

# Expanding smart thermostat demand response to underserved rental market segments

An E Source and Tierra Resource Consultants multiclient study

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We know utilities.



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# Today's speakers



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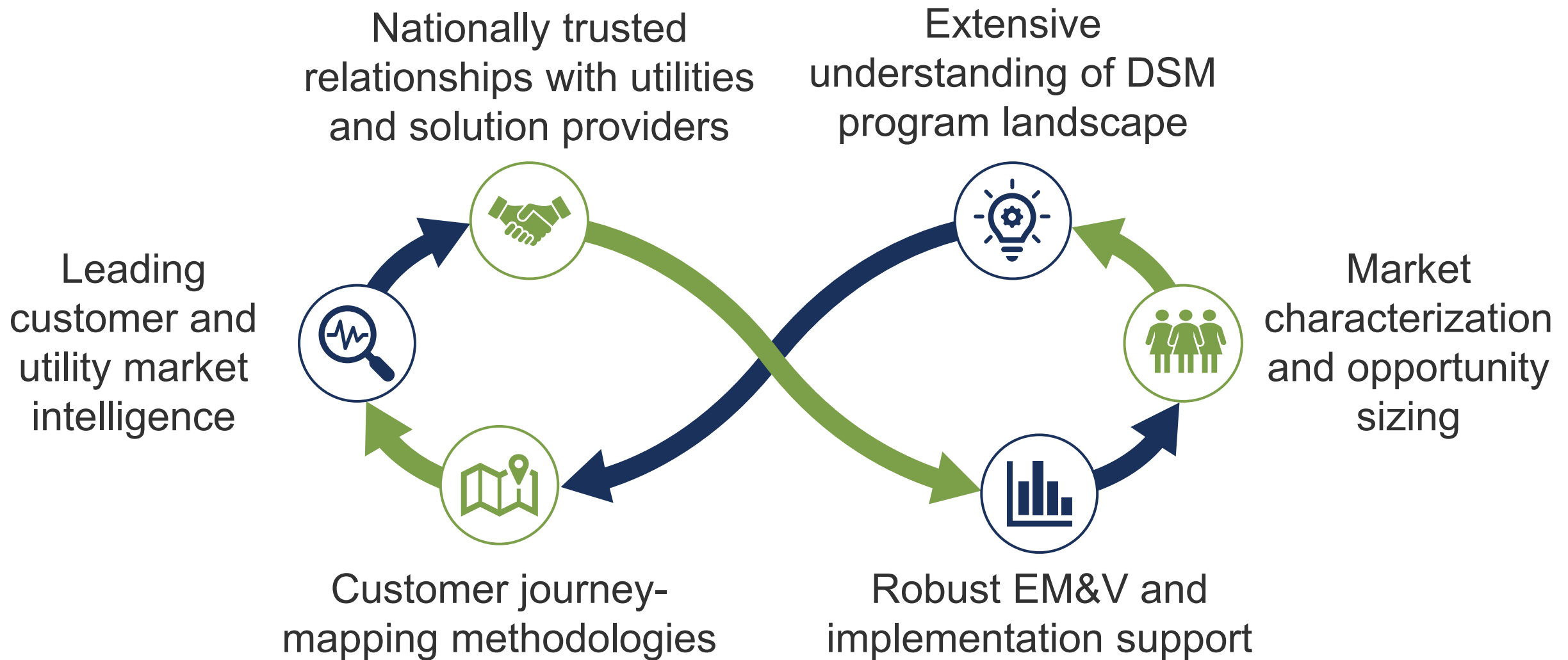


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# E Source and Tierra partnership



# Today's agenda

1. Why now?
2. Study objectives
3. Value to participants
4. Background
5. Multiclient study overview
  - Scope focus
    - National multiclient
    - Territory-specific recommendations for utilities
  - Approach
  - Timeline
6. Next Steps



# Multiple drivers of North American load flexibility

## Capacity and T&D constraints



Supply retirements and variability, interconnection backlog, aging distribution infrastructure

