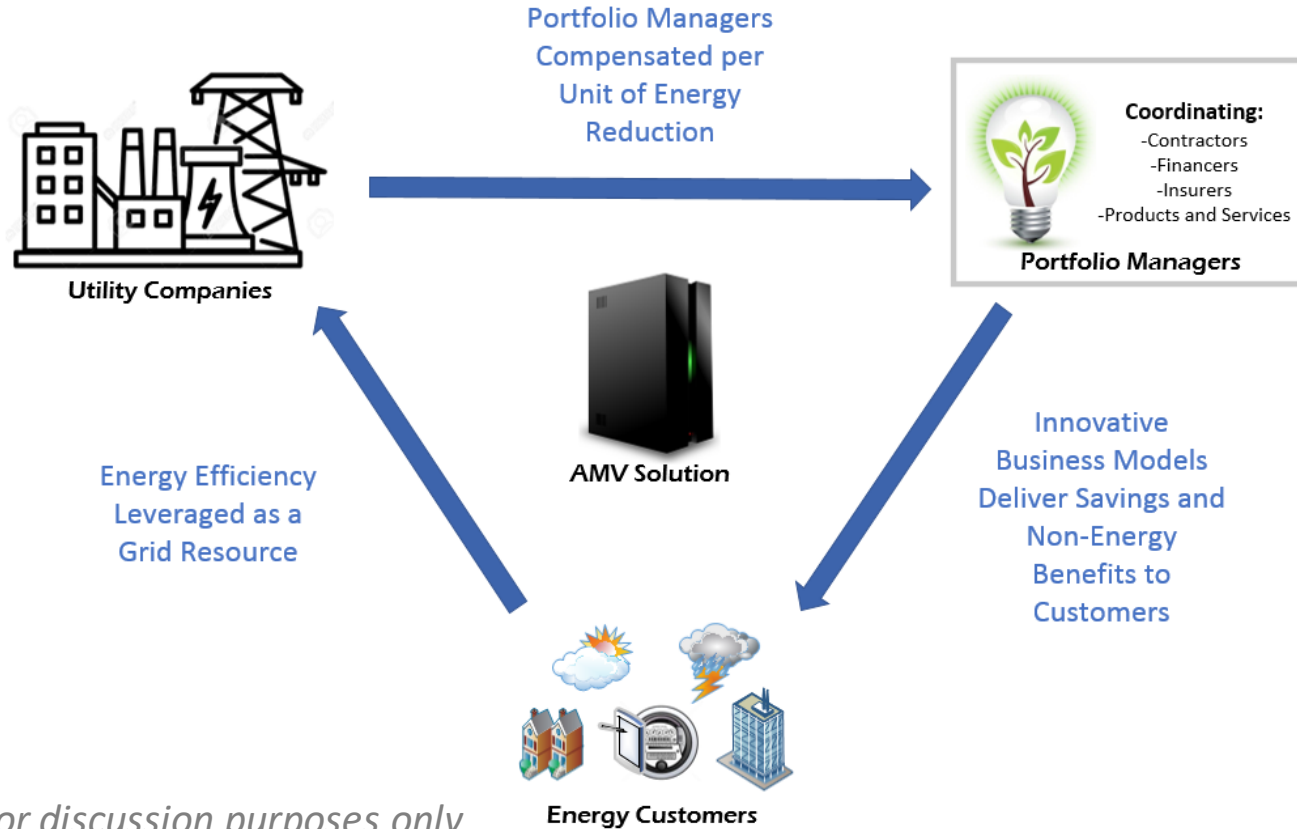
- To get input on the design of the residential Pilot with National Grid
- Design elements presented are for discussion purposes only and are subject to change based on feedback

What is Pay-for-Performance?

Pay-for-Performance (P4P) is an approach to procuring energy efficiency savings that invests in **measured savings** at the **portfolio level** using a market-based program design.

- ✓ Performance-based: only paying for savings that can be measured at the meter by leveraging utility data
- ✓ Designed and implemented in partnership with utilities
- ✓ Directed at energy efficiency service & solution providers (portfolio managers)
- ✓ Provide flexibility for portfolio managers to innovate, take a comprehensive approach & increase customer value
- ✓ Encourage financing options that lead to increased customer adoption

Pay-for-Performance Value Life Cycle



P4P Benefits

End-Use Customers	Portfolio Managers	Utilities
<ul style="list-style-type: none"> • Increased confidence in savings • Access to a broader set of solutions and services, including finance solutions with little or no upfront contributions • Longer and more comprehensive relationships with solution providers 	<ul style="list-style-type: none"> • Flexibility to design services around what customers want • Minimized transaction costs and administrative burden • Multi-year cash flows that can support finance solutions and add-on services • Portfolio level performance to manage risk and achieve scale 	<ul style="list-style-type: none"> • Elevate EE as a utility resource, with potential temporal and locational impacts • Align incentive structure to engage solution providers in the management of performance risk • Longer term visibility into system impacts of EE • Resource viewed as portfolios, not projects



