



**ENERGY STAR**<sup>®</sup>  
Products Partner Meeting

# Smart Home Energy Management Systems (SHEMS) Pilots Update

ENERGY STAR Products Partner Meeting

October 28, 2020



## Speakers



**Taylor Jantz-Sell**

U.S. Environmental  
Protection Agency

ENERGY STAR Smart  
Home Strategy  
Coordinator



**Paul Wezner**

Powerley

Vice President of  
Product



**Michael Wajsgras**

Constellation

Executive Director,  
Innovation & Growth



**Juliet Shavit**

SmartMark  
Communications, LLC

President and Chief  
Executive Officer



**Charlie Hill**

STRATIS IoT

Chief Innovation &  
Product Officer



## Agenda

- Introduction to ENERGY STAR SHEMS
- Tapping the Potential of SHEMS with ENERGY STAR – Powerley
  - Incentivizing demand response participation and looking to future capabilities
- Creating a Customer Centric Model for Utility Smart Home Deployment – Constellation & SmartMark Communications
  - Market segmentation and customer education
- Smart Home in Multifamily – STRATIS IoT
  - Challenges and opportunities in multifamily; demand response pilots



## What's an ENERGY STAR SHEMS?



### Device Bundle

- 1 ES Smart Thermostat
- 2 Smart Lighting Devices
- 1 Plug Load Device

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### Services

- Occupancy-based automation
- Energy data reporting
- Demand Response





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### ENERGY STAR Certified Product



## SHEMS Requirements - Devices

Device	Examples	Capabilities/Requirements
Connected Thermostat (1)		<ul style="list-style-type: none"> <li>ENERGY STAR certified</li> </ul>
Connected lighting (2)		<ul style="list-style-type: none"> <li>Report lighting energy/power</li> <li>Automated based on occupancy detection</li> <li>Vacation safety mode</li> </ul>
Connected Plug Load Device		<ul style="list-style-type: none"> <li>Disaggregate whole-home energy usage to individual circuits OR measure and control a single plug/power strip</li> <li>Energy data communicated to central service</li> <li>Plugs/outlets only: automated based on occupancy detection</li> </ul>
Hub (optional)		<ul style="list-style-type: none"> <li>May be necessary to provide connectivity to other devices</li> </ul>



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## What Kind of Services?

Looks like you're out of the house – would you like me to turn the thermostat down?

Yes, please

Your calendar says you're on vacation, so I turned the thermostat down, powered off the water heater, and activated lighting safety mode. [Click to override.](#)

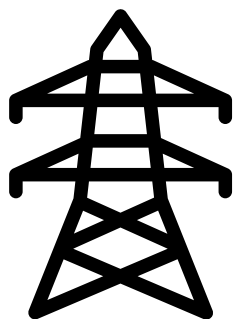
Your utility rates are low for the next two hours. Would you like to schedule your dishwasher to run during this time? [Click yes to enable or take other actions.](#)



ENERGY STAR Smart Home Energy Management System by ABCD, Inc.



## Listings will provide valuable platform info



Demand  
Response



Security  
Features



Communications  
Protocols



Additional  
Devices



## On to our speakers!

- Introduction to ENERGY STAR SHEMS
- Tapping the Potential of SHEMS with ENERGY STAR – Powerley
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With Paul Wezner  
VP, Product Management  
at Powerley



# Tapping the potential of SHEMS with ENERGY STAR

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2020 ENERGY STAR Products Partner Meeting - SHEMS Pilots Update

# Tapping the potential of SHEMS with ENERGY STAR

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- 1 ▶ Impact | Behavioral, Demand and Automation
- 2 ▶ Proof of Potential | AEP Ohio DR
- 3 ▶ Challenges | Adoption and Engagement in SHEMS
- 4 ▶ A look ahead | Future Use Cases



