



# Successful Adoption of New Technology and Services

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# What Are “New Technologies”

- An innovative technology or service that will save our customers money or increase system efficiency
- New equipment which is more efficient
  - Lightning
  - HVAC
  - Controls
- New services or approaches that leverage market advancement
  - Utilizing Smart Meter Data
  - Enhance proven methods through today's technology

# How New Technologies Enter the Market

- Energy Star
- Incentive adoption at the State Level
  - Tested and proven effective
  - The State creates and maintains a State Approved list
  - Does not always match Energy Star
- Fly-by-Night offerings
  - Examples tend to be labeled a “black box”
  - Typically not the best or most reliable method for ongoing operations or sustainable technologies
- After widespread adoption, Codes and Standards are established and focus becomes above code (e.g. California)
  - Title 20 (equipment)
  - Title 24 (building)

# Why We Do It

- State and federal mandates for GHG reduction, energy efficiency, demand response, and renewable energy integration
- Customer expectation for superior reliability and power quality at a reasonable cost
- Interaction between emerging technologies to help control power delivery in an efficient, real-time, mode
- Development of smart transmission and substation technology solutions

# Southern California Edison Case Studies

- Irvine Smart Grid and Military Micro-grids
- Energy Storage Demonstration
- Equipment and Technology Assessments
  - Lighting
  - HVAC and Refrigeration
  - Food Service Equipment
- IDEA365 Programs
  - First Fuel Virtual Audits

# Current Projects and Learnings

- Irvine Smart Grid Demonstration
  - Demonstrate an integrated, scalable, smart Grid with all the interlocking pieces of an end-to-end system from the transmission and distribution systems to consumer applications such as smart appliances and electric vehicles
- Tehachapi Wind Energy Storage Project
  - Deploy and evaluate a 32 MWh utility-scale lithium-ion battery technology to improve grid performance and aid the integration of wind generation into the Utility supply
- “Laboratory” Equipment Testing
  - Equipment testing for customers considering applications, to validate technology as well as integration with other common customer systems
- Virtual Audits using Smart Data
  - “SCE First Fuel Pilot” – data analytics provides customers with operational and retrofit recommendations at building level, providing an energy road map for improving building operations and reduce costs.

# “Enablers” and “De-railers”

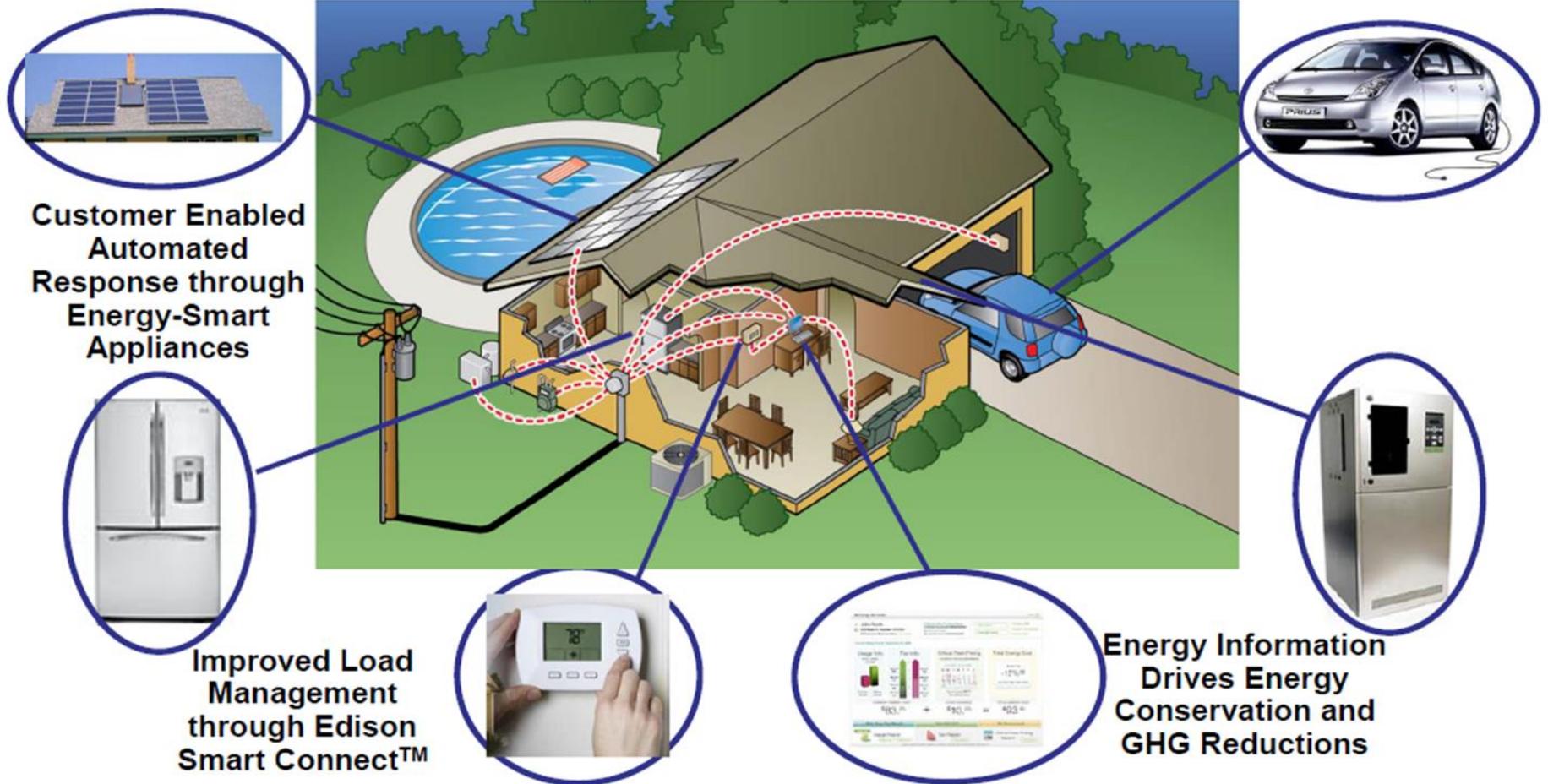
- Enabling adoption, or new ways of doing anything, need clear objectives, visible connections/processes, and address people impacts
  - Organizational Change Management (OCM)
  - WIFM
  - Success looks like \_\_\_\_
- Use historical context to avoid de-railing the launch and commissioning phase
  - common pitfalls and contingency plans
  - Home office vs satellite location installations
- Take time to have the operational plan trained and retrained.