## Load growth



Notable load growth in most national scenarios (200 GW forecasted capacity shortfall by 2030)

## Growth in app-based DERs



Unprecedented growth in load-connected, app-based devices (e.g., smart thermostats)

## Energy burden



Rate increases plus inflation; 1/6 of customers behind on energy bills

## Policy and market shifts



Increased aggregator activity; opening of DR markets to customers; utility program scale-up

**Drivers are positioning VPPs as an essential need for delivering reliable, scalable capacity and grid services**

# Why now?

## Rental market characteristics\*

- On the national U.S. and Canadian average, around **34% of people rent their homes**.
- As demand for housing grows, **rental properties are growing at a higher rate** than homeownership.

## Smart thermostat DR program participation

- Most current utility DR program participants are single family homeowners. **Some programs are reaching saturation** of this segment. To grow, we need greater load flex from residential renters.
- The rental segment is evolving with consolidation of large single-family (SF) home property investment firms (SFR market) and increasing penetration of new SF build-to-rent communities.

**If properly unlocked, rental subsegments could provide up to 50% program growth from untapped MWs.**

\*Smart thermostats currently have the most readily achieved potential and are the focus of this study.

# Study objectives



Build the North American framework for unlocking smart thermostat DR potential in rental markets



Develop territory-specific program strategies to overcome key utility and customer challenges



Drive market change by helping enable necessary product capabilities and stakeholder partnerships

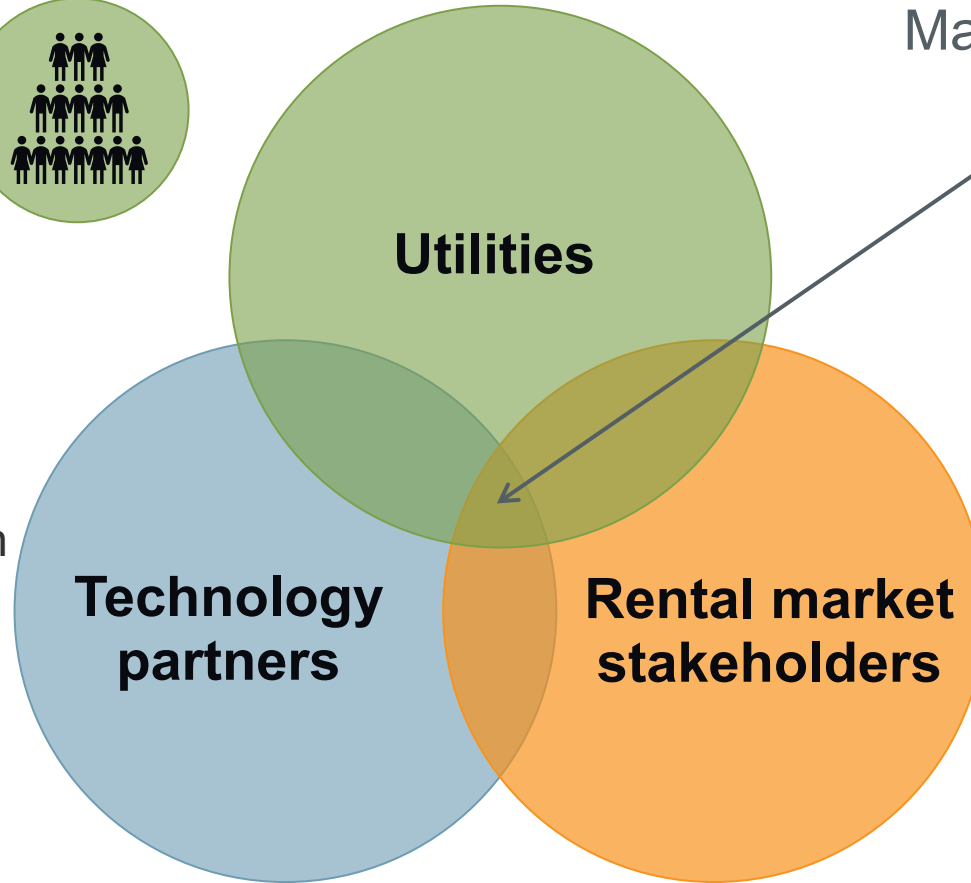
# Mutual partnerships drive market change

## Solve challenges

**together** with technology and property partners to move the market forward and drive DR program participation.



Define and document barriers for **technology partners**. Provide business case nationally and with participating utilities to address barriers.