Pay-for-Performance Initiative

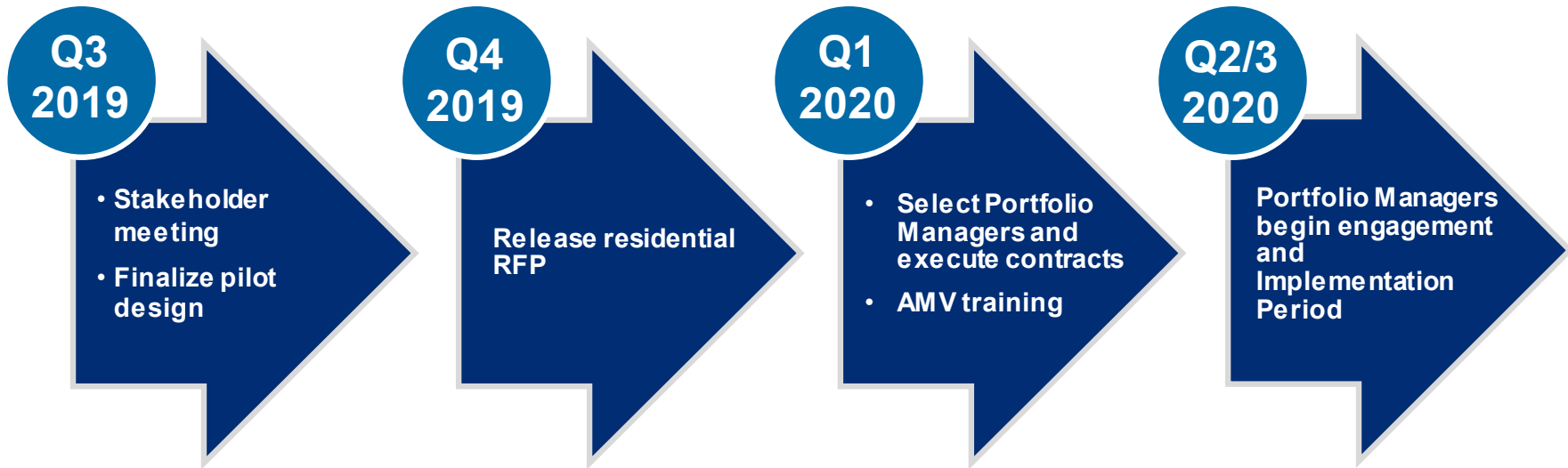
P4P Approach

- Issuing RFPs during the 2019-2021 timeframe
- NYSERDA is budgeting **approximately \$6 million** for this pilot with National Grid
- Savings will be measured using the **CalTRACK methodology** via the Recurve platform.
- Future pilots will seek to **scale the model** into other sectors and/or geographies
- Ultimate goal is to **prove the cost effectiveness** of the approach and **hand-off the initiative** to utilities for longer term adoption

Pilot Roles & Responsibilities

Portfolio Managers	NYSERDA	Utilities
<ul style="list-style-type: none"> • Responsible for delivering energy savings through a portfolio of projects • Receives payments based on energy savings measured at the meter • Responsible for quality control and assurance • Provide monthly reports on sales pipeline & QA/QC activities • Responsible for subcontractor performance 	<ul style="list-style-type: none"> • Pilot design • Provides funding to support Pilot • Manages advanced measurement and verification (AMV) platform • Marketing support • Lead on evaluation 	<ul style="list-style-type: none"> • Contracts with Portfolio Manager(s) • Provides payments to Portfolio Manager(s) • Provides list of eligible customers to Portfolio Manager(s) • Provides utility data to AMV platform • Monitors QA/QC activities • Marketing support • Pilot evaluation and scaling

National Grid Pilot Timeline



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Home Energy Savings Pilot Design

Customer Eligibility

Category	Criteria
Base Customer Eligibility	Standard Service Rate SC-1 (1-4 residential units)
	Have 13 months of utility consumption history
	Sites with multiple meters are eligible
	Sites must not have installed on-site generation in the last 13 months
	Sites must not have installed electric vehicle charging in the last 13 months
National Grid P4P Requirements	Customers residing in Onondaga, Oneida, or Oswego counties with electric service
	Natural gas or electric is the primary heating fuel

Design Element	National Grid Residential P4P Approach
Sector	Single-family (1-4 units) residential; Standard Service Rate SC-1
Utility Data	National Grid will transfer monthly gas and electric data to the AMV Platform
Payments	Quarterly for a duration of 3 years; based on normalized metered data
Measures	Measure agnostic; multiple measure packages preferred
Bidding	Levelized bid ceiling of \$14/MMBtu based lifetime savings
Funding	Approximately \$6 million available to Portfolio Managers
Program Overlap	Participating customers may not access utility, NYSERDA, or other publicly-funded incentives for the measures installed through the P4P Pilot

Eligible Pilot Participants



County	Estimated # of Eligible Customers
Oneida	46,000
Onondaga	103,000
Oswego	28,000

Portfolio Manager Selection

- Competitive selection process
- Portfolio Managers can either directly provide energy services to customers, or through defined partnerships or subcontractor relationships
- Must demonstrate relevant experience and qualifications that are applicable to the proposal
- Must demonstrate understanding and compliance of relevant state and local codes, applicable standards and licensing/permitting requirements
- Preference for firms whose business models focus on quality management and customer satisfaction
- Must demonstrate financial capacity to implement proposed scope of work

Hypothetical Examples of Portfolio Managers

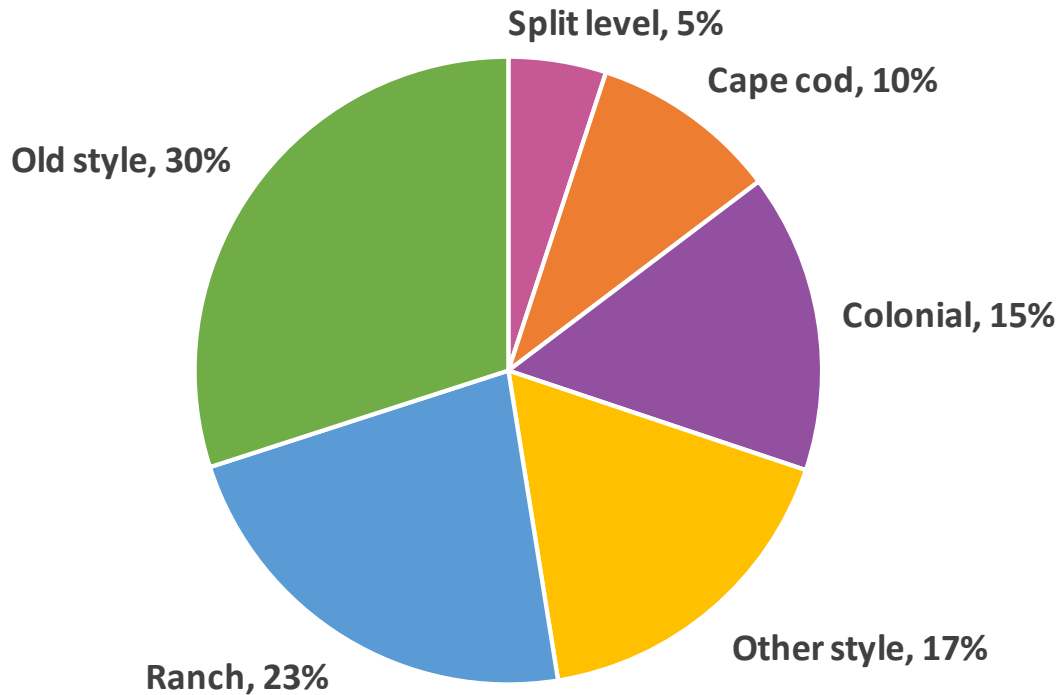
- An energy advisement firm that focuses on customer engagement and customized home report. Partners with contractors for installation work and financing entity for consumer loans.
- A technology company focused on customer targeting and supports behavioral interventions. Partners with contractors for installation work.
- A residential contractor who offers a suite of home energy services.