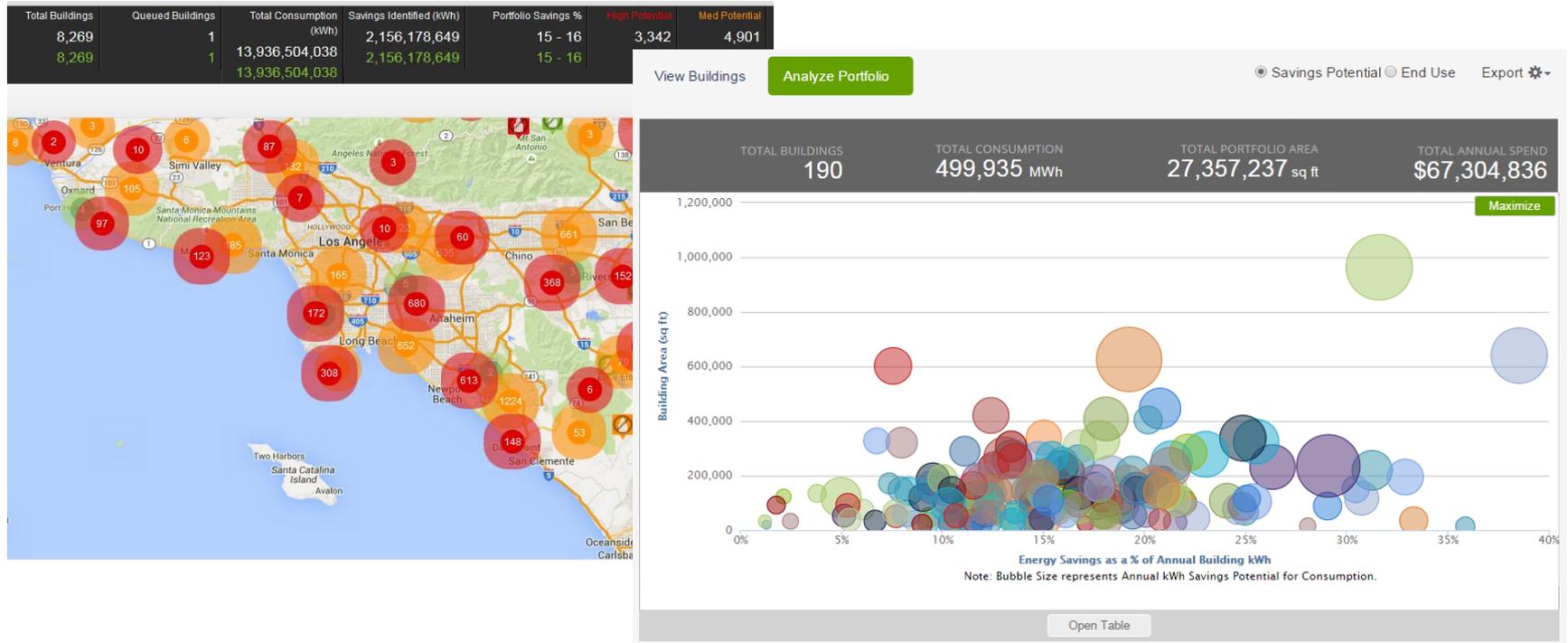
Solar shading helps reduce heat load in the building, LED retrofits and lighting controls keep the light levels constant