# The Powerley HEM Platform

Bridge the Smart Grid to the Smart Home



# How Powerley Delivers Impact

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## Behavioral Change

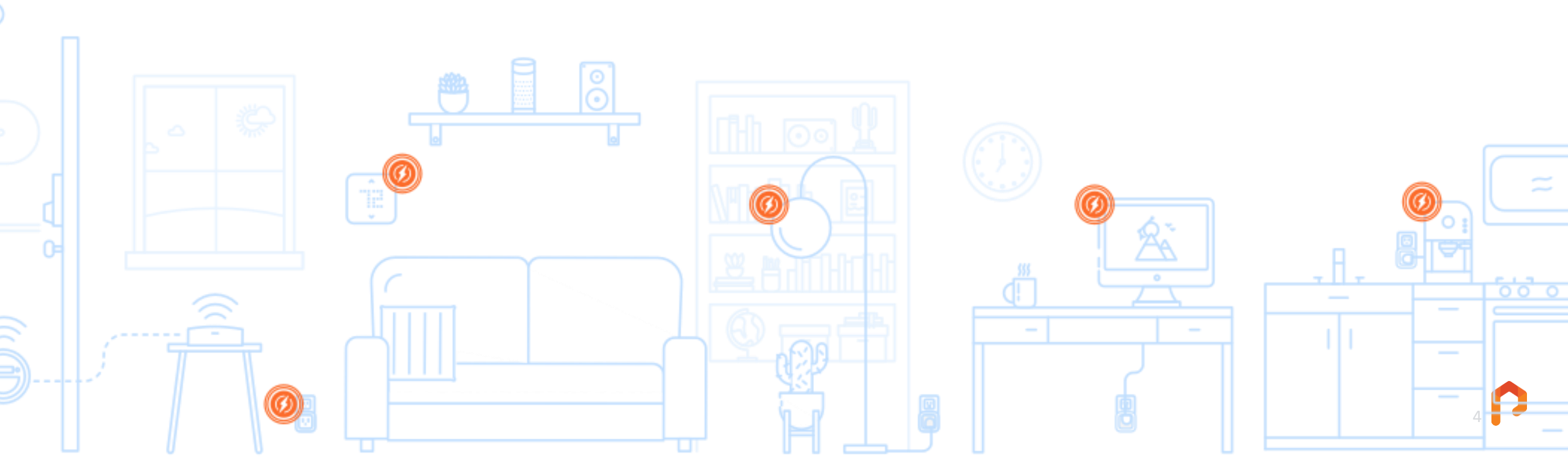
Empowering users with personalized insight from which they can take action to reduce waste

## Demand Reduction

Extending demand events beyond HVAC – including appliances and devices across the smart home

## Automated Savings

Creating an energy-aware, intelligent home that can identify waste and optimize energy efficiency



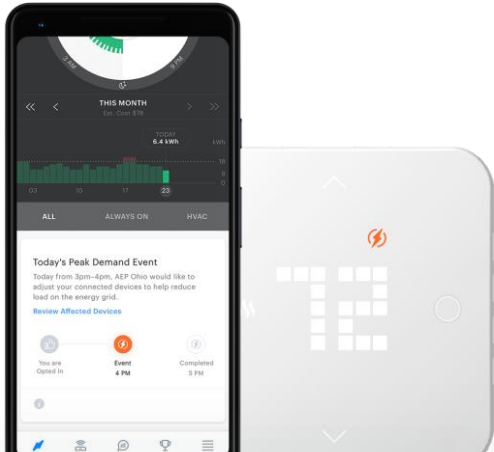
# Tapping SHEMS to Expand and Elevate DR

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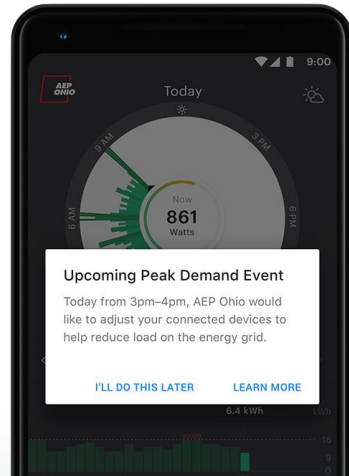
We have created a “self sustaining” cycle, using SHEMS to expand the potential of savings across the connected home.