Questions?

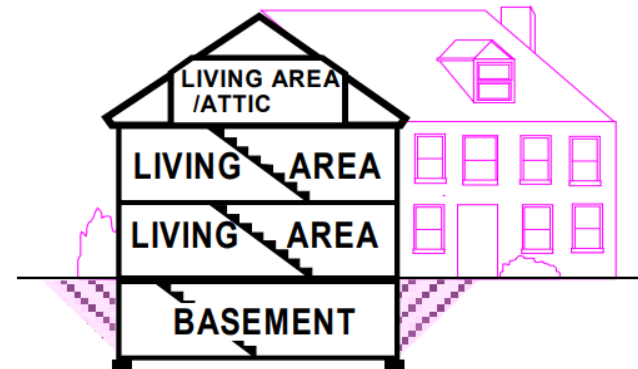
Target Customer Demographics

~50% of Buildings are Old Style or Ranch

Building Style Across All Counties in National Grid P4P Pilot Territory



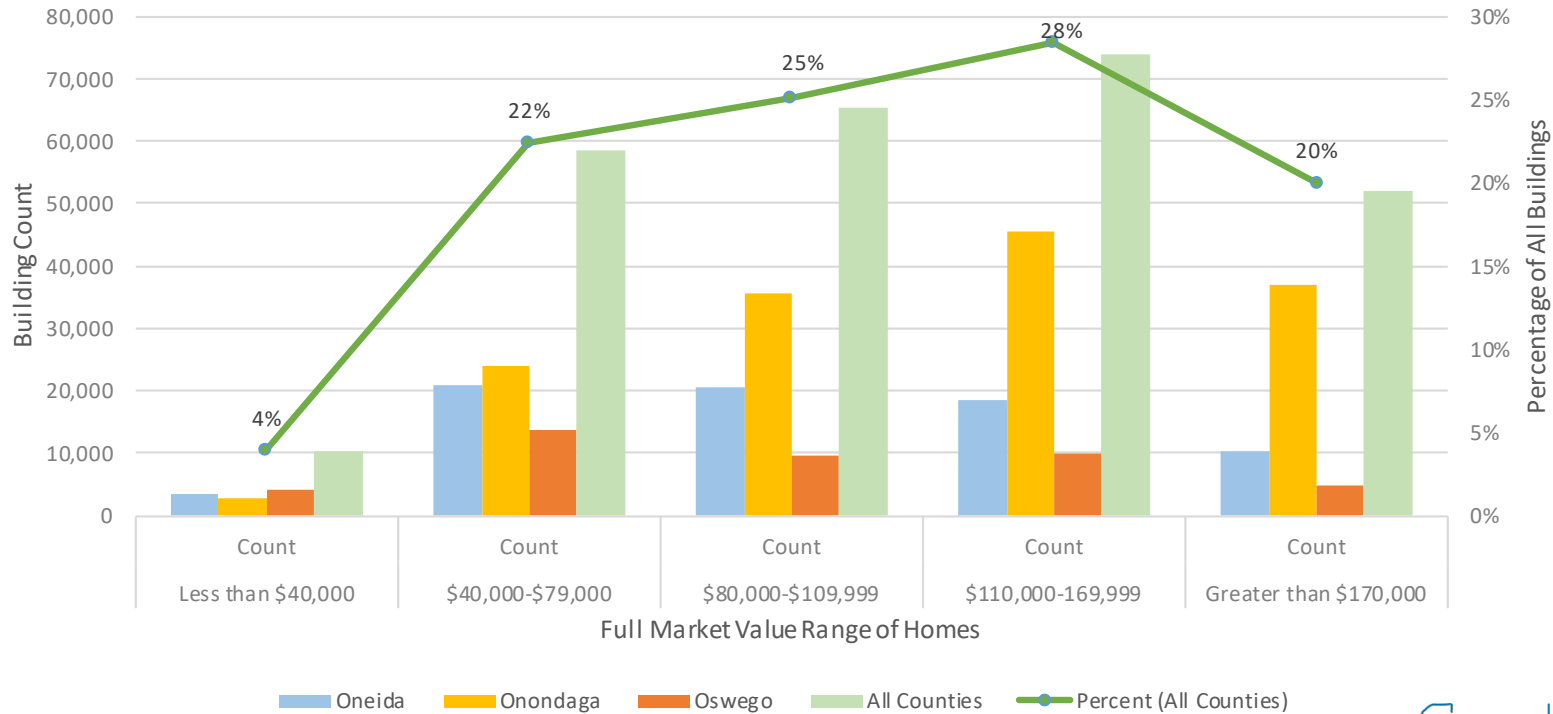
What is "Old Style"?



Data Source: NYS Tax and Finance 2017 Assessment Roll Records
(Covers ~67% of Housing Units in All Three Counties)