# Smart Customer Solutions

## Empowering Customers



# Customer Intelligence Driven Process

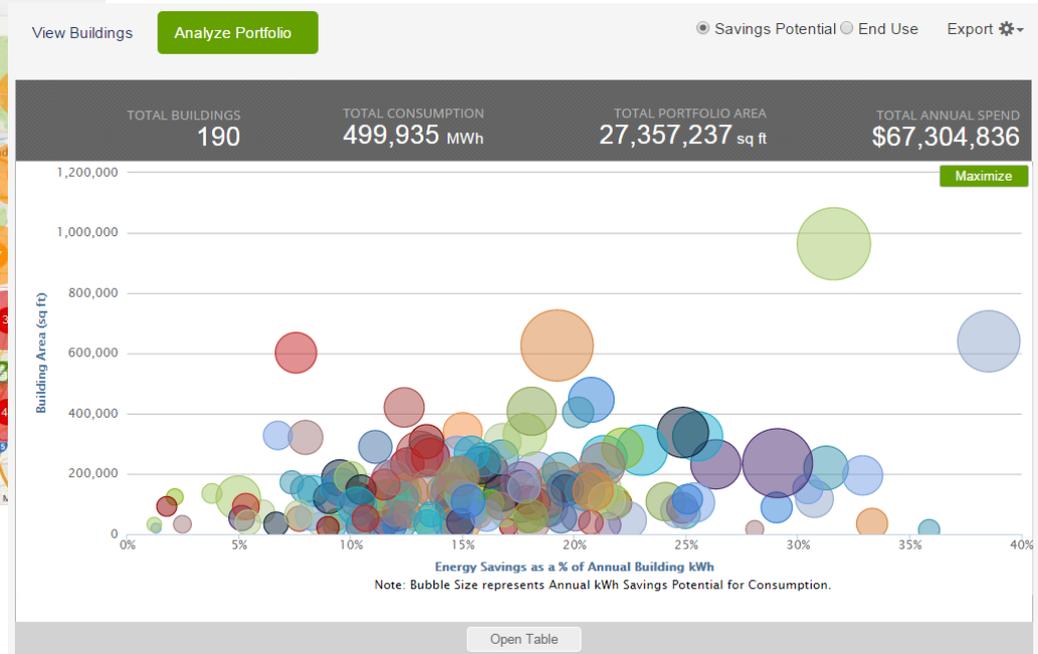
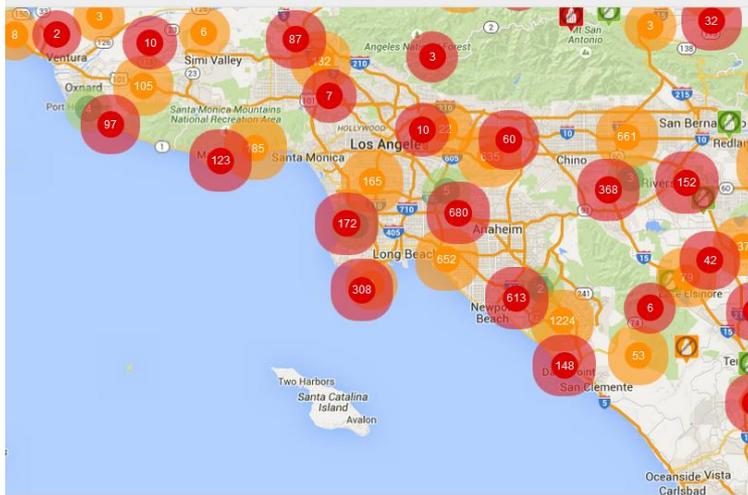


- Target Highest Potential Sites with AMI Data Analytics

- Identify customer-specific IDSM needs prior to first engagement

# IDEA365 - First Fuel Program

Total Buildings	Queued Buildings	Total Consumption (kWh)	Savings Identified (kWh)	Portfolio Savings %	High Potential	Med Potential
8,269	1	13,936,504,038	2,156,178,649	15 - 16	3,342	4,901
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