# Tapping SHERMS to Expand and Elevate DR



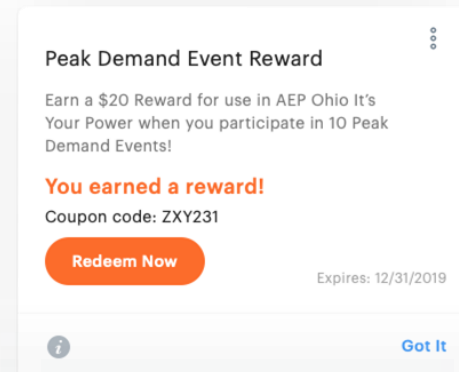
## Engage

With IT'S YOUR POWER, AEP Ohio now has a utility-branded experience to deliver customer-friendly DR.



## Notify

IT'S YOUR POWER starts a DR event by notifying customers through the app before the event begins.



## Incentivize

Offering a \$20 incentive for smart home products from the IYP Shop Smart Devices store after completing 10 DR events.

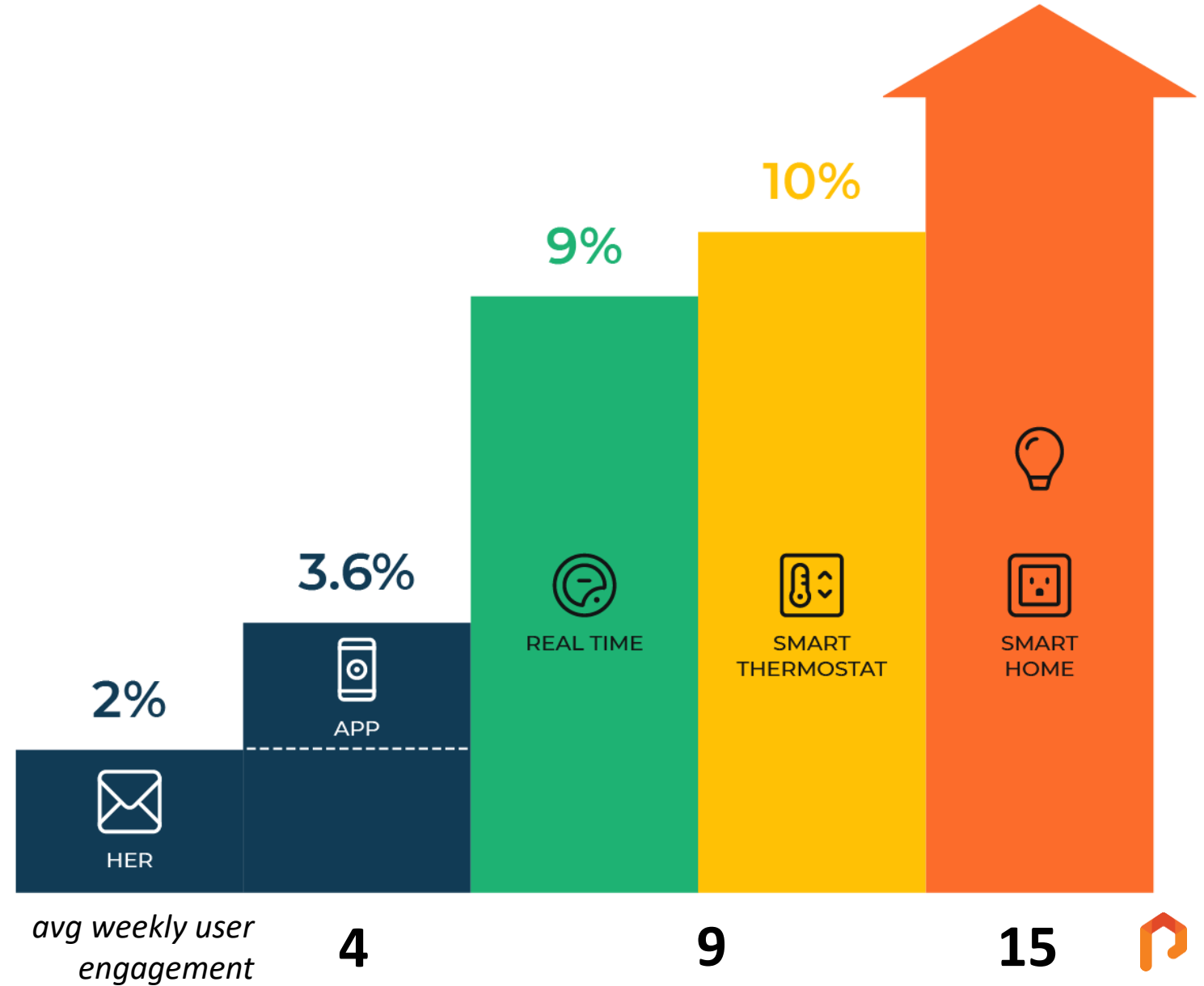


## Expand

Customers use the rewards toward more smart home products to expand the DR potential within a home.

# Tapping SHEMS to Increase Efficiency

As we integrate energy management into the smart home, customer engagement increases – delivering higher levels of efficiency.



# How to drive SHEMS Adoption

## View SHEMS as a Journey

Empowering users with personalized insight from which they can take action to reduce waste

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## Make It Hyper-Personal

Combine behavioral, energy, and device data to drive adoption and deepen engagement

Awareness — Control — Automation

Nighttime Security

Secure your home at night by automatically turning on a light at sunset and off at sunrise.

Apply this to... ▾

You'll be able to edit this in your Smart Actions

You need the following to enable:

Energy Bridge

1 Smart Bulb

Request an Energy Bridge



