



EMBRACING CHANGE: STRATEGIES FOR ACQUIRING ENERGY EFFICIENCY SAVINGS VIA NEW BUSINESS MODELS

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PACIFIC GROVE, CA

NAVIGANT

DISTRIBUTED ENERGY RESOURCES (DER): WHAT'S INCLUDED?



**Distributed
Generation**

**Distributed
Storage**

Microgrids

**Demand
Response**

**Energy
Efficiency**

**Electric
Vehicles**

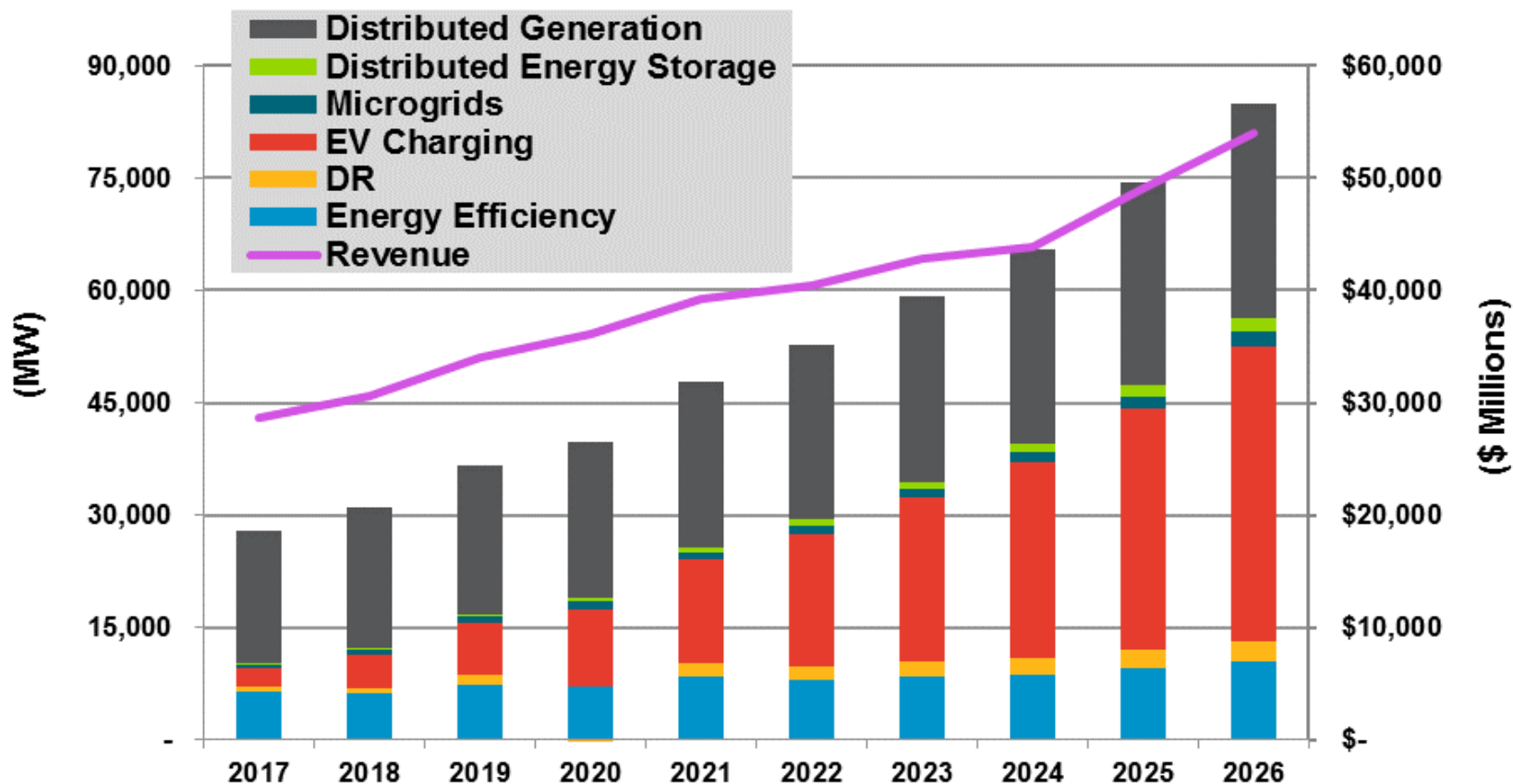


Resources can be utility, customer, or 3rd party owned on the grid in front of the meter or customer owned behind the meter.

