



RBSA 2022 Webinar #2

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Agenda



Background



Sample Design



Data Collection



Timeline



Background



NEEA's Business Plan: Stock Assessments



Single-family



Multi-family



“This will be the first cycle that natural gas funding supports the stock assessments.”



RBSA Workgroup

Purpose: The Residential Building Stock Assessment (RBSA) Work Group will provide NEEA with decision support and coordination on key components of the study's design and implementation.

- Avista
- Bonneville Power Administration
- Cascade Natural Gas
- Clark PUD
- Energy Trust of Oregon
- Idaho Power
- Northwest Natural Gas
- Northwest Power and Conservation Council
- Puget Sound Energy
- Regional Technical Forum
- Seattle City Light
- Snohomish County PUD

Residential Building Stock Assessment (RBSA)

Vision Statement:

“Support the region's energy efficiency, resource planning, and utility objectives through a regionally representative, statistically rigorous, and comprehensive assessment of residential buildings.”



Sample Design

Project Team



- Project Management
- Project Planning
- Sample Design
- Systems Development and Testing
- Analysis and Reporting



- Systems Development and Testing
- Training
- Site Visits
- Recruitment (Michaels)



Two Parallel Studies (SF and MF)

Single-Family



- 1,000 detached homes
- 130 attached homes

Multi-Family



- 230 buildings
- 550 tenant units

This excludes “oversamples” for Avista, BPA, and Energy Trust of Oregon



Single-Family Sampling

Overview:

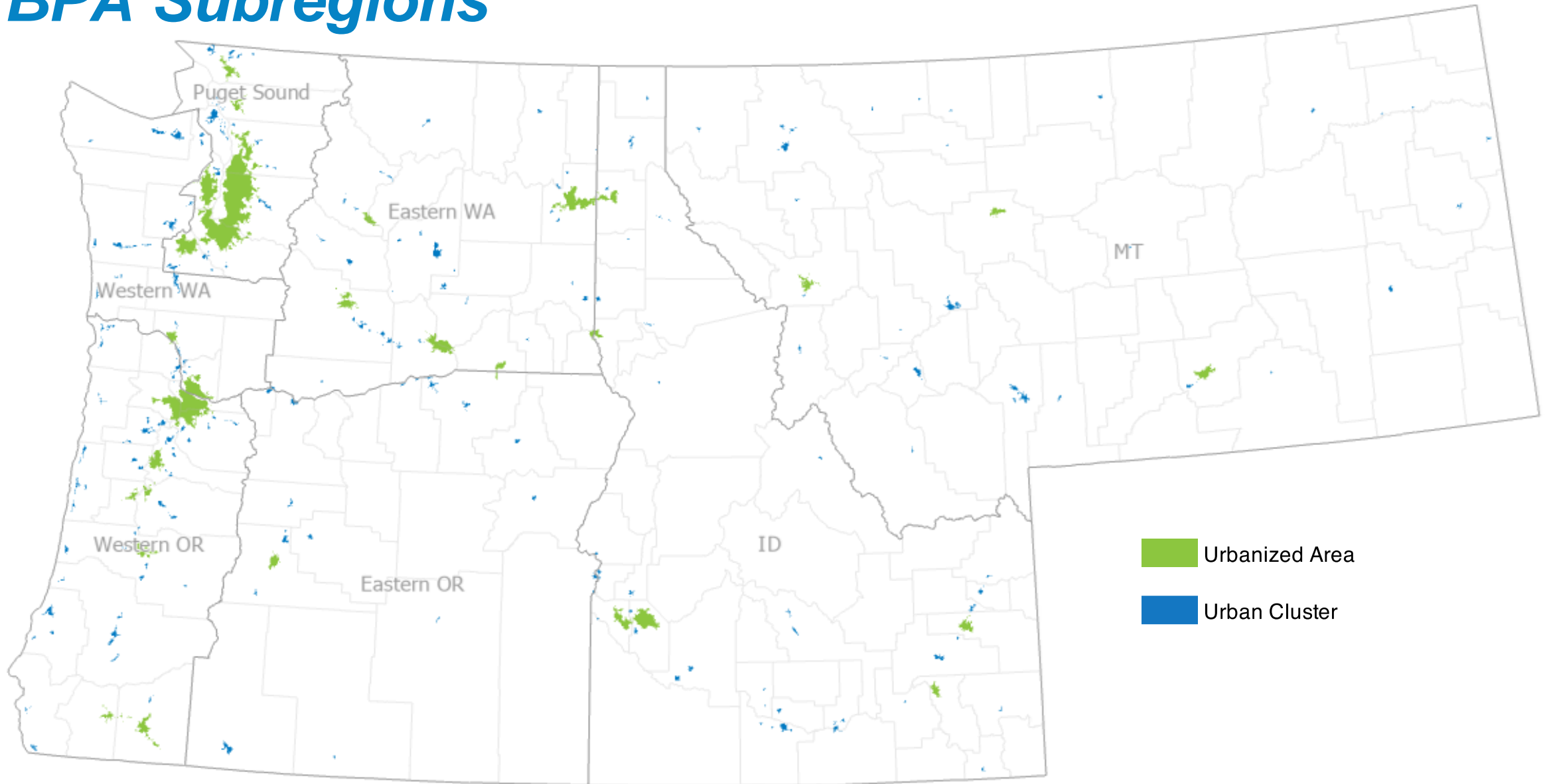
- Sampling across multiple dimensions:
 - Detached versus attached
 - ***BPA subregions***
 - BPA versus non-BPA utility
 - Rural, Urban Cluster, Urbanized Area*
- Targeted recruitment to ensure representation across income levels