## ENERGY STAR SHEMS Requirements

### Software/services

Remote customer interface | Persistent occupancy detection | Energy-saving device control actions | Energy-consumption information | Vacation and nighttime safety modes | Custom configuration capabilities

### Platform Capabilities

Water heater controller | Energy price device control

### Connected Devices

ENERGY STAR certified thermostat | Two connected lighting devices | Plug load control or monitoring | Occupancy detection sensing

### Grid Services

DR compatible | DR customer override | DR reporting capabilities

# The Future of SHEMS

Unlocking greater impact with ENERGY STAR. *Coming early in 2021*



### Rate-Aware EV Charging

Automatically charge your electric vehicle when rates are the lowest



### Unoccupied Energy Savings

Sensing home is unoccupied, it goes into “dormancy mode “



### Automated Anti-Stacking

Seeing an opportunity to flatten the load curve, the dishwasher or laundry doesn't run until the A/C turns off.

# Thank You

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[powerley.com](http://powerley.com)



# Creating a Customer Centric Model for Utility Smart Home Deployment

2020 ENERGY STAR Products Partner  
Meeting, SHEMS Pilots Update

*Presented by*

**Michael Wajsgras,**  
*Executive Director, Innovation & Growth, Constellation*

**Juliet Shavit, President,**  
*SmartMark Communications*



# Presenters

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***Michael Wajsgas,***  
*Executive Director, Innovation &  
Growth, Constellation*