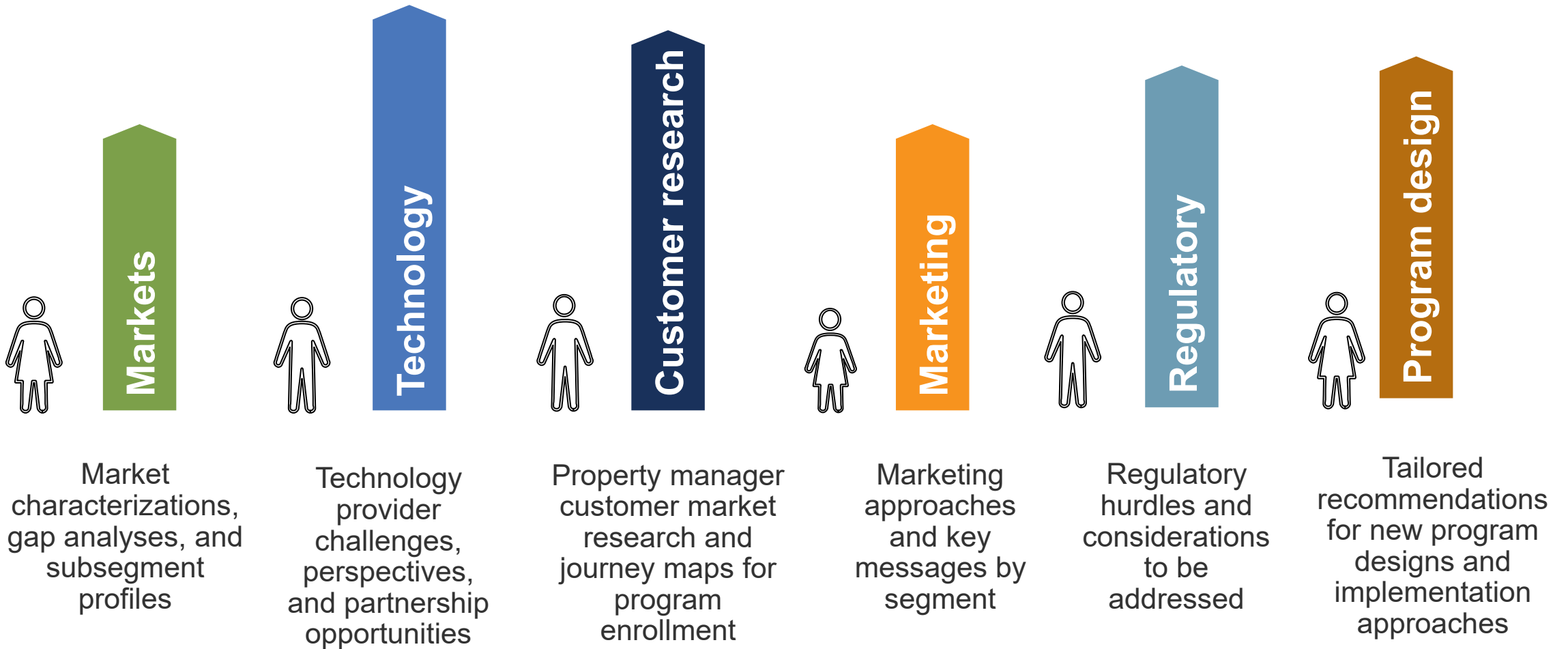
Maximum market change



**Identify partnership opportunities** with rental market actors leveraging combined voice of stakeholders engaged in DR program implementation.