~50% of Homes have a Full Market Value of >\$110k

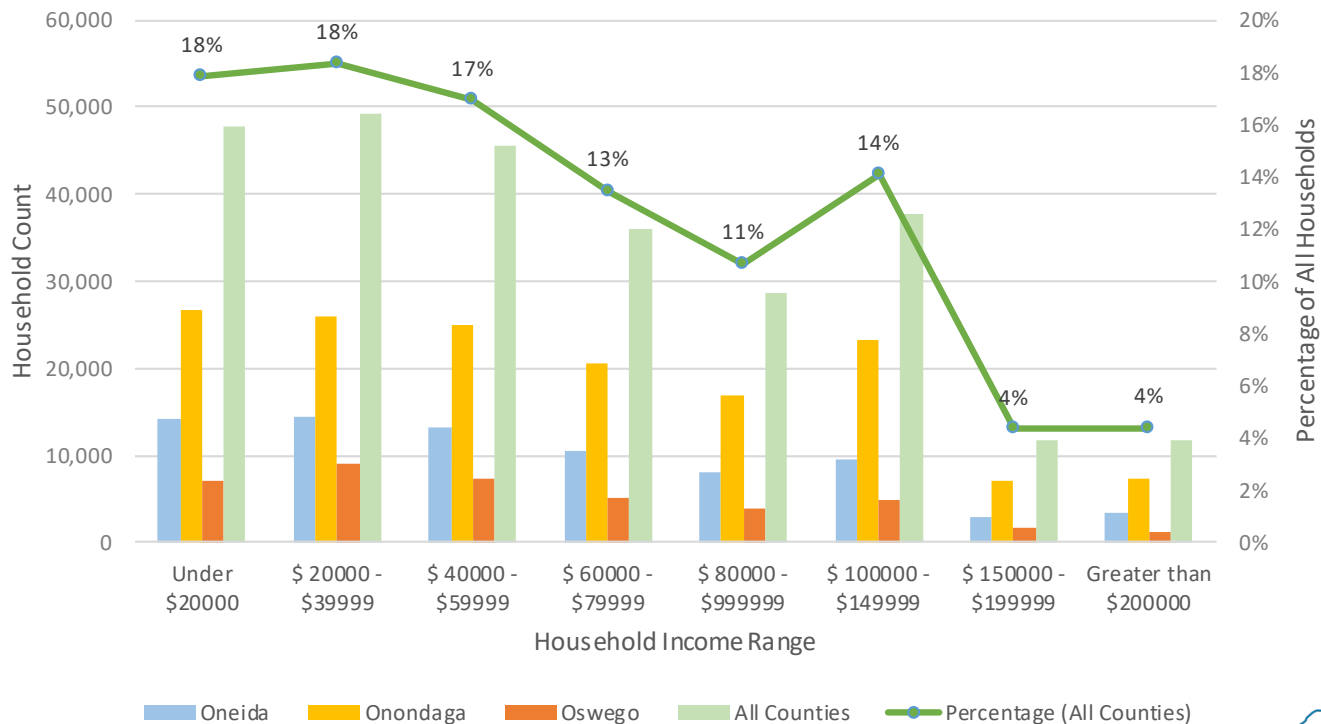
Full Market Value of Homes in National Grid P4P Pilot Territory



Data Source: NYS Tax and Finance 2017 Assessment Roll Records
(Covers ~70% of Housing Units in All Three Counties)

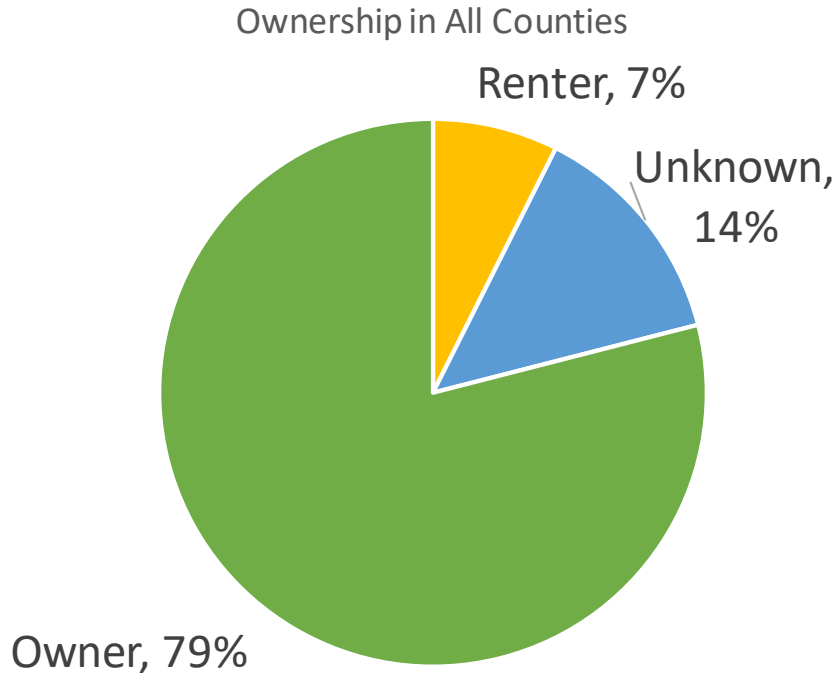
~22% of households have annual income of >\$100k

Household Income in National Grid P4P Pilot Territory



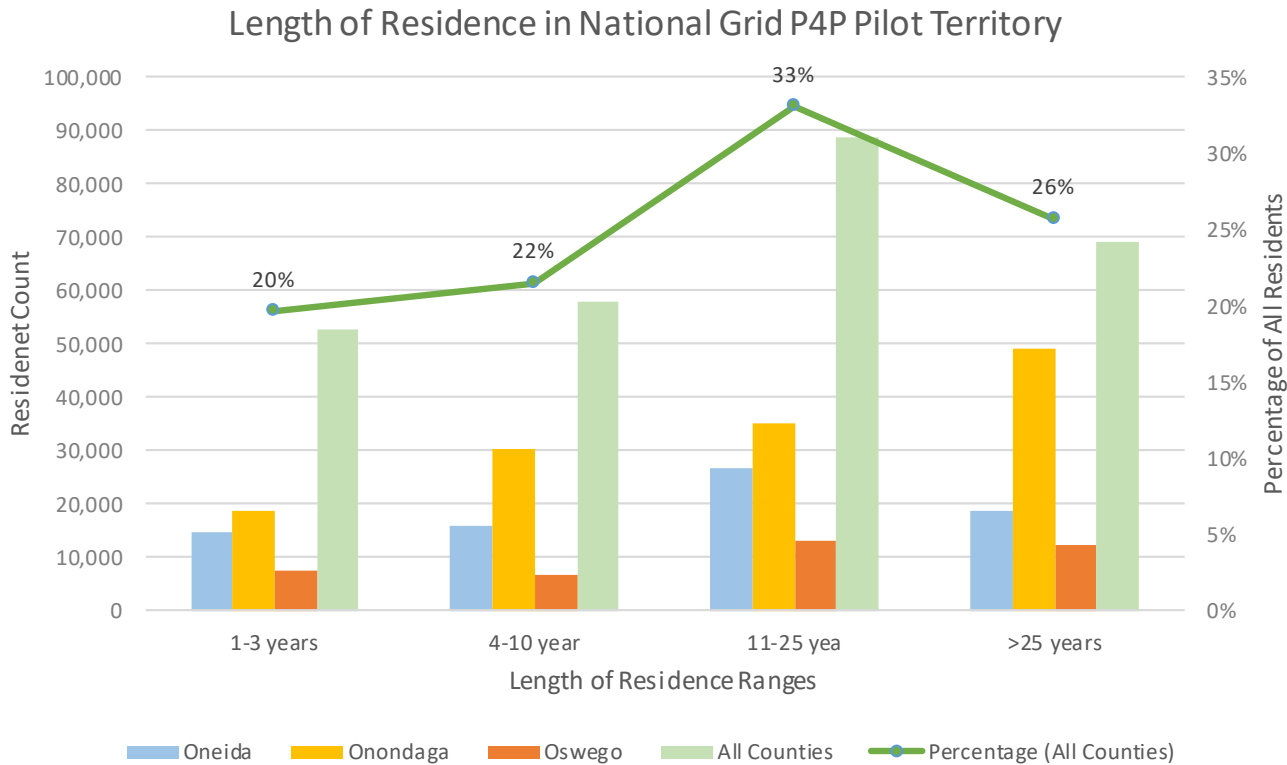
Data Source: Infogroup Records
(Covers ~73% of Housing Units in All Three Counties)