***Juliet Shavit, President,***  
*SmartMark Communications, LLC*  
*Founder, SmartEnergy IP™*

# Agenda

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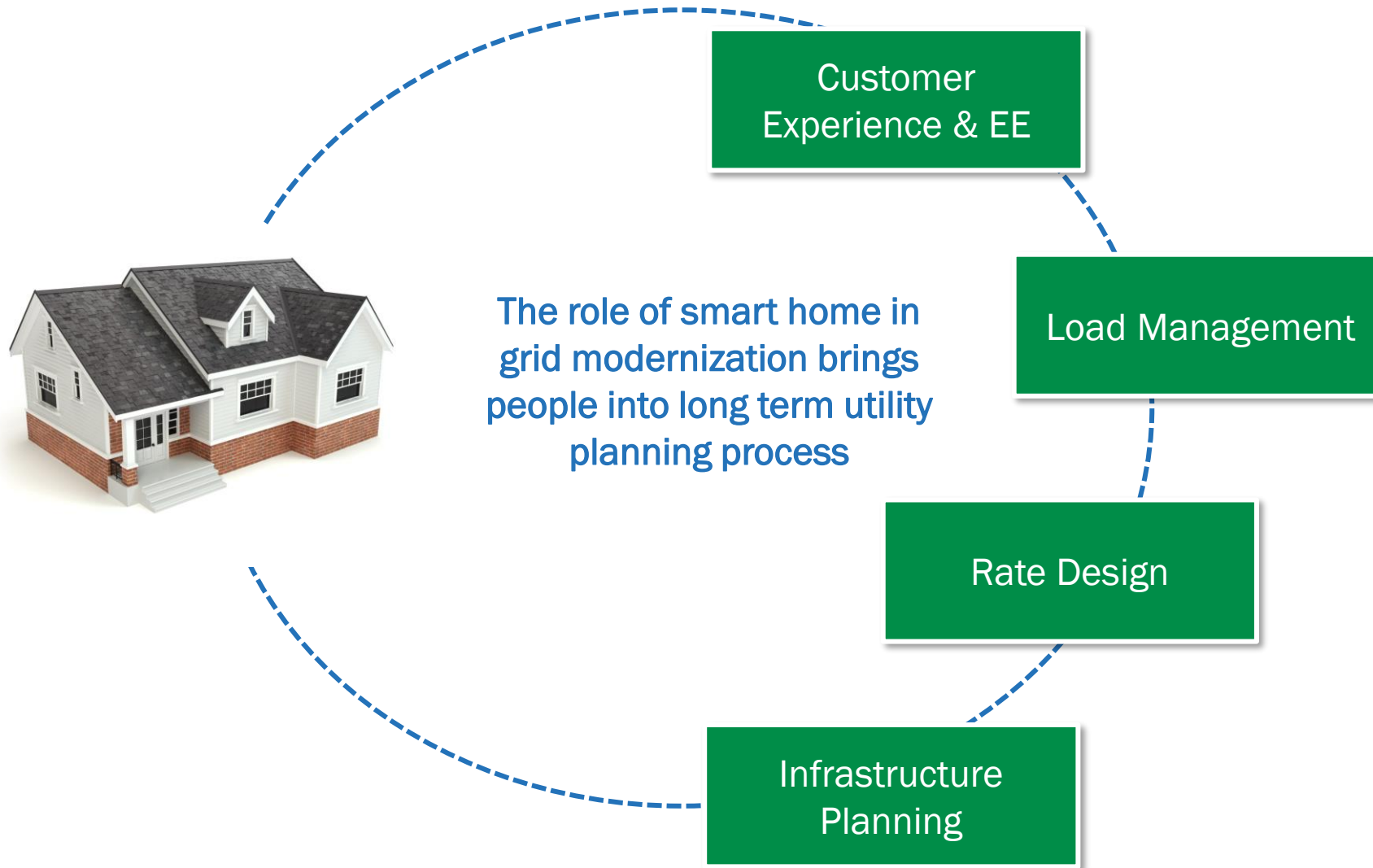
- Building a Customer Centric Model for Smart Home Deployment
- One Size Does Not Fit All and the Purpose of Market Segmentation
- BGE's Connected Home and Small Business Demonstration
- Early Lessons Learned
- Focus on Special Interest Groups
- Role of Incentives and Utility Adoption
- ENERGY STAR compliance and Future Opportunities
- Questions

# Building a Customer Centric Model for Smart Home Deployment

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- Smart Home Technology has yet to find a sustainable model for adoption and growth
- As energy providers, we must look at smart home for its energy saving benefits
- To do this we must look at our customers and think through our existing programs and services to better understand how smart home fits in
- While smart home offers all kinds of benefits including more personalized data and behavior information, we must design programs with our customers' needs in mind

# Smart Home & Strategic Planning

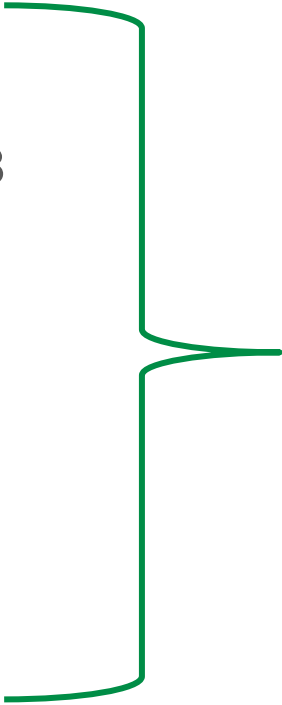


# One Size Does Not Fit All and Purpose of Market Segmentation

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People *want* and *need* different things

