

Smart Homes



**Let's face it, the
low hanging fruit is
pretty much gone**



And IoT
technology is
finally getting to
the point that
we can have a
Jetson's home.

Graphics image from The Jetsons sitcom*



*Credits
Company(s)
Distributor
Original network

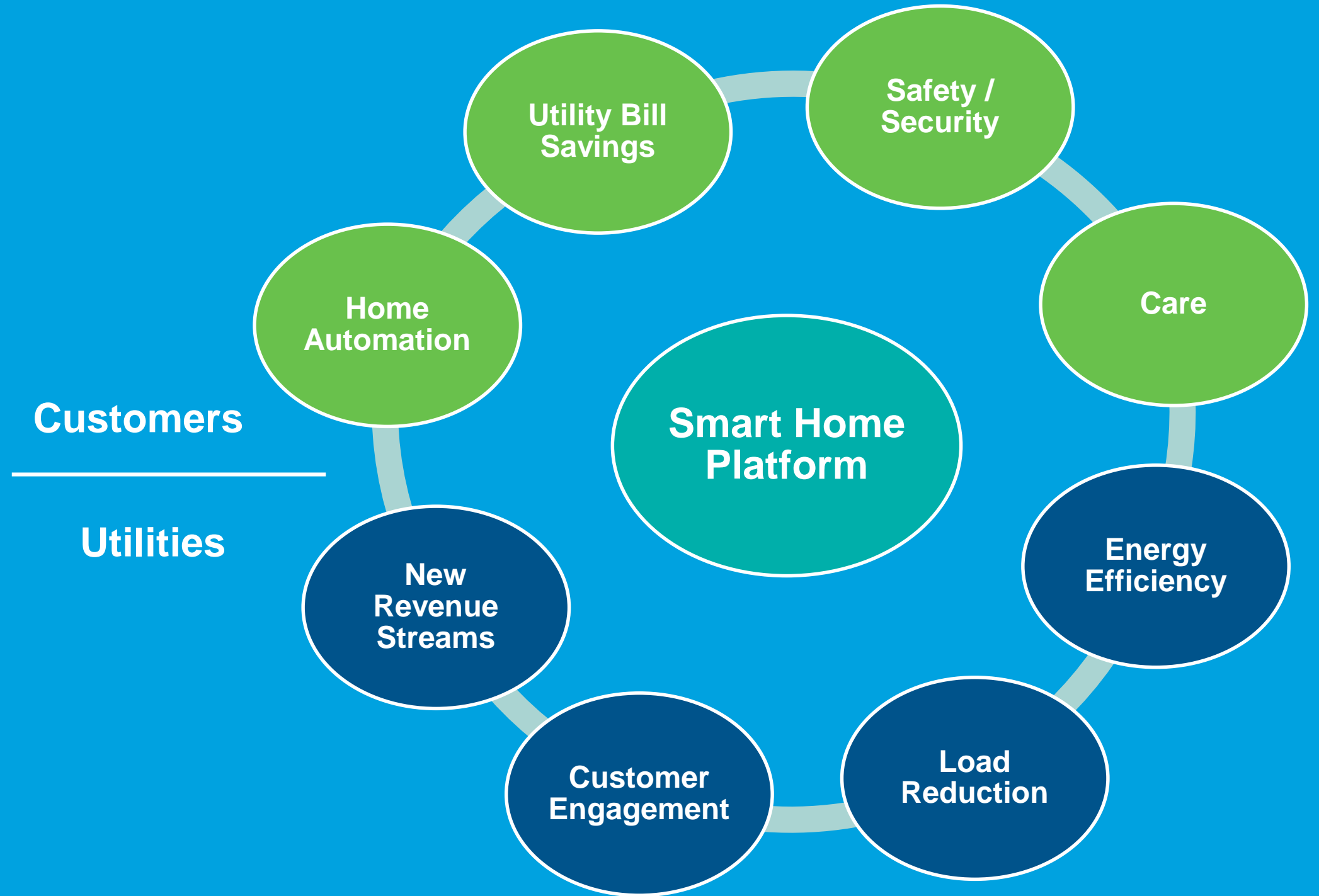
The Jetsons — animated sitcom produced by Hanna-Barbera.
[Hanna-Barbera Productions Screen Gems](#) (1962–1963) (Season 1)
[Screen Gems](#) (1962–63) (Season 1) [Worldvision Enterprises](#) (seasons 2–3)
[ABC](#) (first season, 1962–1963) - [Syndication](#) (second and third seasons, 1965–1987)