FORECASTING DER CAPACITY

DISTRIBUTED ENERGY RESOURCES WILL BE MOST DISRUPTIVE TO OUR INDUSTRY

Annual Installed DER Power Capacity Additions by DER Technology, United States: 2017-2026



EE PROGRAMS: INNOVATE

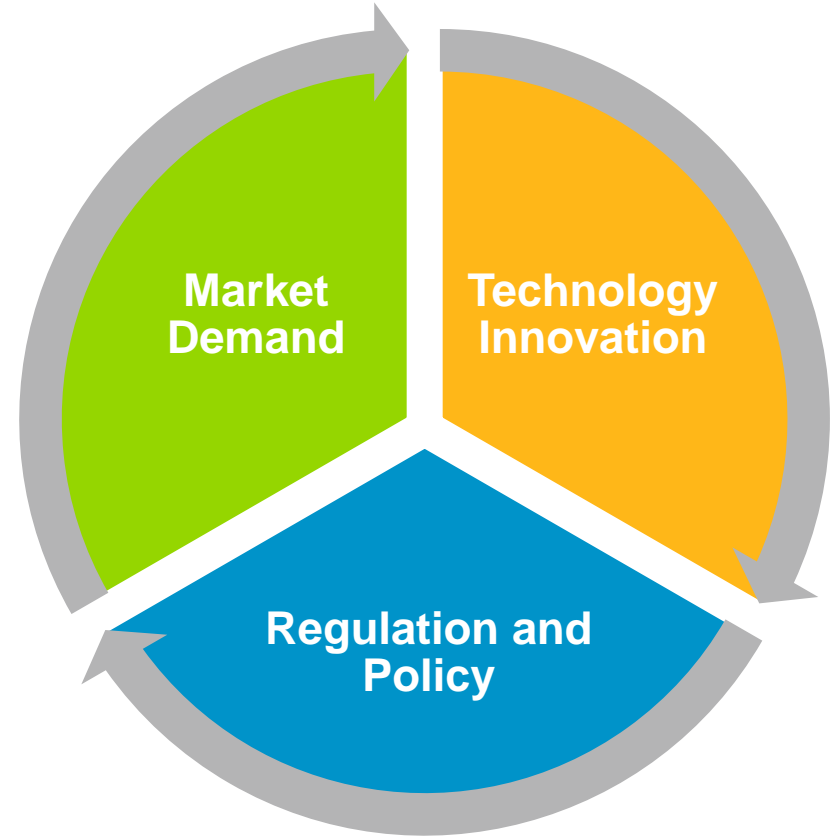
Unless utilities adapt, competitive, non-regulated business entities may increasingly be the front-line of customer engagement regarding energy use, efficiency savings, and other related services and products

- New technologies and business models have the potential **to bypass traditional utility efficiency programs**
- Customer attention is increasingly focused on the services and attributes of products, of which, **efficiency is secondary** to the more attractive DER product

NEW BUSINESS MODELS FOR ENERGY EFFICIENCY

Utilities are being challenged for customer attention and engagement from multiple private sector firms who offer a suite of services in addition to EE

- Energy as a Service (EaaS)
- Smart Home
- Financing
- Data Analytics



Where does this leave utility efficiency programs?