- Early Adopter
- Commercial – C&I and SMB
- Low Income
- Rural Residents
- Urban Residents
- Age
- Level of Technology Savvy



You cannot have one value proposition or one wrapper for marketing smart home solutions



# Retail Pilot

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- Retail Energy Smart Home pilot focused on driving more relevant engagement opportunities beyond energy supply
- Focused on delivering energy management, automation capabilities, and traditional monitored security applications
- Targeted existing retail energy customers with the goal of measuring engagement, impact on energy usage, Net Promoter Score, and churn
- Learnings to date have provided encouraging support for smart home use cases for enhancing retail energy provider relevancy in customer relationships

# Utility Connected Home and Small Business Demonstration

**BGE**  
An Exelon Company

**connected**  
ANNAPOLIS

About the Demonstration | Do I Qualify? | Privacy and Security | Contact Us | **Enroll**

Tech Support | Feedback | Frequently Asked Questions | Sign Into My Account | Access Hub | Training

**WELCOME!**  
The Connected Home and Small Business Demonstration.  
**ENROLL NOW!**

**CLICK TO CONNECT**

Or download the app below

GET IT ON Google Play | Download on the App Store

Here you will find everything you need about this program and how to download and connect to the Connected Annapolis app.

This website is designed to help you through your Connected Home and Small Business Journey. Here you can find information about the technologies in your solution, tutorial videos, and ways to connect with tech support and the customer experience team to help you make the most of this experience.

Click on your journey number to learn more about your connected solution.

**JOURNEY 1** | **JOURNEY 2** | **JOURNEY 3** | **JOURNEY 4**

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# Early Lessons Learned

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- Strong senior adoption
- Create community good will
- Find partners –internally within utility and externally within community
- Listen
- Be agile and prepared for the unexpected (COVID)
- Be supportive – Customer support is #1
- Work with your internal stakeholders and program managers collaboratively (something very important to BGE)
- Think about the future

# Focus on Special Interest Groups

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- Seniors
- Low Income
- Business Associations
- Environmental Organizations
- Community and Local Govt

# Role of Incentives in Market Adoption

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- Technology is expensive
- Incentives are key to behavior change
- What ENERGY STAR can teach us
- Understanding the role of marketplaces and utility rebates and subsidization

# ENERGY STAR Compliance and Future Opportunities

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- Utilizing ENERGY STAR products
- ENERGY STAR has taught us the power of communicating benefits and leveraging incentives
- Creating common needs and opportunities across all segments
- Customer demand for ENERGY STAR certified devices drives improved relevancy and validation of energy saving opportunities
- ENERGY STAR and SHERMS standards are part of the strategic focus of our energy management applications on the smart home platform – thermostats, lighting, appliance controls, occupancy sensors, etc.

# Thank you

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Michael Wajsgras: [michael.wajsgras@exeloncorp.com](mailto:michael.wajsgras@exeloncorp.com)

Juliet Shavit: [jshavit@smartmarkusa.com](mailto:jshavit@smartmarkusa.com)

A modern multi-story apartment building at dusk, with warm interior lights glowing from the windows. The building is surrounded by greenery and trees. Overlaid on the image are several white icons connected by thin lines to specific parts of the building: a thermometer, a water drop, a padlock, a window, a lightbulb, and a smart plug.

# Smart Home in Multifamily

ENERGY STAR Products Partner Meeting –  
SHEMS Pilots Update



# STRATIS

**Charlie Hill**  
Head of Product  
[charlie@stratisiot.com](mailto:charlie@stratisiot.com)



# PARQ

ON SPEER

- Full Access Control (units + building)
- Visitor access
- Unit and common-area thermostat control
- Unit lighting and fan control
- Penthouse units installed with Lutron shades
- Alexa for Residential (mass voice)
- Water metering



# Multifamily Smart Home Energy Management Systems



## Core SHEMS:

- Thermostats / VRF
- Lights, Fan, Outlets
- Water Heaters
- Energy Meters
- Energy Programs

Multifamily IoT is often just bells & whistles (e.g. smart lock + thermostat).