Enter ENERGY STAR
SHEMS: Ensuring
devices are running
efficiently, and only
when we need them



Shems Holiday Village, Monastir, Tunisia

Smart Home Value Streams



ICF's Smart Home Pilots

BGE

Assessing energy efficiency potential and customer engagement

SMECO

Assessing customer engagement potential and energy efficiency

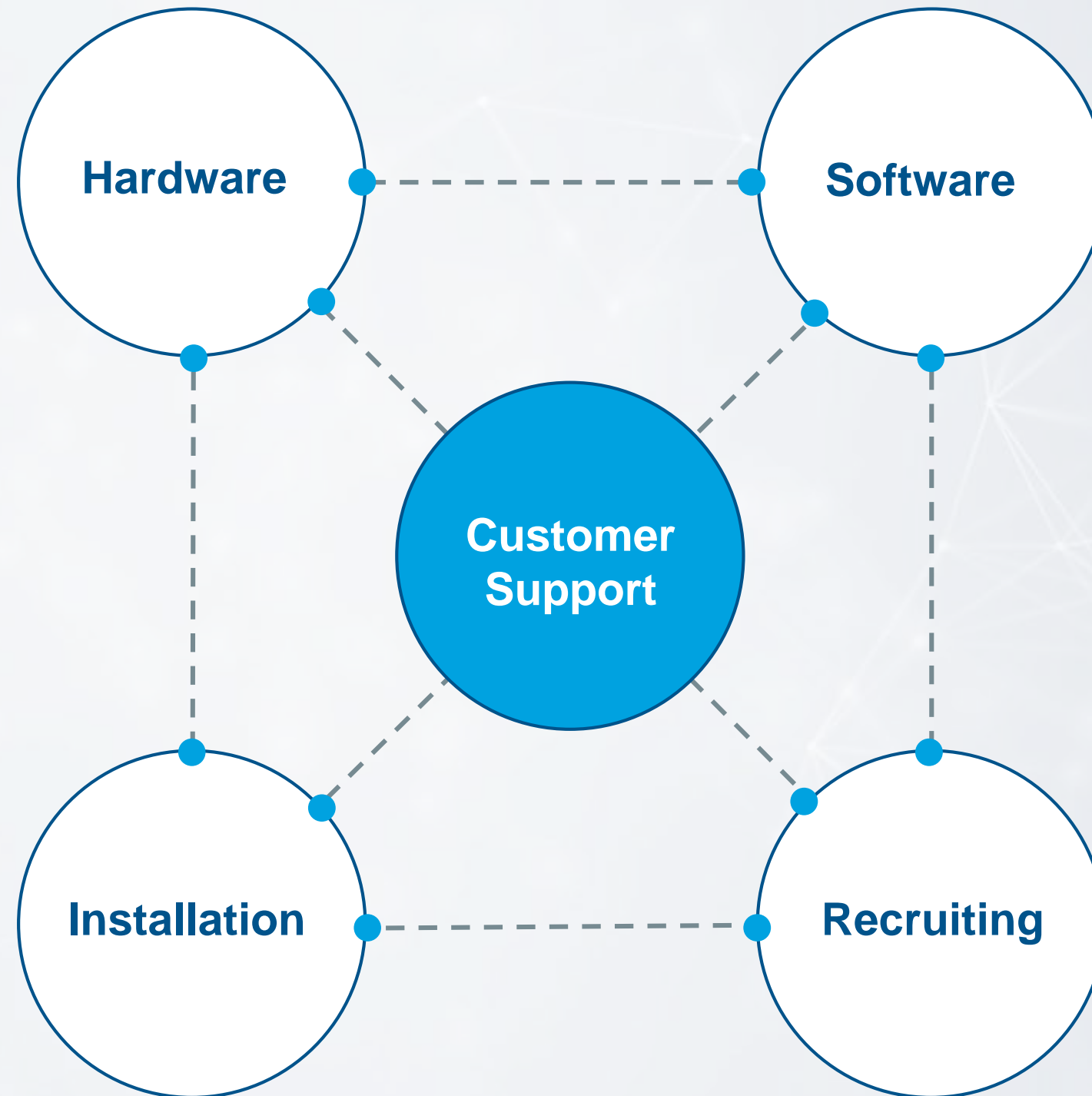
Pepco

Assessing demand response and customer engagement

DPL

Assessing energy efficiency potential in vacation / rental homes

Lessons Learned



Thank You.