ENERGY AS A SERVICE (EaaS) Firms



ENERGY AS A SERVICE: BUSINESS MODEL

Meeting comprehensive needs of C&I customers



ENERGY PORTFOLIO ADVISORY SERVICES- **MAKING SENSE OF IT ALL**



ONSITE ENERGY SUPPLY – **SOLAR, CHP, MICRO-GRIDS**



OFFSITE ENERGY SUPPLY: **RETAIL CHOICE, OR OFF-SITE RENEWABLES**



ENERGY EFFICIENCY AND BUILDING OPTIMIZATION – **ASSESSMENT, FINANCING, PERFORMANCE CONTRACTING & INSTALLATION, COMMISSIONING**



LOAD MANAGEMENT AND ENERGY OPTIMIZATION- **INCLUDING DEMAND RESPONSE, STORAGE, EV CHARGING, ENERGY MANAGEMENT AND SOFTWARE CONTROLS**

ENERGY AS A SERVICE : FIRM PROFILES

Energy as a Service (EaaS) firms may become partners, collaborators, or competitors in the future for traditional utility programs



Will utility programs compete or complement services of EaaS firms?



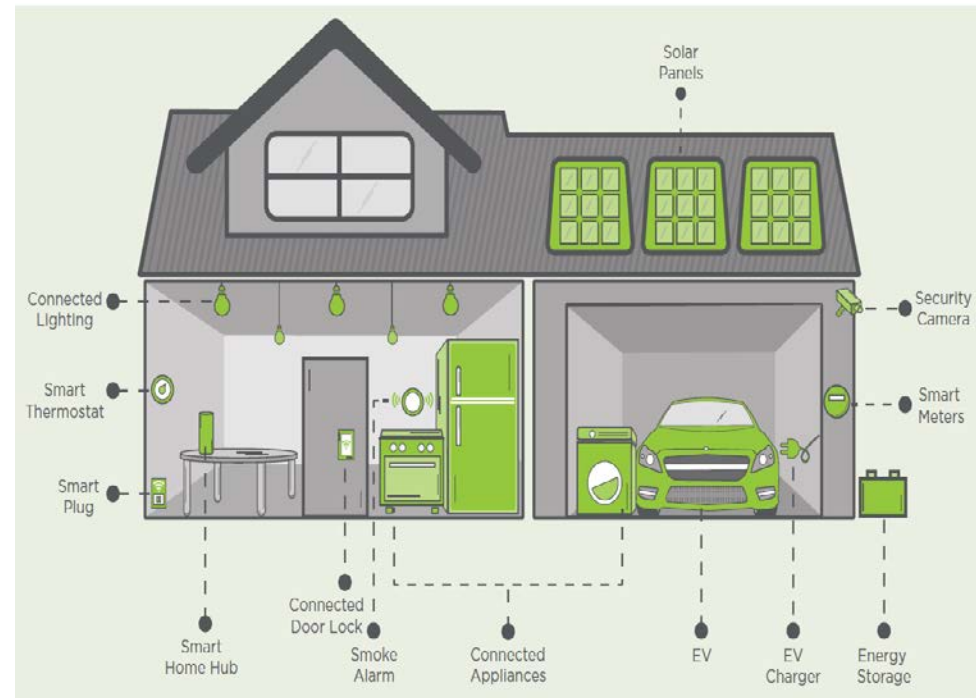
How can utilities engage with large C&I customers under turnkey EaaS contracts?



SMART HOME: BUSINESS MODEL

Products and services that advance the Smart Home by actively monitoring and controlling mechanical systems through communicating devices, software and services

- Smart homes can become a dynamic grid asset
 - Help shift and shed load
 - Generate clean energy
 - Contribute to grid reliability
- Product offerings to include:
 - Home security and automation
 - Solar (PV) systems
 - Battery storage
 - Energy efficiency contracting



Source: The smart home with connected devices and functionality. Navigant 2018

SMART HOME



SMART BUSINESS

The diagram illustrates a smart business building with various IoT capabilities. The building is a blue and white structure with a flat roof and four large windows with awnings. The awnings have a logo that says "Store". The building is surrounded by several icons representing different smart features:

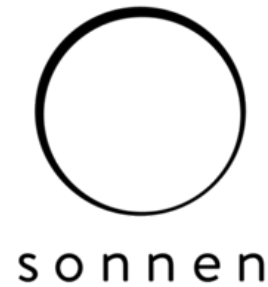
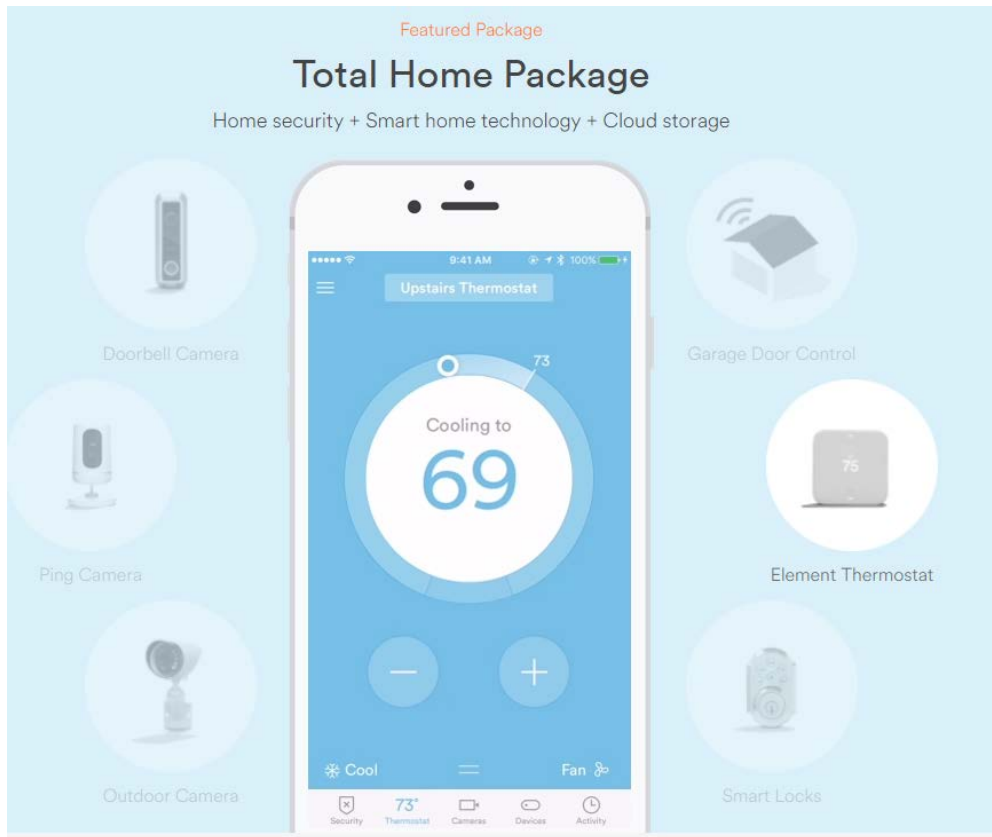
- Security Panel**: A house icon with a lock.
- Business Intelligence**: A line graph icon.
- Thermostats**: A thermometer icon.
- Shades**: A window blind icon.
- Security Sensors**: A padlock icon.
- Lights**: A lightbulb icon.
- Access**: A key icon.
- Live Video**: A play button icon.
- Image Capture**: A camera icon.

To the right of the building is a smartphone displaying a mobile app interface for "XYZ Business". The app shows the following sections:

- Security System**: System Disarmed (with a green padlock icon).
- Thermostats**: Entrance, 72°F (with a flame icon and a clock icon).
- Locks**: Front Door Locked (with a red key icon).
- Video**: A live video feed showing the interior of the store.

At the bottom of the diagram, there is an orange banner with the text "powered by  **ALARM.COM**".