~80% of Residents Own their 1-4 Family Home



Data Source: Infogroup Records
(Covers ~88% of Housing Units in All Three Counties)

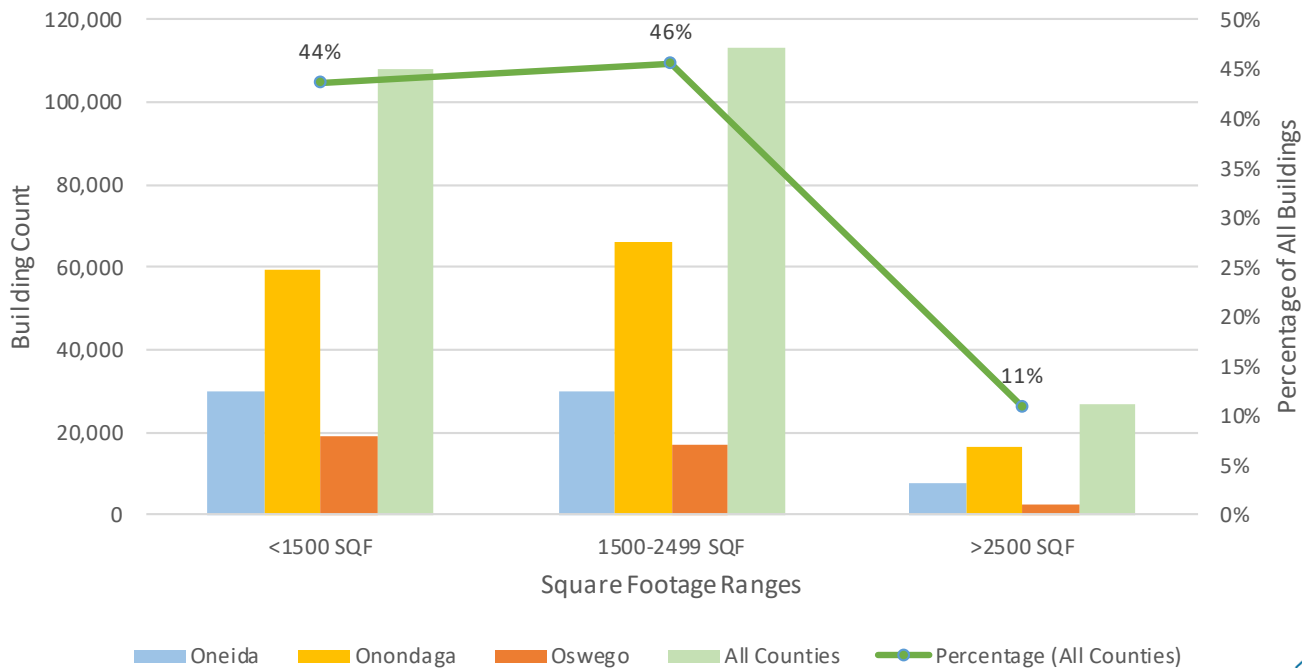
~80% of Residents have been in their Home >4 years



Data Source: Infogroup Records
(Covers ~88% of Housing Units in All Three Counties)

~90% of Homes have <2,500 SQFT of Living Area

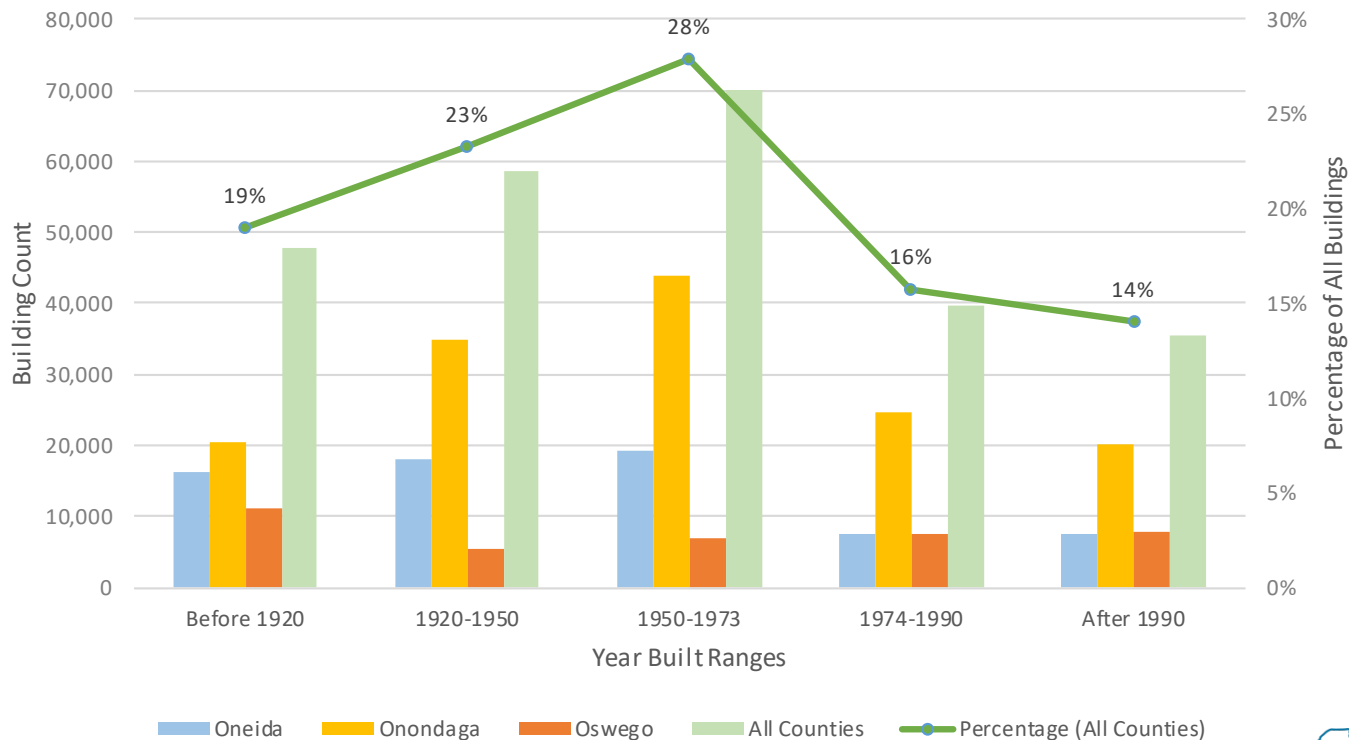
Square Footage of Living Area in Homes in National Grid P4P Pilot Territory