David Meisegeier

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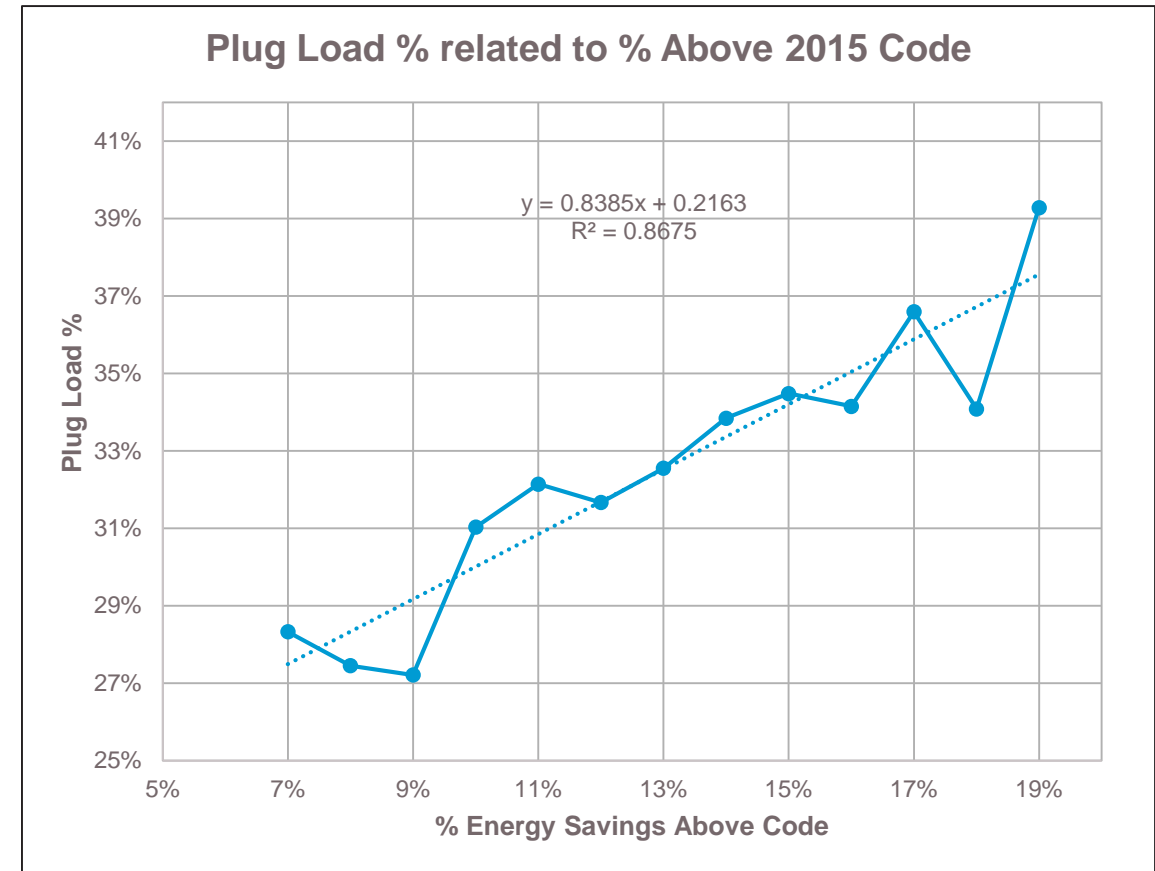
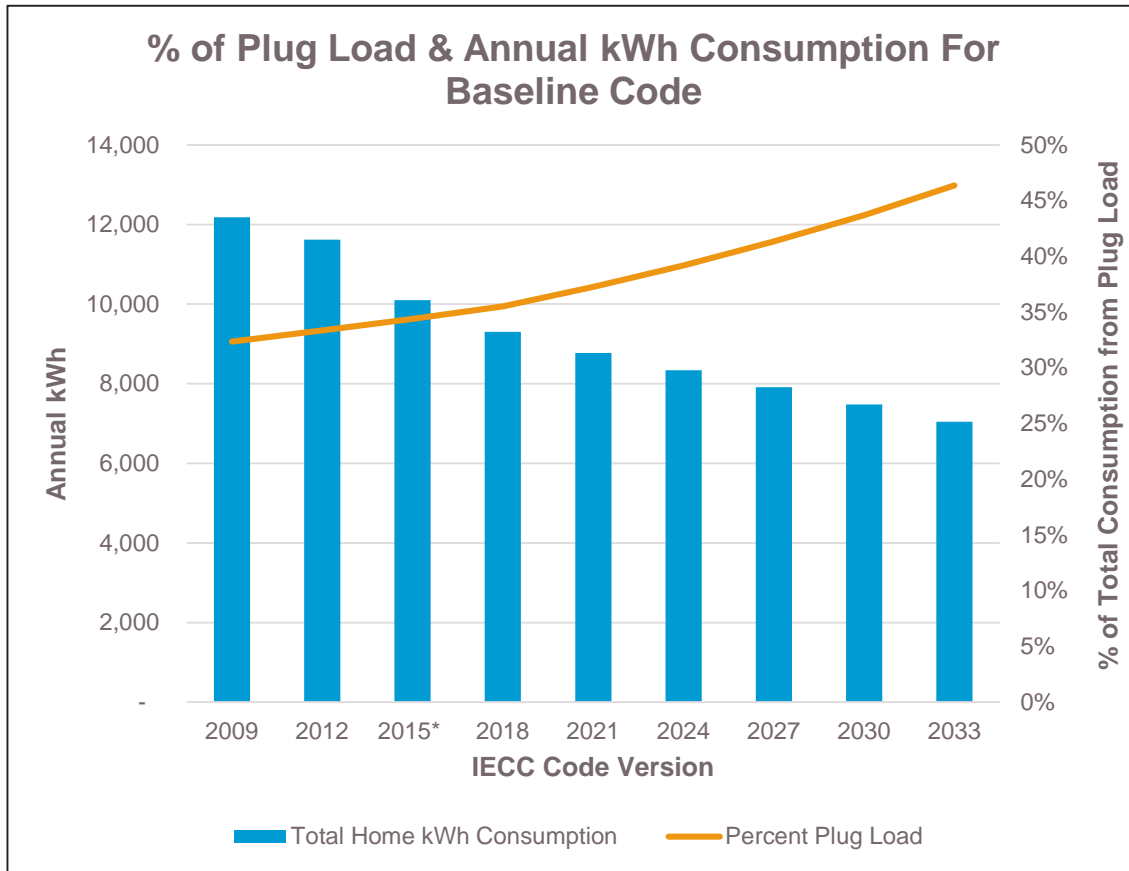
301.407.6854





SMART HOMES PILOT

One of the largest new homes programs in the country
 10-13k total incentivized homes per year, 4-5k ENERGY STAR Homes per Year, 104k all time



- **Homes will receive a system that consists of the following:**
 - Home Controller
 - Room Level Occupancy Sensors
 - Dwelling Level Occupancy Sensors
 - Smart Switches
 - Smart Outlets
 - Smart Thermostat
 - Smart lamps
 - Smart load controllers
 - Smart breaker panels and/or breakers
 - EV Ready Circuit Breaker
- **Phase 1:** Requires no change on the participant or household
- **Phase 2:** Participants will receive training on how to control the HEM System electronically
 - Controls and system usage will be monitored over the program year, while the participant is assisted with any training or additional information if needed.
- **Phase 3:** Evaluation of each participating household.