SMART HOME: FIRM PROFILES



Source: <https://www.vivint.com/home-security-comparisons>

TEAMING TO BREAK INTO NEW MARKETS

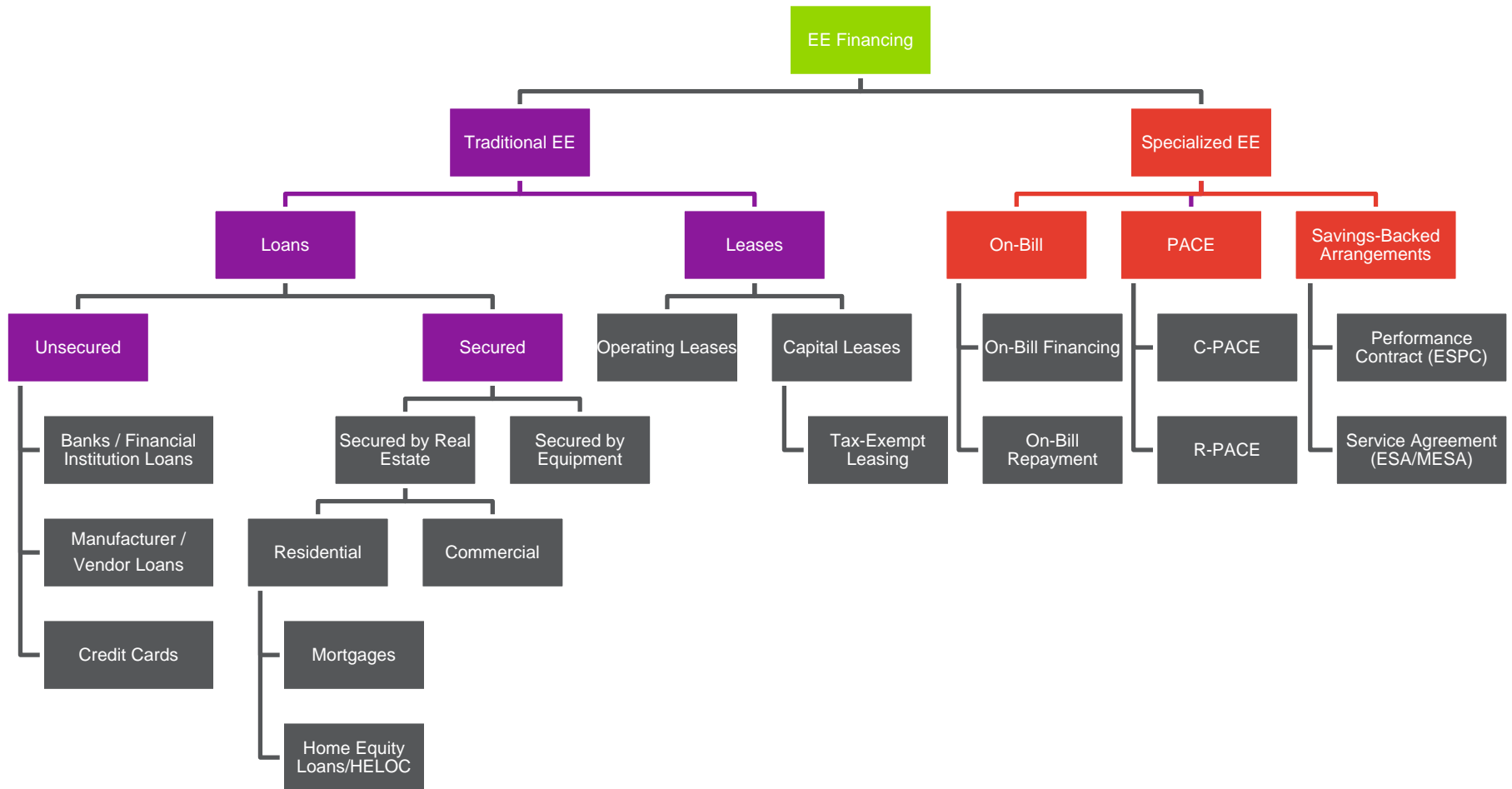


Sunrun and Comcast Enter Into Agreement to Offer Residential Solar Program

SAN FRANCISCO and PHILADELPHIA, Aug. 24, 2017 (GLOBE NEWSWIRE) -- Sunrun Inc. (NASDAQ:RUN), the nation's largest dedicated provider of residential solar, storage and energy services, and Comcast (NASDAQ:CMCSA) today announced an agreement designed to accelerate the adoption of solar