# Value for study participants



# Study background

# Target segments for expanding DR beyond single-family owner-occupied homes

## Multifamily rentals

- Regional property owners with 5+ rental units
- Master- and individual-metered properties

## Single-family rental homes

- SF home investment owners with 100K+ homes
- Build-to-rent homebuilders with existing properties

## New construction homes for rent

- SF tract and custom homes
- Multifamily condo/townhome

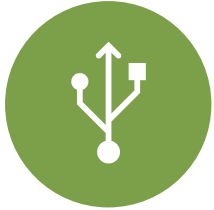
### Utility bill models:

- Tenant-paid utilities
- Owner-paid utilities

# Common challenges

High-level challenges across rental segments

## Technology



- Move in/move-out process
- Device compatibility and DRMS integration
- Interoperability
- Maintaining connectivity

## Program design



- Enrollment/unenrollment
- Program requirements and eligibility
- Incentive design/split
- Need for different approaches based on who is utility customer

## Partnerships



- Stakeholder engagement
- Viable business models to justify focus
- Need for common solutions across territories

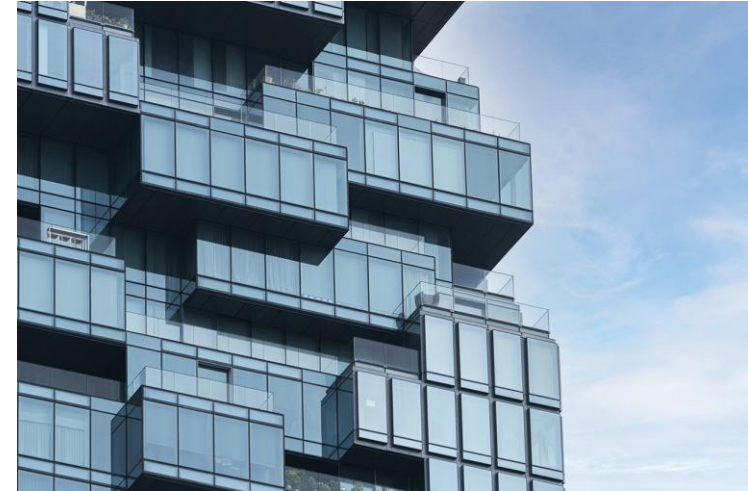
## Marketing



- Program awareness
- Move-in/move-out churn
- Identifying new movers
- Partnerships required across tech platforms and properties

# APS Cool Rewards Segmentation Study

- Cool Rewards has focused to-date on existing single-family homeowners
- How can we expand reach into other target segments?
  - ENERGY STAR new homes
  - Single family rental properties
  - Multifamily apartments (master, individual meter)
  - Institutional housing (universities, military bases)
  - Eligible business locations with small packaged HVAC systems
- What program updates may be needed to best serve these customer situations?



## Study Approach and Findings:

- Interviewed market actors (property owners, managers, implementers, OEMs, APS staff)
- Recommended program changes and partnerships to enroll multiple properties
- Identified additional MWs available



# Expanding smart thermostat DR for underserved rentals

*National multient and utility territory-  
specific study opportunities*

# Multiclient study: Scope focus and research objectives

## Targeting and planning

- How many rental units (nationally and in your service territory)?
- Which subsegments offer the greatest potential?
- Key differences between new construction and existing units
- What are the regulatory hurdles and how can they be overcome?