Data Source: NYS Tax and Finance 2017 Assessment Roll Records
(Covers ~70% of Housing Units in All Three Counties)

~70% of Homes were Built Before 1974

Year Built of Homes in National Grid P4P Pilot Territory



Data Source: NYS Tax and Finance 2017 Assessment Roll Records
(Covers ~68% of Housing Units in All Three Counties)

Home Energy Savings Pilot Bid Process

Proposal Components

- Description of offering to customer & value, business model, go-to-market strategy, and market opportunities & challenges
- Description of company history, relevant experience, and qualifications
- Project personnel staffing plan with teaming information, organizational chart, QA/QC capabilities and protocols, marketing & sales capabilities
- Financing plan to implement the proposed approach
- References
- Bid package workbook

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RFP - Scoring

Category	Bid Package Components
Levelized Price – 50 pts	Bid package workbook (template to be provided) with justification of assumptions
Approach – 30 pts	<p>Proposed solution packages should define:</p> <ul style="list-style-type: none"> • Customer value proposition (including financing offers) • Measure mix and depth of savings (minimum 5%) • Scalability • Customer acquisition plan • Consumer protections and quality management protocols • Understanding of eligible customer needs
Experience & Qualifications – 20 pts	<ul style="list-style-type: none"> • Sample projects, references & demonstrated sales pipeline • Organizational structure & partnerships • Individual team member qualifications • Financial capacity and financing plan

Bid Package Workbook

Required information:

- Measure description
- Annual unit energy savings (electricity and natural gas)
- Unit of measure (e.g. per bulb)
- Effective useful life (EUL)
- Expected volume of installations
- Total requested contract value

Bid Package Workbook (Example)

Bid/Total Requested Contract:		\$ 1,000,000.00				
Field	Sub-Portfolio 1	Sub-Portfolio 2	Sub-Portfolio 3	Sub-Portfolio 4	Sub-Portfolio 5	Sub-Portfolio 6
Territory	Oneida	Onondaga	Oswego			
Building End Use	Residential- Single Family (1 Unit)	Residential- Single Family (1 Unit)	Residential- Single Family (1 Unit)			
Number of Projects	250	250	250			
Sub-Portfolio	Measure Description	Annual Unit Energy Savings (kWh)	Annual Unit Energy Savings (Therms)	Units	EUL	Expected Volume Per Project (# units on average)
Sub-Portfolio 1	Air Sealing	30	50	per home	20	1
Sub-Portfolio 1	Insulation	30	70	per home	30	1
Sub-Portfolio 1	Smart Connected Thermostat	104	66	per unit	11	1
Sub-Portfolio 1	LEDs	50	0	per bulb	15	6
Sub-Portfolio 1	Heating System Upgrade	70	120	per unit	20	1
Sub-Portfolio 2	Air Sealing	30	50	per home	20	1
Sub-Portfolio 2	Insulation	30	70	per home	30	1
Sub-Portfolio 2	Smart Connected Thermostat	104	66	per unit	11	2
Sub-Portfolio 2	LEDs	50	0	per bulb	15	5
Sub-Portfolio 2	Heating System Upgrade	70	120	per unit	20	1
Sub-Portfolio 3	Air Sealing	30	50	per home	20	1
Sub-Portfolio 3	Insulation	30	70	per home	30	1
Sub-Portfolio 3	Smart Connected Thermostat	104	66	per unit	11	2
Sub-Portfolio 3	LEDs	50	0	per bulb	15	5



Bidder entered values

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Bid Package Workbook (Example)

Bidders will request a total contract value.

Levelized costs and payment rates will be calculated.

Bid/Total Requested Contract:	\$ 1,162,500.00
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Levelized Cost/MMBtu	\$ 7.38
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Weighted EUL (years)	17.45
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Payment/Therm	\$ 4.30
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Payment/kWh	\$ 0.15
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Bids are assessed on this value

Payment per unit
of energy saved for
the 3-year term

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Levelized Price

- All bids converted to Levelized Cost/MMBtu
- Bid with the lowest levelized price receives maximum points (MAX, e.g. 50)
- Points for other bids will be calculated as $MAX * (CEILING - BID) / (CEILING - LOW)$

Levelized Price Example

Levelized Bid Price	Score out of 50
\$8	50
\$9	42
\$10	33
\$11	25
\$12	17
\$13	8
\$14	0

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Payment Terms

- Portfolio Manager payments will be processed at the end of each quarter, with Projects being batched based on the quarter in which they were added to the Portfolio.
- Each Project within the Portfolio will receive a total of one (1) Initial Payment and three (3) Annual Adjusted Payments.
- *Initial Payment = 0.3 x (Bid / predicted No. of Participating Customers)*
- *Annual Adjusted Payment = annual Payable Energy Savings x Payment/Energy Unit – (Initial Payment / 3)*