energy through the installation of Sunrun's leading rooftop solar products and provide consumers with savings on their electric bills. Under the 40-month agreement, Sunrun will be the exclusive residential solar energy provider for Comcast Cable, and Comcast Cable will serve as one of Sunrun's strategic partners through marketing campaigns in selected markets.

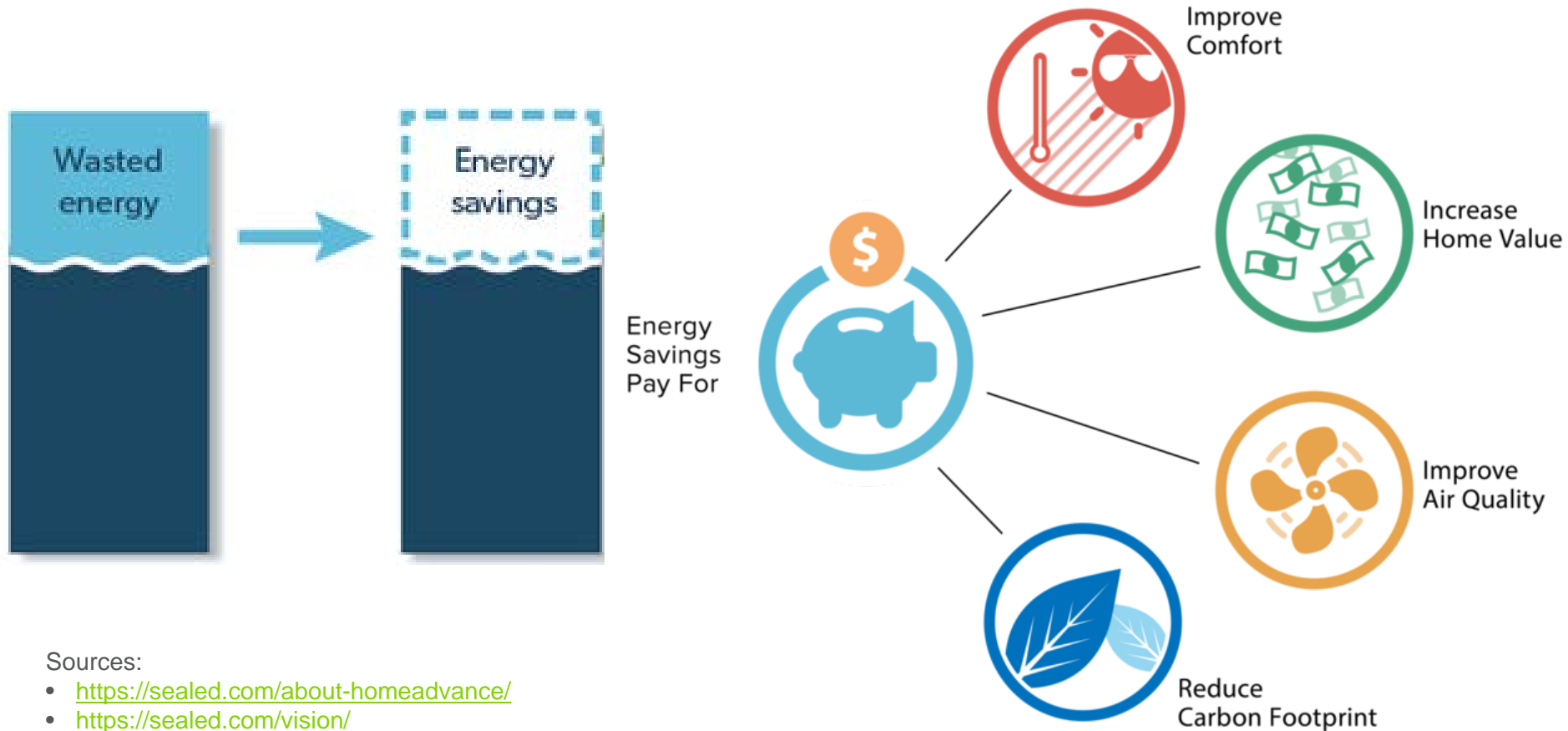
<http://investors.sunrun.com/news-releases/news-release-details/sunrun-and-comcast-enter-agreement-offer-residential-solar>