## Technology considerations

- What technology barriers limit adoption?
- What do technology partners need to justify changes?
- How to address WiFi connectivity
- How to handle landlord-aggregated and controlled thermostats

## Guiding program managers

- Why subsegments may need different program designs
- How to adjust your basic program to meet subsegment needs
- How to handle split incentives
- What are the gaps in the customer journey for landlords vs tenants?
- DR program pre-enrollment strategies

## Addressing property owners

- Which property firms present the best opportunities?
- How to bundle landlord offers
- How to sign many thermostats at once
- How to handle master metered properties
- Value propositions for property owners

## Helping property managers

- How can utilities help landlord pain points?
- How to get property managers to market DR programs
- What are the different needs based on tenant types and lease lengths
- Tenant-specific messaging to boost enrollments
- How to detect and handle tenant turnover and vacant units

# Study deliverables

## National Multiclient Study (non-utility and utility sponsors)

- National rental market characterization and sizing
- National rental market segmentation and trends report
- Technology and market insights from smart thermostat OEMs, aggregators, and property management firms
- Gap analysis on national technology and property manager partnership challenges
- National utility program insights—including best practices in program design and marketing
- Rental property journey maps by property type
- In-person meeting summit for utility and non-utility study participants

## Territory-specific study (utility participants)

- Utility-specific rental market characterization
- Identifying key market actors and aggregation opportunities
- Gap analysis on key challenges and considerations for overcoming unique jurisdictional barriers
- Pilot and program design recommendations and future implementation support
- Territory-specific, in-depth interviews with property managers and journey maps
- Action workshop to conduct design thinking for resolving key property manager barriers and program journeys
- Utility-specific deliverable reporting and presentations
- In-person meeting summit for utility and non-utility study participants

# Study outcomes

## National multiclient study (non-utility sponsors)

- National opportunity sizing: Business case
- Gap analysis: Prioritized feature development roadmap
- Path to scale
- Channel insights
- In-person summit attendance

## Territory-specific study (utility participants)

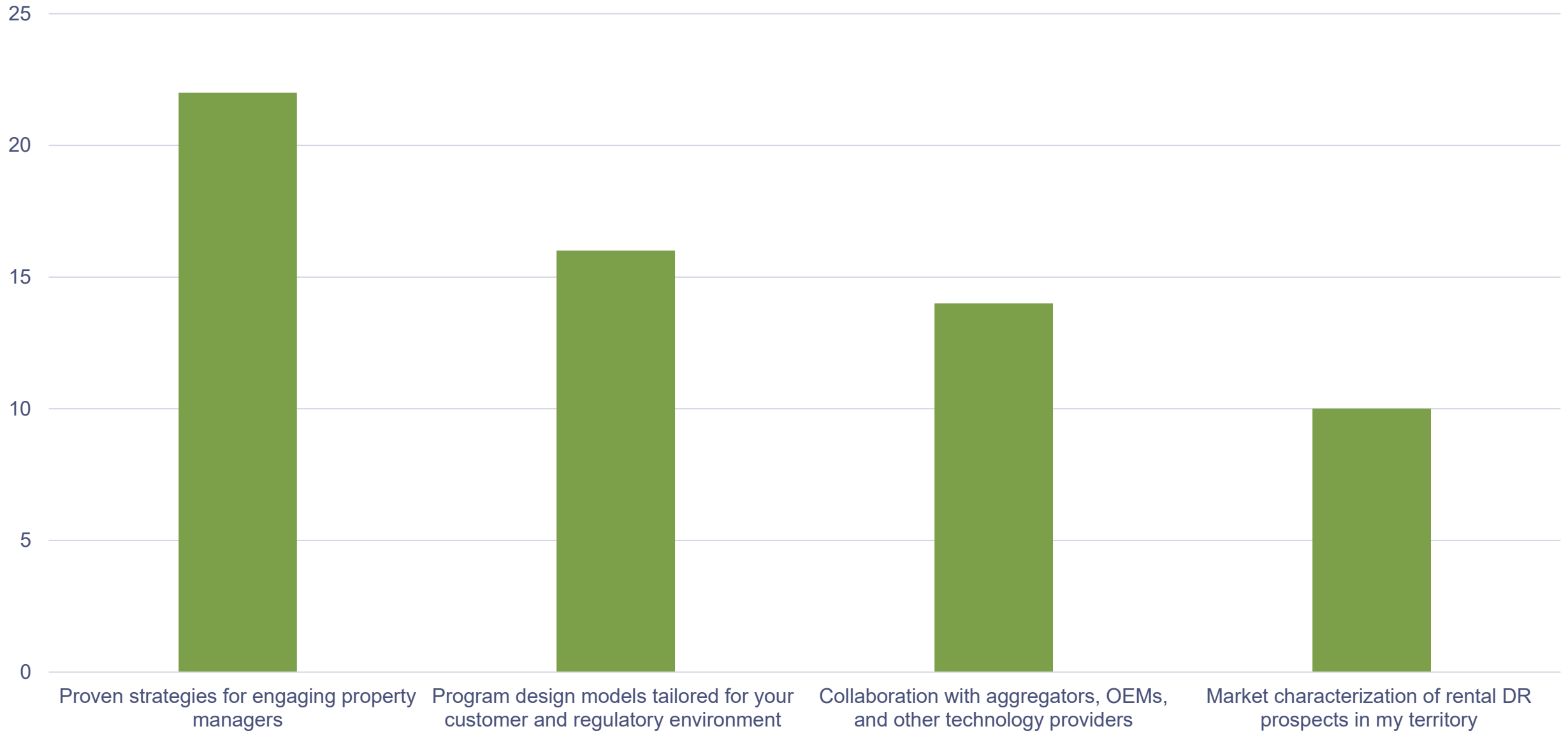
- Rental market program design playbook
- Territory-specific market sizing and channel partners
- Marketing and program design best-practices and recommendations
- Property manager journey mapping
- Gap analysis