*Very few solutions represent a true energy focus.*

# SHEMS in Multifamily



# Multifamily IoT Trends

Energy sustainability is not currently a focus for 'IoT' solutions providers  
(also emissions, water, & waste)

SEMS can be a catalyst for the multifamily market to rethink their IoT packages.

Generally, there are:

- Lack of non-unit device controls
- Lack of professional networking
- Security challenges
- Deploying devices not meant for Multifamily
- Minimal participation in energy programs



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REAL ESTATE  
Premier Partner

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# STRATIS & ENERGY STAR SHEMS

- Application in-progress
- Expect completion in Q4

- 4.1 Required Base Services
- 4.2 Additional Required Platform Capabilities
- 4.3 Connected Device Requirements
- 4.4 Grid Service Criteria
- 4.5 Field Performance

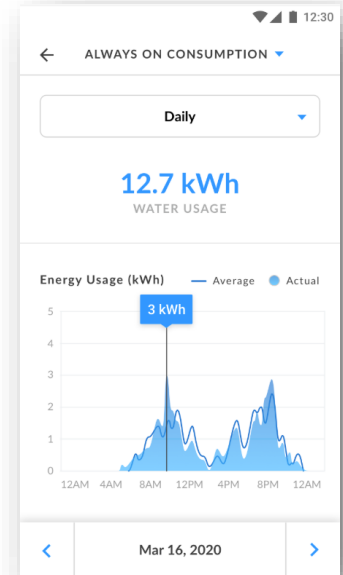
# ENERGY STAR SHEMS - 4.4 Grid Service Criteria

## Energy Programs:

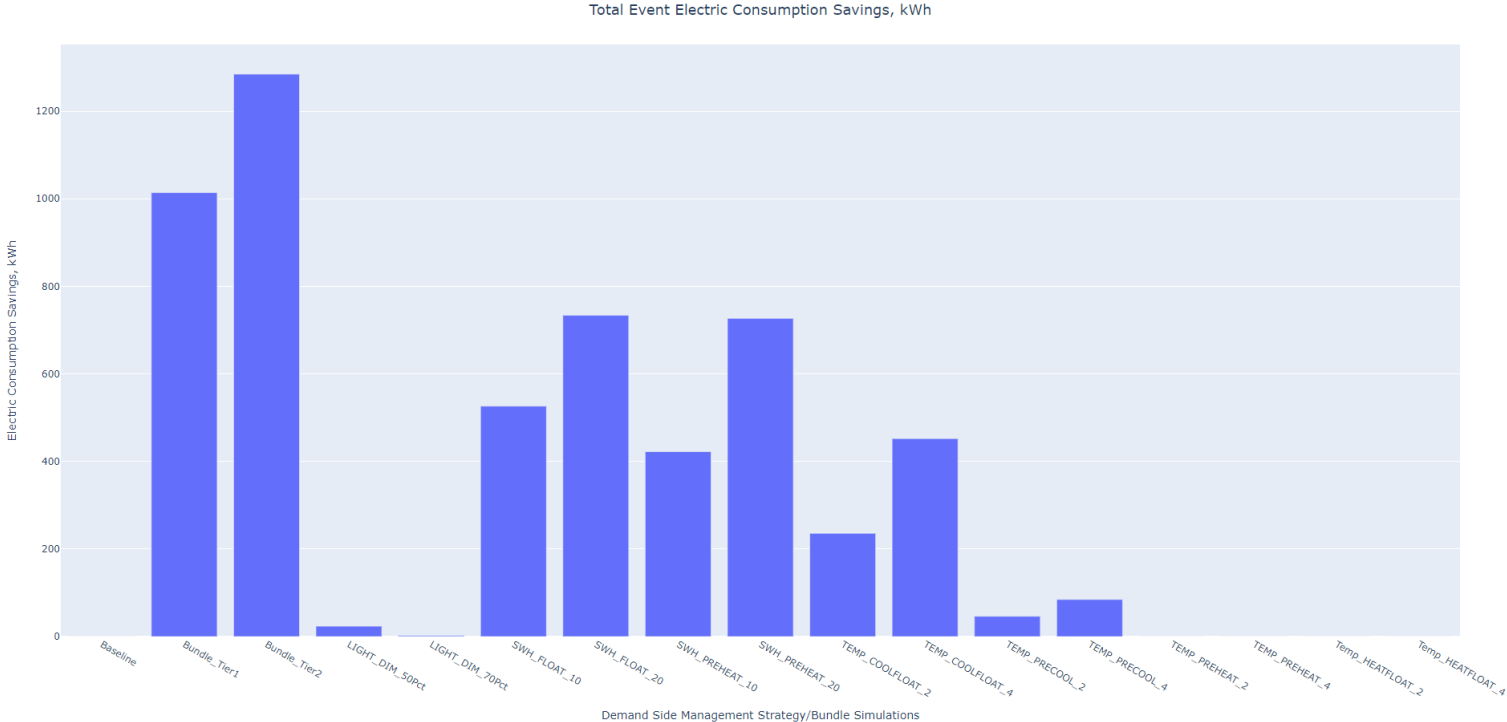
- Multifamily has not been targeted for Demand Response or other control-based efficiencies at scale
- Resident engagement / enrollment complexities
- Property engagement / enrollment complexities
- 'Master metered' vs submetered complexity