* Based on US Census definitions





BPA Subregions





Multi-Family Sampling

Overview:

- Sampling across multiple dimensions:
 - High-rise, mid-rise, low-rise
 - State
 - BPA versus non-BPA utility (by State but not by building height)
 - Rural + Urban Cluster versus Urbanized Area*
- Targeted recruitment to ensure representation across income levels

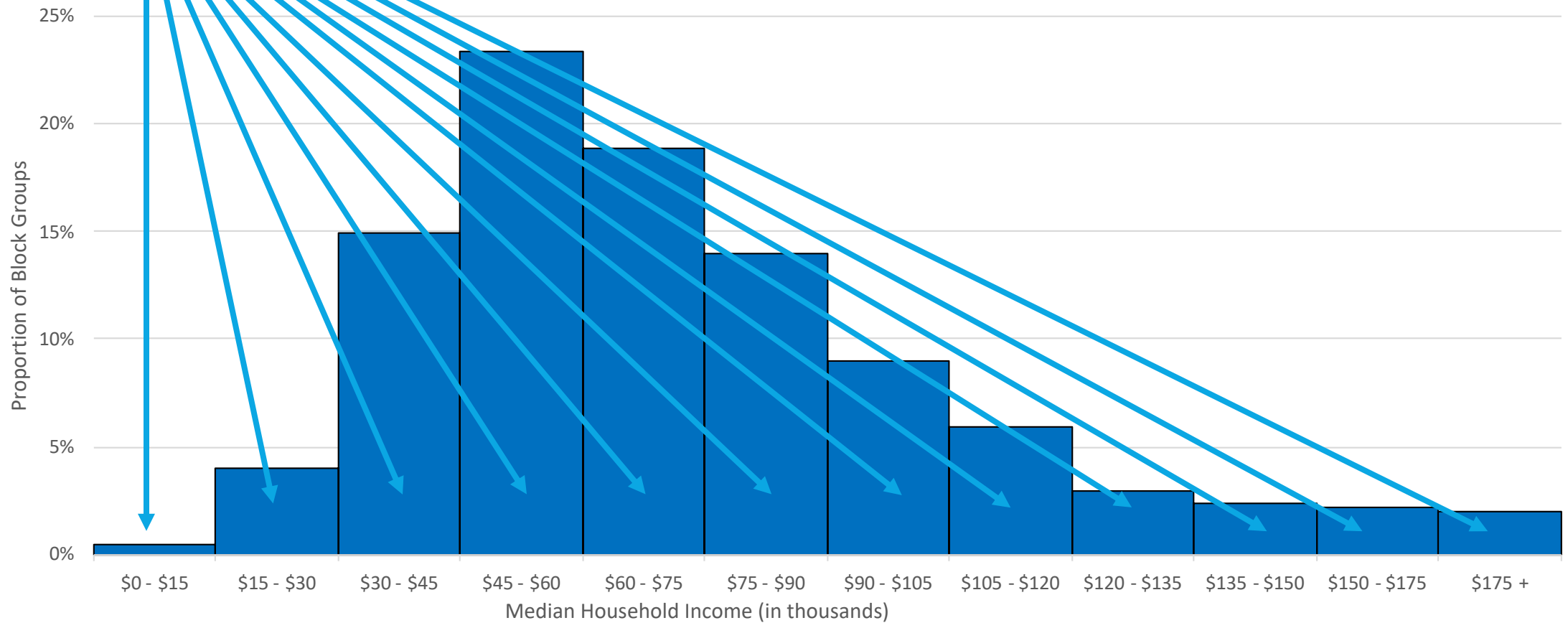
* Based on US Census definitions





Representation Across Income Levels

Proportional solicitation (adjusted if disproportional response rate)