# Utilities: What study insight has the greatest impact on your ability to scale DR for renters?

- ☐ Market characterization of rental DR prospects in my territory
- ☐ Proven strategies for engaging property managers
- ☐ Collaboration with aggregators, OEMs, and other technology providers
- ☐ Program design models tailored for your customer and regulatory environment
- ☐ Other (please chat in your thoughts)



## What study insight has the greatest impact on your ability to scale DR for renters?



# Participation options

## Ideal utility participants (national and territory-specific)

- High and growing AC load; needs for summer and winter resource adequacy
- High renter density and growing rental building stock
- Limited to deep OEM and aggregator integrations
- Latent or saturated DR potential

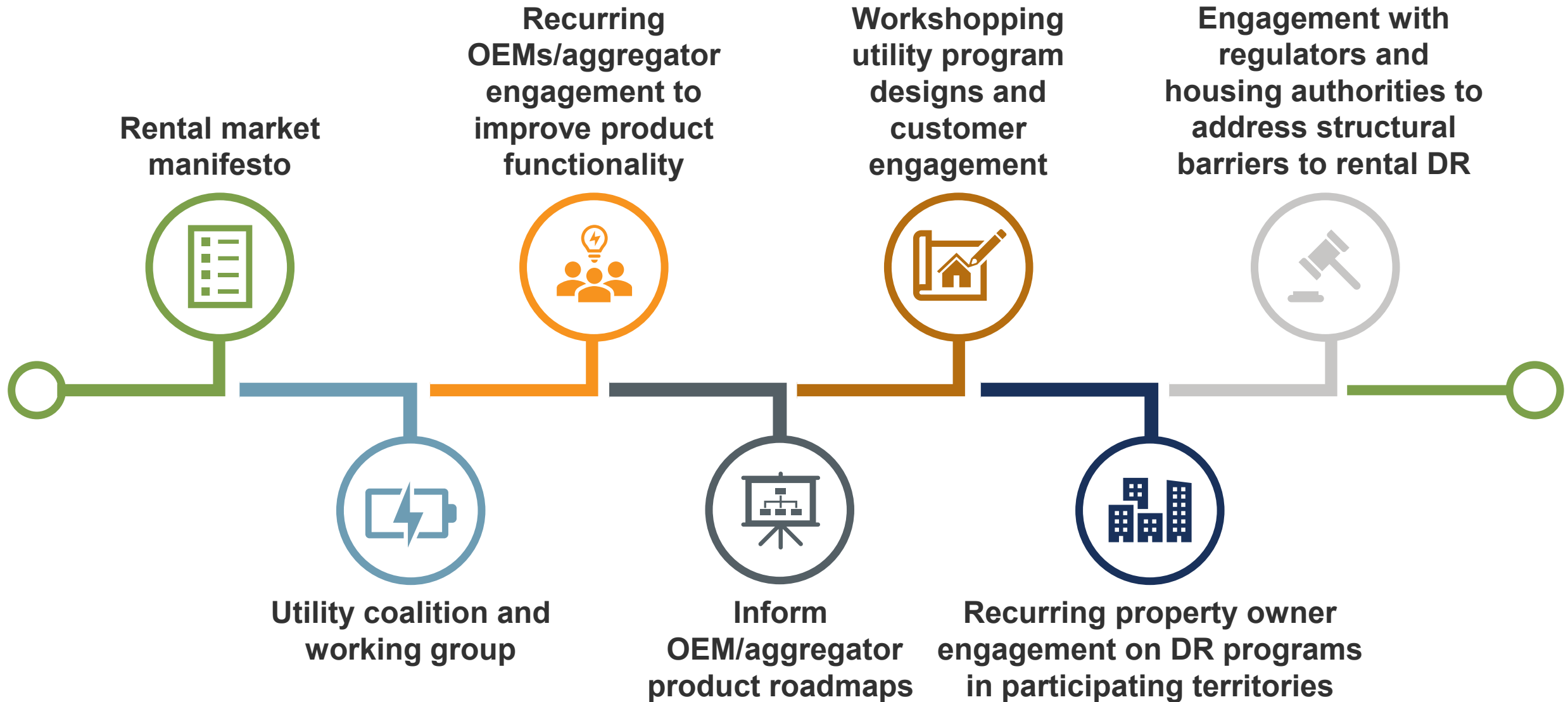
## Non-utility national study sponsors

- DERMS and VPP solution providers
- DR aggregators
- Smart thermostat OEMs and building automation platform providers
- National property management firms and PropTech platform providers
- Energy-focused nonprofits and industry organizations

# Study timeline 2025–2026

Framing the opportunity Q4 2025	Customer and utility immersion Q4 2025–Q1 2026	Taking action Q2 2026
<ul style="list-style-type: none"><li>• Study kickoff</li><li>• Foundational market research</li><li>• Stakeholder interviews of utilities, smart thermostat OEMs, DR aggregators, and technology providers</li></ul>	<ul style="list-style-type: none"><li>• Identifying key market