

ACEEE Intelligent Efficiency Conference

Austin, Texas | December 4–6, 2016

Utilizing Intelligent Efficiency to Achieve Environmental Goals
Alok Singh, Southern California Edison

Key Developments in the Final Decision

- » Upstream and midstream programs and subprograms move to **single statewide administrator**
 - Statewide definition established
- » **Budgets for Statewide programs trued up annually**, rather than every five years
- » Shift to SW program implementation does not change several other existing policies (Budget, ESPI credit, cost-effectiveness evaluation, etc.)

Intelligent Efficiency Relevant

- » **Existing Conditions Baseline (ECB)** to determine savings for equipment changes along with behavioral, retro-commissioning, and operational (BRO) activity
 - Prior Decision language prohibited use of EE funding to support to-code activity—above is the new default policy, with select exceptions
 - 2-year savings life for behavioral; 3-year for RCx and operational (for non-residential)
- » Pilot statewide approach with downstream programs, including **Strategic Energy Management**
 - SEM activity and associated industrial processes are set at ECB and NMEC (Normalized Metered Energy Consumption) savings claim potential

*Part of what makes energy efficiency so complex is that savings – i.e., the absence of use – is a difficult thing to measure. **Figuring out what you saved requires figuring out what you would have consumed without the efficiency measure.** This hypothetical level of consumption is the “baseline,” and it is the point of comparison for determining savings.*

Eligibility Requirements (simplified)

- » Customer pays PPP (Public Purpose Programs) Surcharge
- » The primary goal of EE programs is to reduce the load on the grid/system with a resultant reduction in the investments in additional supply-side resources
 - EE funding should coincidentally reduce energy supplied from the grid/system
 - Rebate/incentives are available only for the impact that reduces the coincident energy supplied from the grid/system
 - Loading order calls for renewable and distributed generation next after EE and DR
- » Evidence of program influence

Things to Consider

- » Distinction between impact on non-IOU fuel sources and the grid through implementation of efficiency measures
- » Identifying free-riders and providing evidence of influence at the measure level

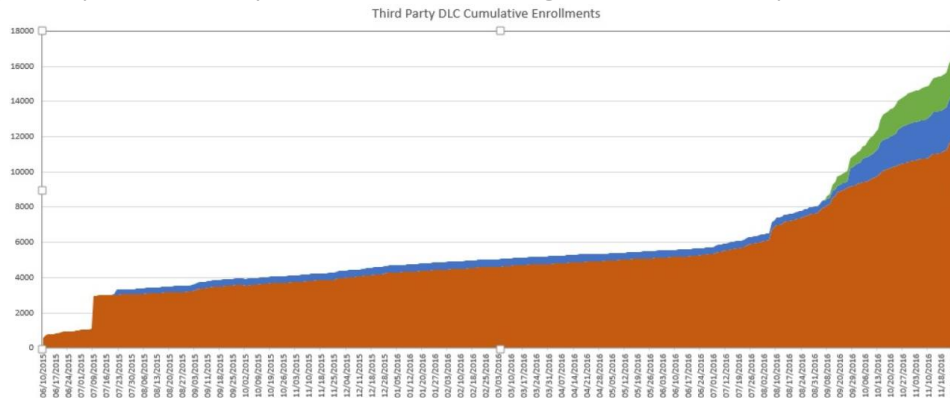
*These are energy efficiency efforts where the customer financial incentive and **ex ante** energy savings are determined using a site-specific example of the customer's existing and proposed equipment, and an agreement is made with the customer to pay the financial incentive upon the completion and verification of the installation. **Parameters for custom projects are more variable and less predictable than deemed measures.***

Background

- » On 3/23/16, the assigned Commissioner issued a Ruling directing DR activities to help mitigate a natural gas leak at Aliso Canyon Storage Facility
- » Directed SCE to file proposals to intensify demand response efforts in the geographic areas most affected by the leak
 - Mitigate the impact of reliability issues arising from the leak
- » SCE filed its proposal on April 4, 2016

SCE/Nest* Partnership

- » Enroll a qualified smart Wi-Fi connected thermostat
- » When a Save Power Days event is called, your smart thermostat service provider may adjust the temperature in your home
- » Option to adjust your temperature setting, based on your comfort and choice