Energy Programs at scale:

- Single-Family
- Commercial
- Multifamily & Student Housing?



# ENERGY STAR SHEMS - 4.4 Grid Service Criteria



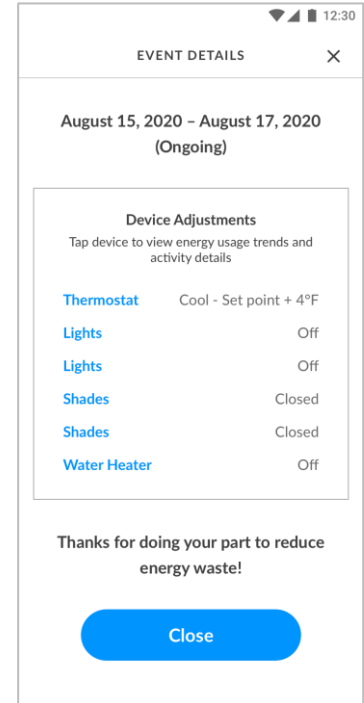
Example only of energy modeling for Multifamily SHEMS being conducted. Still in progress.



# STRATIS Grid

## Major Demand Response Pilots:

- OpenADR Demand Response (conventional)
  - September 2020 – partnered with NREL and a Utility
  - Thermostats, lighting, shades, water heater, and energy meter.
  - Deliverable: digital twin recipe for 2021
- Price-based automated demand response (unconventional)
  - Q1 2021 – partnered with ORNL and a Utility
  - Thermostats, lighting, shades, water heater, and energy meter.
  - Deliverable: next-gen energy program

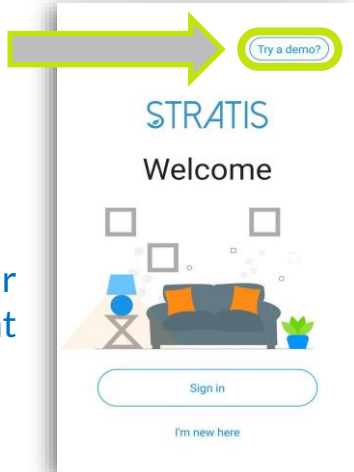


# THANK YOU!

**Charlie Hill**  
Head of Product  
charlie@stratisiot.com



Open the camera on your phone now and point it at this QR code!



STRATIS was recently purchased by RealPage, a company that has a strong sustainability focus that can enable growth of SHEMS in Multifamily.



REALPAGE®