actors and aggregator opportunities</li><li>• Property manager interviews and journey mapping</li><li>• Utility-specific market characterization and gap analyses</li></ul>	<ul style="list-style-type: none"><li>• Action workshop to conduct design thinking for resolving key property manager barriers and program journeys</li><li>• Utility-specific deliverable reporting and program recommendations</li><li>• In-person meeting summit for utility and non-utility study participants</li></ul>

# Long-term Vision: Co-led working group for driving change



# Sponsorship summary

- **Pricing:** Available upon request; Sponsors can sign now and be invoiced in Q1 2026
- **Sponsorship:** National open to utilities and solution partners, territory-specific is utility-only
- **Timing:** Q4 2025–Q2 2026
- **Journey mapping workshop:** April 2026
- **Deliverables:** All sponsors will receive all the deliverables described in this prospectus
- **Sponsor time required:** 2–3 interviews per sponsoring utility. Some technology providers will also be interviewed for national research interviews
- **Sponsor requirements:**
  - Stakeholder interviews
  - Short survey
  - Attend the journey mapping workshop and in-person meeting summit



# Next steps

**We need 12+ utilities and solution providers to participate in the multiclient study.**

Next steps:

1. Distribute kickoff deck
2. Schedule individual calls with interested companies
3. Put together foundational research

# Contact information

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