Example Payment Schedule

	Intervention End Date	Year 1				Year 2				Year 3				Year 4				Year 5			
		Q3 '20	Q4 '20	Q1 '21	Q2 '21	Q3 '21	Q4 '21	Q1 '22	Q2 '22	Q3 '22	Q4 '22	Q1 '23	Q2 '23	Q3 '23	Q4 '23	Q1 '24	Q2 '24	Q3 '24	Q4 '24	Q1 '25	Q2 '25
Project 1	7/15/2020	IN				AA				AA				AA							
Project 37	10/13/2020		IN				AA				AA				AA						
Project 85	1/25/2021			IN				AA				AA				AA					
Project 125	4/15/2021				IN				AA				AA				AA				
Project 184	9/25/2021					IN				AA				AA				AA			
Project 222	11/18/2021						IN				AA				AA				AA		
Project 283	2/15/2022							IN				AA				AA				AA	
Project 320	5/16/2022								IN				AA				AA				AA
		IN = Initial Project Payment included in the payment for that quarter																			
		AA = Annual Adjusted Project Payment included in the payment for that quarter																			

Financial Capacity

- For the duration of the P4P Pilot, Portfolio Manager(s) will require certain funds to bridge the gap between the time investments are made (e.g. customer acquisition and installation) and quarterly payments are received
- Considering the requested contract value, Proposers shall provide a description of the proposed sources of the requisite funding with supporting financial information, such as:
 - Self-financing: Three (3) years of audited financial statements or reviewed or unaudited financial statements
 - Lender-financing: Financing agreement, term sheet, or letter of interest from prospective capital provider
 - Equity-financing: Executed or pledged equity investment with supporting documentation
 - Policy information if third party portfolio insurance has been obtained
- The method of financing (e.g. New York Green Bank, private capital lease, etc.) will have no impact on proposer eligibility

Optimizing Your Bid Package

- Lowest bid/maximum impact
- Addresses multiple energy needs
- Replicable
- Feasible go to market strategy
 - Resources, experience
 - Timing
 - Attrition
- Does not intentionally overlap with other programs

Lighting



Insulation



Behavioral



Heating/Cooling



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Questions?

Home Energy Savings Pilot Rules, Requirements & Support

Project Intake Process

Two components (Electronic Only):

1. Customer Consent Form
2. Portfolio Manager Project Intake Data



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Portfolio Manager Data Requirements

Portfolio Manager works with the AMV Solution Provider to map fields in their data system to fields in the AMV Platform so data can be transferred by the AMV Solution Provider



Portfolio Manager collects required data from the customer and stores in their Customer Relationship Management (CRM) system or similar

Required Project Data Includes

Account # and Service Address

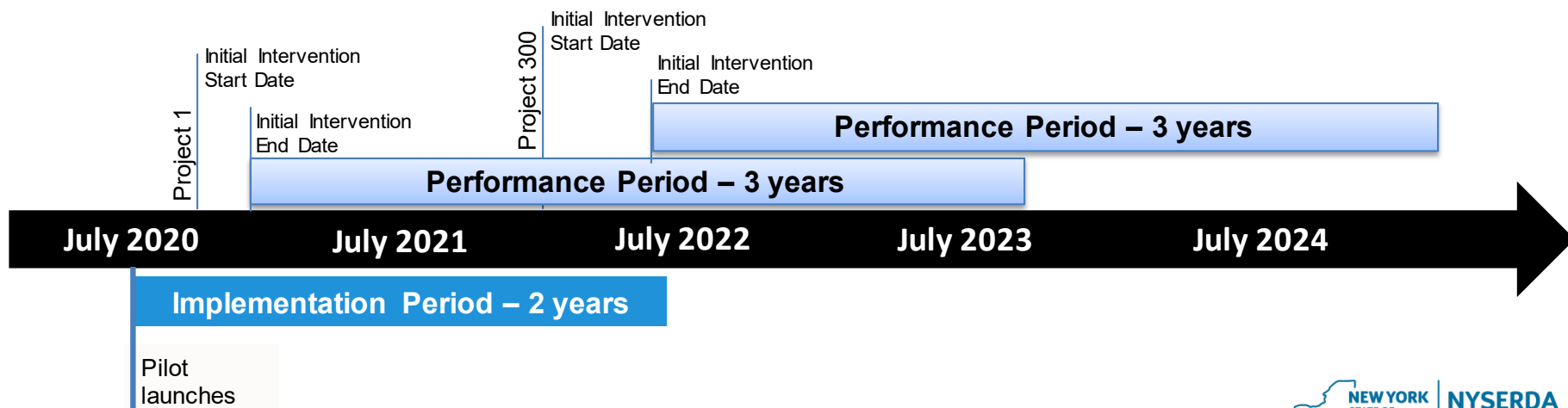
Contractor Name and Contact Information

Project Details (e.g. project start and end date, total project and customer cost, project type, estimated savings)

Measure Details (e.g. measure category, quantity, EUL, make and model)

Sample Timeline

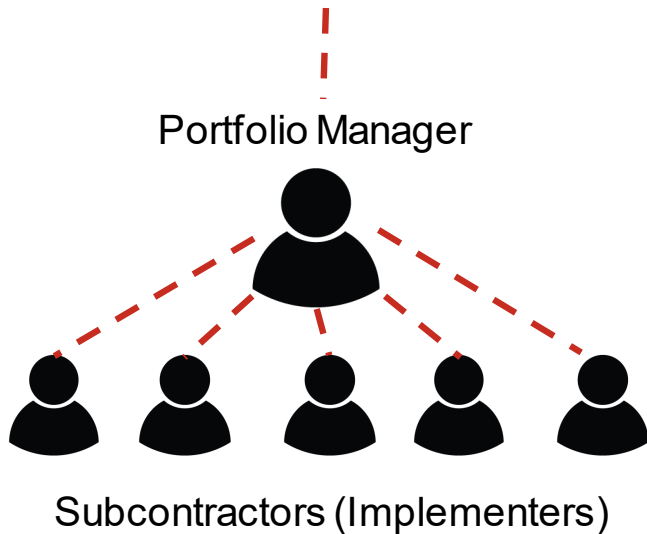
- Implementation Period: Two years to initiate and install a portfolio of projects
- Baseline Period ends on the Installation Start Date
- Performance Period starts on Installation Completion Date
- Savings for subsequent upgrades (if applicable) will contribute to portfolio-level savings until the end of the Project's Performance Period



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National Grid Vendor Requirements