OUR PILOT AND THE ENERGY STAR SPECIFICATION

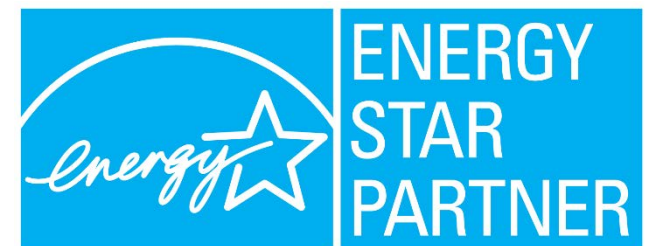


- Creates a long term pipeline of DR ready Homes
- Focused on occupancy-based savings
- Gives homeowners the tools to drive their own energy savings
- NOT behavioral modification
- Focusing on new construction allows us to easily scale up/down

- Standardization & Interoperability will be key
- The ENERGY STAR SHEMS specification will allow us to easily and quickly incentivize technology in a vendor-neutral manner
- What do our customers actually want?
- Provides the structure necessary for comprehensive inclusion in different utility programs



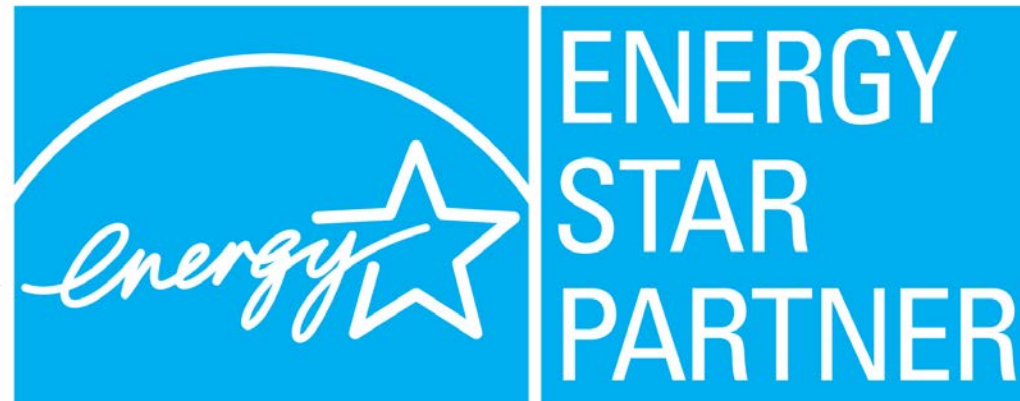
High Efficiency Homes™



THANK YOU!



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The Evolving Role of Energy Companies in SHEMS

Michael Wajsgras

Executive Director of Digital, Innovation & Growth

Constellation



ConstellationSM

An Exelon Company

Exelon and Constellation: Reinventing the Energy Company

Exelon: A Fortune 100 Company Creating Value Across All Aspects of Energy



Constellation: Competitive Energy Solutions

Energy Supply

- America's largest energy supplier
- Serve all major energy choice markets
- Over 1.8M customers
- 200K+ business customers



Home Services

- Full-service HVAC business
- Our team is in 1000+ homes per day
- Growing footprint that compliments our energy supply business



Connected Home

- Comprehensive smart home platform
- Provides security, home automation and energy management w/optional professional monitoring
- Integrated, emerging technologies to optimize, comfort, convenience and energy efficiency



The Energy Landscape is Changing Rapidly

Powered by \$25 million, Arcadia Power looks to expand its distributed renewable energy services

Regulators fine energy business \$1.5 million as state lawmakers debate industry regulations

THE WALL STREET JOURNAL.