Data Collection



RBSA 2022 Builds Upon Prior RBSAs

Value in consistency:

1. Examine trends over time (i.e., market transformation)
2. Assess potential for future market transformation

Value in updating data collection:

1. Evolving energy efficiency landscape
2. Data reliability concerns





RBSA 2022 Updates - Process

1. Solicited a prioritized “wish list” from each member of the Workgroup and NEEA
2. Considered implications of wish list items (budget, time, value)
3. Responded to wish list with proposed updates
4. Conducted two working Workgroup meetings to address proposed updates, iterate



Updates and Changes to Collected Data

Types of additions:

1. Emerging technologies (or equipment subtypes)
2. New features (i.e., smart appliances)
3. How values are determined (meta data)

Rationale for removals:

1. Budget / time per site
2. Lower value data (compared to additions)



Updates and Changes to Collected Data (MF)

Multi-Family Adjustments:

1. Focus on the whole building (recruiting the building owners or managers)
2. Recruit a subset of tenants (between 2 and 4 per building)

RBSA 2022 first targets the building and then tenants, ensuring we will obtain robust information regarding the common spaces and central building systems.



Most Important Updates – Additions

Additions:

1. Smart home integration capability of appliances
2. Align HVAC testing with RBSA 2011: concurrent blower door and duct blaster tests (at 300 homes with ducts)
3. Many new equipment subtypes (e.g., gas heat pump water heater)
4. Plug-in hybrid vehicles



Most Important Updates – Adjustments

Adjustments:

1. All equipment will be assigned to a room (e.g., water heaters)
2. Attributes of each room will be documented (e.g., type, size, conditioned)
3. *Wall types* will not include framing dimensions (duplicative)
4. Serial numbers for large appliances, thermostats and HVAC
5. Associating storm windows with the windows, etc.
6. Adding variables regarding *how* data is gathered (e.g., measured versus estimated), and reasons for “unknowns”



Most Important Updates – Removals

Removals:

1. Faucet / shower *measured* flow rates (we will still collect rated flow rates, where available)
2. Audio equipment (we will only capture soundbars and smart speakers)



Billing Data Collection

Usage data:

1. We need utility help to gather this type of data
2. Evergreen will facilitate secure transfer and storage of the billing data
3. Usage data will never be combined with PII in our databases; usage data will remain anonymous



Timeline



RBSA Timeline - Overview

Study Component	2021				2022				2023
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Study Design and Planning	█								
Systems and Resources Development and Testing	█		█						
Recruitment and Data Collection			█	█		█			
Data Analysis						█		█	
Reporting and Presentations								MF	SF



RBSA Info

1. RBSA FAQ: Will be on neea.org/RBSA and delivered to utilities prior to recruitment in their service territory.
2. List serve: neea.org/subscribe
 1. Building Stock Assessments
3. Webinars: Quarterly

The screenshot shows the NEEA website with a dark purple header. The main heading is "Residential Building Stock Assessment". Below the heading, there is a link to "Back to Regional Data Resources". The main text states: "NEEA is planning the next RBSA! We anticipate conducting field work from July 2021 to June 2022 and publishing final datasets and reports by Q1 2023. This timeline is subject to change as we monitor and adapt to the COVID-19 pandemic." A smaller text block below explains the RBSA's purpose: "The RBSA is designed to develop a characterization of the residential sector that considers the diverse climates, building practices and fuel choices across the region. This study informs future energy planning efforts as well as energy efficiency utility programs and rebates offered by the region's utilities, the Energy Trust of Oregon and the Bonneville Power Administration. The most recent RSBA was fielded in 2016. Those reports, database, and supporting documentation are included in the corresponding drop downs below." On the right side, there is a section titled "Questions on the RBSA?" with a link to "Frequently Asked Questions" and a link to "Northwest Building Stock Research Data subscription list" to get timely RBSA updates.



NEEA Contacts



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Questions?



Thank you