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- ✓ Data Security Agreement (includes Self Attestation renewal annually)
- ✓ Digital Risk and Security Questionnaire

- Portfolio Manager is responsible for subcontractors' performance and adherence to P4P contract terms
- Subcontractors acknowledge to and abide by customer data protection terms

Background Check

Level 1 Requirements – Staff w/o direct contact with customers or access to sensitive data:

- I-9
- E-Verify
- Consent Based Social Security Number Verification

Level 2 Requirements (shall be conducted by National Grid's vendor, more info in RFP):

- Level 1 Requirements
- Social Security Trace
- State, County and Federal District Criminal Checks in all jurisdictions where the applicant/employee lived and worked for the past seven years.
- National Sex Offender Registry Search
- Seven-year Residential Address Verification
- 7 years or last 3 employers employment history verification (required if employee is a new hire)
- Five panel drug screening
- Global Watch Search
- Motor Vehicle Driving Record Check and Annual Reviews (required if employee will be operating a motor vehicle in the course of their work)

Terms & Conditions

Portfolio Manager contracts will be with National Grid in accordance with the T&C 300 Form- for use with Service Providers

- Commercial General Liability (CGL) Insurance with minimum limits of Combined Single Limit of 1,000,000 per occurrence and General Aggregate and Product Aggregate of \$2,000,000 for at least two (2) years following completion

Performance terms will be defined in the standard Portfolio Manager contract. Examples of performance terms to be included in the standard contract are:

- Contract amount may be considered for cancellation if less than 25% of expected customers are enrolled by the end of 1st year
- If required, contract amount will be decreased or increased to reflect portfolio performance
- Payment rate and contract amount will be adjusted on an annual basis if the weighted average EUL for the portfolio changes more than 10%

Quality Assurance & Control

- Portfolio Managers are responsible for establishing and following a quality control/quality assurance (QA/QC) plan ensuring proper installations and protecting a home's health and safety
- QA/QC activities should be recorded and retained for the duration of the contract with records provided upon request by National Grid or NYSERDA
- National Grid or NYSERDA contractor will conduct random verifications to ensure the measures reported as installed match the Project Intake Data

Customer Engagement Support

- Pre-launch awareness campaign to prime potential customers in early 2020
 - Will include mix of paid social, digital, and print advertising
- Close collaboration with National Grid for targeted marketing strategies
 - Leverage National Grid brand, marketing resources and customer engagement channels
- Bidders will be asked to describe marketing and communications efforts
- Website to provide program overview and increase awareness
- Ability to leverage co-branded materials; all materials with National Grid, NYSERDA logos need to be approved in accordance with co-branding guidelines

Questions?

Benefits of AM&V

1

Automated analytics provide nearer real-time savings estimates

2

Provides reliable savings information for programs on an actionable timeline

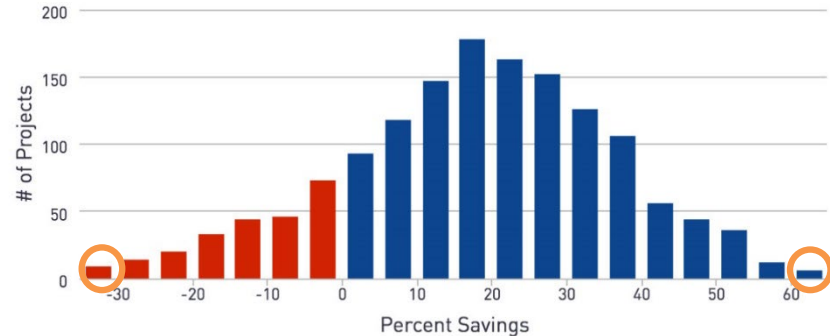


Non-Routine Events (NREs)

- Definition of NREs:
 - A change in building energy use that is not attributed to changes in the independent variables, such as weather, used in the baseline model or to the package of energy efficiency measures that were installed as part of an energy efficiency project.
- Common NREs include:
 - Adding solar PV, electric vehicle charging, or additional load (e.g. pool) at the project site
 - Altering the conditioned square footage of the project site
 - A change in occupancy at the project site

Non-Routine Event Identification

- National Grid will monitor participant utility accounts
- Portfolio Managers will collect data from Customers regarding NREs
- NYSERDA will monitor M&V results for signs of NREs such as:
 - Savings relative to baseline consumption.
 - Deterioration in normalization model goodness of fit.



Resources for Portfolio Managers

Historical Programmatic Data on Open NY

- [Residential Evaluated Energy Efficiency Projects dataset](#)
 - This dataset compares previously evaluated savings for a subset of 2007-2012 completed projects in the Home Performance with ENERGY STAR Program against normalized savings calculated using CalTRACK.
- [Residential Sector Baseline Study](#)
 - This dataset is from a Statewide residential baseline study from 2011 to 2014 of the single-family and multifamily residential segments and covers a broad range of energy uses for each segment and applicable efficiency measures.
- [Residential Energy Efficiency Projects dataset](#)
 - This dataset represents information about projects completed through NYSERDA's Home Performance with ENERGY STAR Program since 2010, including modeled savings estimates.
- [Residential Loan Portfolio](#)
 - The dataset provides information on the performance of the portfolio of loans issued through the GJGNY Residential Loan Fund.

NYSERDA's Residential Loan Fund

- Two **consumer** loan options available for credit challenged homeowners through NYSERDA
- Loan amounts from \$1,500 – 25,000 with loan term of 5, 10, or 15 years
- Smart Energy Loan
 - 3.49 % - 7.49%
 - Monthly payments made to NYSERDA's loan servicer
- On-Bill Recovery Loan
 - 3.49% - 6.99%
 - Monthly loan payments may not exceed the estimated average monthly energy costs
 - Loan payments built into utility bill

Connections to Interested Participants

- A survey will be provided to help connect interested parties – portfolio managers, service providers, financial entities, etc.
- Responses to the survey will be shared among other survey participants to help you build partnerships or teams.

- Hold for NY Green Bank Slides

Questions & Next Steps

- Contact laura.geel@nyserda.ny.gov, Megan.Fisher@nyserda.ny.gov and SriVaishnavi.Ramesh@nationalgrid.com with comments and questions
- Please respond to emailed survey by 9/27/19
- RFP expected to be released in Q4 2019
- Portfolio Managers expected to be selected in Q1 2020