FINANCING



FINANCING: BUSINESS MODEL

Energy efficiency financing allows customers to use third party capital to fund projects and pay the project cost back over time, avoiding the up-front costs



Sources:

- <https://sealed.com/about-homeadvance/>
- <https://sealed.com/vision/>

FINANCING: FIRM PROFILE

Straightforward energy efficiency financing at competitive rates, combined with turn-key project implementation, holds the promise to simplify the customer experience and expand this avenue of the market

Financing Products:

1. Energy service performance contract
2. Property assessed clean energy (PACE)
3. On-bill financing / on-bill repayment
4. Unsecured loan products
5. Energy efficient mortgages



Metrus and National Grid Join Forces to Pursue New York Efficiency Projects

The Metrus-National Grid initiative will target \$50 Million investment in efficiency upgrades

San Francisco – (May 22, 2018)

<https://www.metrusenergy.com/metrusandnationalgrid>

➤ DATA ANALYTICS FIRMS



DATA ANALYTICS FIRMS: BUSINESS MODEL

Data analytics companies utilize customer data to identify opportunities for energy savings

- Offer a smartphone applications to customers on where/how to save energy
- Optimize time-of-use rate structures for maximum savings
- Change how energy efficiency opportunities are identified and targeted in the industry



Source: <https://www.bidgely.com/solutions/>

DATA ANALYTICS: FIRM PROFILE

Navigant expects data analytics to become integrated into an overall value proposition to customers for integrated energy services



Source: http://bidgely.com/wp-content/uploads/2016/04/White_Paper_Savings_Engagement_v2_Case_Study.pdf

CONCLUSIONS

Utilities should aggressively innovate to stay relevant and engaged with customers by exploring a wide array of options to expand / invigorate their EE programs

- Utilities should explore:
 - Pilot different approaches
 - Test strategic alliances
 - Reimagining how to stay engaged with their customers
 - Increasing customer satisfaction while still acquiring energy efficiency savings
- Aggressive innovation and strategic partnerships will enable utilities to develop deeper relationships with their customers
- Innovations and new partnerships, could lead to higher savings, reaching new customers, at lower ratepayer costs .

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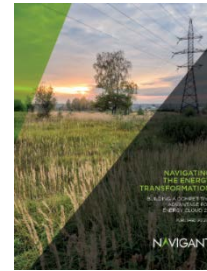
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RELEVANT
THOUGHT
LEADERSHIP

Navigating the Energy Transformation



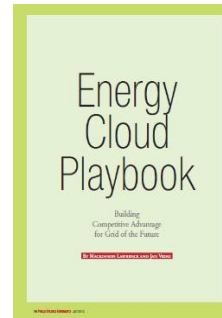
August 2016

State & Future of the Power Industry



July 5, 2017

Energy Cloud Playbook



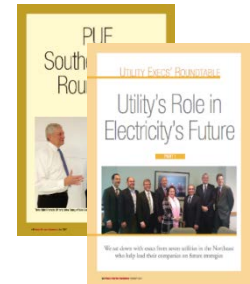
July 2016

Defining the Digital Future of Utilities



April 2017

Utility's Role in Electricity's Future



Q1 & Q2 2017

NAVIGANT