U.S. Edition | July 3, 2019 | Print Edition | Video
Home World U.S. Politics Economy **Business** Tech Markets Opinion Life & Arts Real Estate WSJ Magazine

Google, Amazon Seek Foothold in Electricity as Home Automation Grows
Tech companies look to expand their reach, reap consumer data as smart-home ecosystem expands

Wholesale Power Prices Relatively Stable in 2017

Jan 17, 2018

Alternative retail electric suppliers: A surge in consumer protection standards in Illinois

The Illinois Commerce Commission (ICC) is applying new and stronger consumer protection rules, stakeholder engagement and consumer education tools to evaluate the deregulated electric supply market.

Bloomberg

Deals

Tesla Seals \$2 Billion SolarCity Deal

Meet Inspire: A Shell-Backed Company With a Unique Smart Energy Subscription

Inspire aims to create the world's first comprehensive "smart energy" experience for the home.

JULIA PYPHER | MARCH 05, 2018

Customer Expectations are Evolving

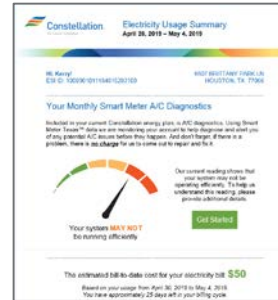
TODAY

Energy Supply

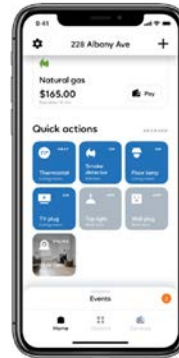
Analytics

Services

Energy Mgmt & Automation



TOMORROW





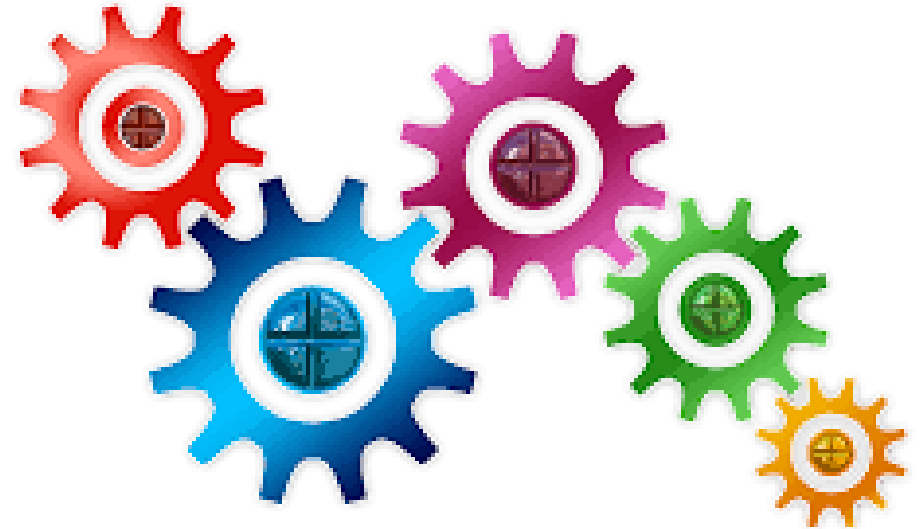
SHEMS = Energy Orchestration

What is the SHEMS Customer Value Proposition?