Intelligent Efficiency

Potential Framework and Benefits

Corporate Responsibility

Environmental (E)

Design

Construct

Operate

Drivers

Metrics

Tools

Impact

Social (S)

Governance (G)

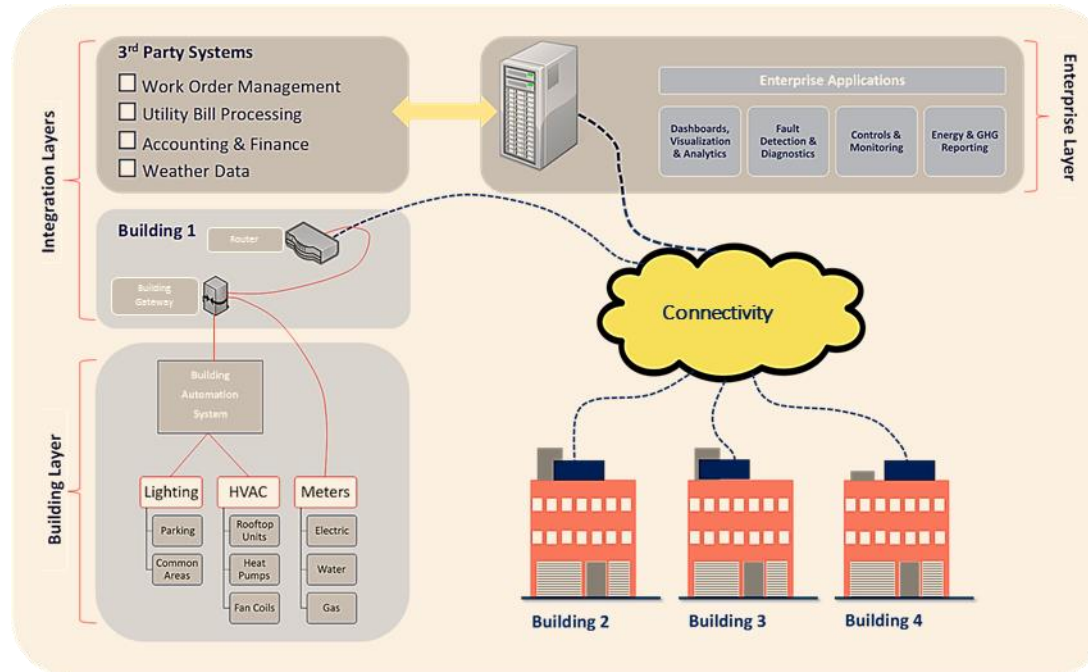
- Knowledge (Technology, Leading Practices)
- Commitment (Corporate Responsibility, Approach)
- Financial (Access to/Cost of Capital, ROI, NOI)
- Market Demand (Tenants, Investors, Shareholders)
- Policy (Federal, Local)

- Demand Side Energy (Electric, Gas)
- Supply Side Energy (On-site Solar, Green Power, Renewable Energy Certificates)
- Water/Waste/Recyclables (Management)
- Sustainable/Low-energy Materials (Quality, Procurement)

- **Technology (Tracking/Monitoring/Analytics, Energy End-use Equipment)**
- **Behavior (Usage, Operations)**
- **Reporting (GRESB, GreenPrint, USGBC-LEED, ENERGY STAR, GRI, CDP)**
- Social (Media Campaign)

- Financial (Operational Expenditure, NOI, ROI, Vacancy Rate)
- Social (Corporate Image, Tenant/Occupant Satisfaction)
- Environmental (Carbon Footprint, Energy & Water Use, Waste/Recyclables)

Intelligent Efficiency Potential Framework and Benefits



Looking Forward...

- » ICT will play an increasingly important role in providing access to energy data across buildings to measure, manage and improve their performance real-time
- » **Integration** of building operations with energy management enables implementation of the most cost-effective solutions
- » **Measuring and managing performance real-time**, at scale leads to better decisions
- » **Performance reporting, benchmarking and environmental data flow is enabled**

Thanks!

Alok Singh, Southern California Edison
Senior Manager, Customer Programs & Services
alok.singh@sce.com