Opportunities & Challenges: Driving Demand Response in Commercial Buildings

U.S. Green Building Council
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21 May, 2014

Can LEED Buildings do even better…when called upon to do so?



Challenges to Adoption

→ Limited number of energy-focused facility managers

→ Lack of familiarity with utility DR programs

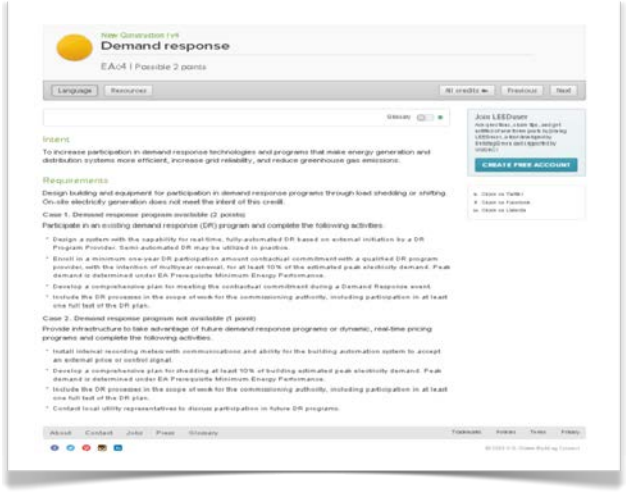
→ Lack of specific knowledge around costs and benefits

→ Perception that demand response is disruptive

→ Concern over loss of control

→ Concerns over ongoing operational changes

Driving Market Transformation



LEED v2009

→ Pilot Credit 8 for 1 point

LEED v4

→ EA Credit for up to 3 points

LEED Credit Requirements

→ Real-time, fully-automated demand response (ADR)

→ Minimum 1-year contractual commitment with intention of multi-year renewal

→ 2009 pilot credit: 10% or more of the estimated peak electricity demand **or** a minimum of 20 kW, whichever is greater

→ v4 credit: 10% or more of the estimated peak electricity demand

LEED O+M: Existing Buildings | v4

Demand response

Possible 3 points

[On-line Reference Guide]

Language | Guide | Resources | Forum | All credits | Previous | Next

Free Preview!

This web-based reference guide credit is being provided as a free preview. For more information on the web-based guide check out usgbc.org/guide. To purchase access to the full suite of guide content, go to the store.

- Behind the Intent
- Step-by-Step Guidance
- Required documentation
- Further explanation +
- Related credit tips
- Changes from LEED 2009

Glossary

Behind the Intent

When temperatures rise or fall dramatically, use of air-conditioning or heating increases. The electricity grid must respond quickly, especially in urban areas and places where commercial buildings or industrial operations are clustered. Utilities work to keep the system operating in balance, reliably, and at reasonable cost.

Demand response (DR) strategies encourage electricity customers to reduce their usage during peak demand times, helping utilities optimize their supply-side energy generation and delivery systems. One strategy is tiered demand electricity pricing.

Demand Response in Practice: How it Works



AutoDR for Peak Load







Demand Response Partnership

→ Generate and maintain interest in ADR

→ Reveal customer responsiveness and perceived barriers to adopting ADR

→ Quantify economic, environmental & grid benefits delivered by ADR

→ Serve as a foundation to bring together utilities, service providers and customers to continue the transformative journey of ADR at the company, state and national levels

Outreach

→ Contacted 572 buildings representing 275 million sq ft

→ 133 buildings (51 million sq ft) enrolled, evaluating enrollment, or are DR ready

→ 26 buildings sharing energy usage data for analysis and case study development by Lawrence Berkeley National Lab and Environmental Defense Fund

Research

→ Consumer energy use behavior and barriers to participation

→ Performance assessment and estimation in commercial buildings

→ Establishing baselines and peak load benchmarking

→ Customer financial analysis and cost-effectiveness

→ System-wide impacts, including environmental and reliability impacts

Who We Are


EDF
ENVIRONMENTAL
DEFENSE FUND
Finding the ways that work


BERKELEY LAB
Lawrence Berkeley National Laboratory


SkippingStone


NVEnergy


SOUTHERN CALIFORNIA
EDISON
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ENERLIANCE
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MelRoK

QUESTIONS?

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