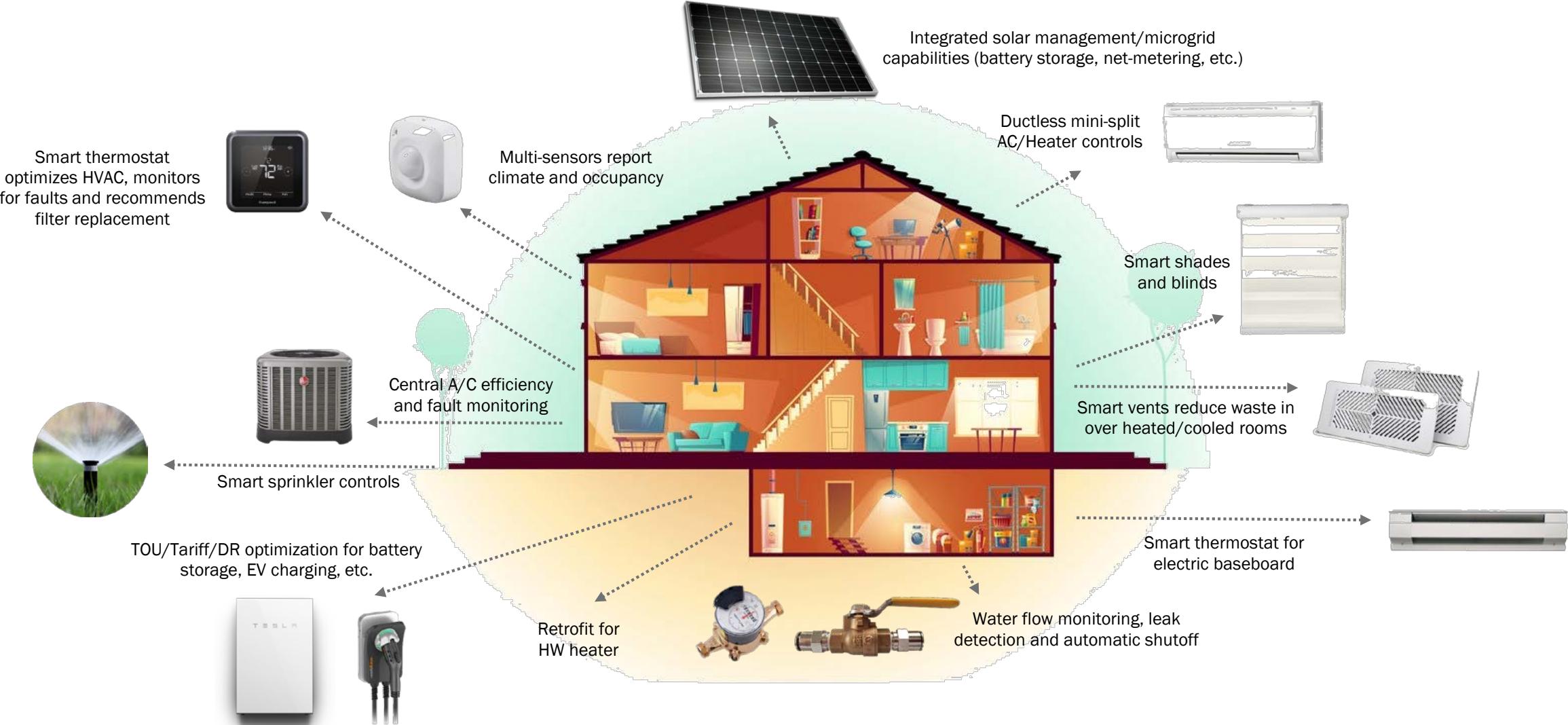
Improve the comfort, convenience and efficiency of the home, and provide peace of mind knowing that all the home's major systems are working and being proactively monitored for potential issues.

Customer Problems SHEMS Can Solve:

- *“How much energy am I using and where did it go?”*
- *“Does my HVAC system have an issue, run inefficiently, or is it due for maintenance?”*
- *“What changes can I make to lower my energy bill to _____?”*



The Smart Home of Tomorrow...Here Today?



ENERGY STAR Capable Platform vs. Individual Point Solutions



Our Approach for SHEMS Pilots to Meet Defined Objectives

- The ENERGY STAR SHEMS specification provides an objective framework for customers to evaluate the benefits for Smart Home solutions while creating opportunities for Energy companies to lead adoption of Home Energy Management technology.
- Pilot Objective: Deliver relevant and impactful solutions that deliver on the SHEMS goals and maintain high levels of customer engagement
- Establish the “right” group of stakeholders
 - Customers
 - Policy Makers
 - Utilities
 - Technology Solutions Providers
- Define the Objectives to align with SHEMS framework to obtain insights that shape the future of smart home energy solutions
- Focus on Customer Education to ensure proper level of engagement
- Include solutions that matter to customers

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