



Workplace Engagement: Finding and Filling the Gaps for Fruitful Energy Savings

Kat A. Donnelly, Ph.D., P.E.



Behavior Energy and Climate Change Conference
Baltimore, MD
October 20, 2016

The Opportunity

30% of a commercial building's energy use is **wasted energy**.



CO₂
\$ \$ \$ \$ \$

The Opportunity

Staff costs typically account for about **90%** of a business' operating costs.

Reduce operating costs by 10%
(evenly spread)

- **0.1 %**
Energy costs

- **0.9 %**
Rent/Mortgage costs

- **9.0 %**
Staff costs

Source: World Global Building Council, 2014

©Empower Efficiency, LLC, October 20, 2016, Slide 3

Engagement Facts: Office Worker

The typical office worker is...

- not aware of the waste
- not motivated to change
- not aware that as an individual, one can make a difference



“Never underestimate the power of a small group of committed people to change the world. Indeed, it's the only thing that ever has.”

- Margaret Mead

Engagement Facts: Facility Engineer

The typical facility engineer is...

- just trying to keep the lights on
- not compensated based on the building's operational efficiency



<http://www.simplyeco.com/images/Light-fitting.jpg>

Engagement Facts: Building Owner

The typical building owner or property manager is...

- trying to please tenants & keep them comfortable
- focused on near-term financial results.



<http://images.wisegeek.com/two-men-in-an-empty-building-with-white-walls-and-floors.jpg>

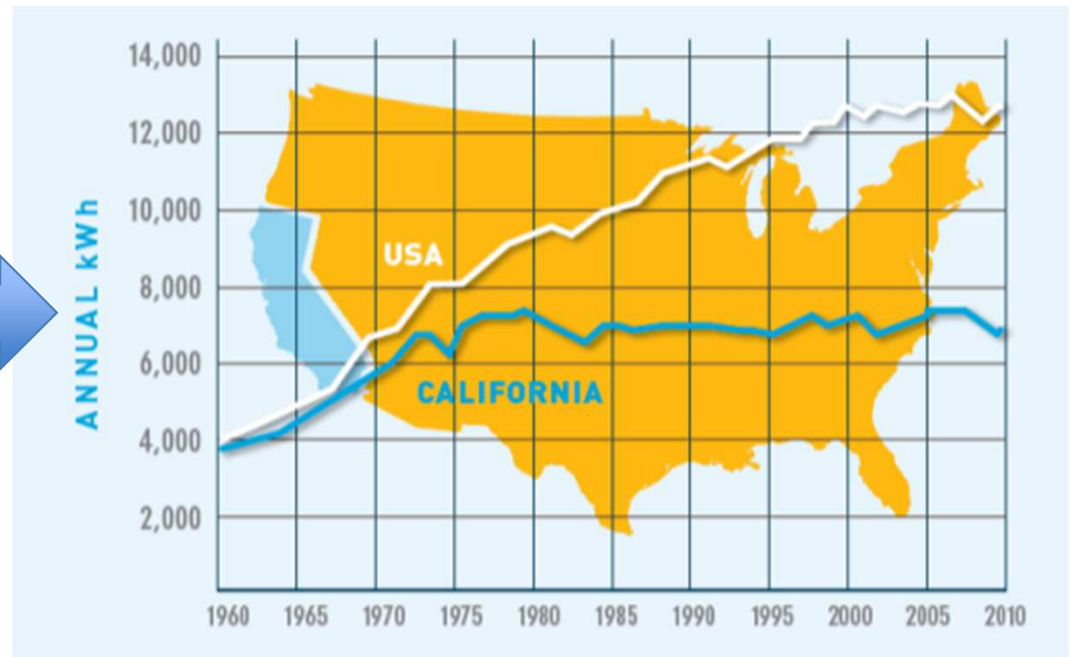
How to break down the barriers?

- Build on best practices
- Establish public-private-academic partnerships
- Focus efforts within geographic areas
- Focus efforts on large office buildings



Replicability

Envision Charlotte caught the attention of other utilities, States, and even the White House.



**PG&E conceived
“Step Up and Power Down”**

Did You Know?





Contributing to San Francisco and San José sustainability



- \$1 Million to support local environmental projects in each city.
- Community-wide energy savings goals.
- Engagement of large commercial customers and small/medium businesses.

Rich variety of **tools,** **training, & techniques**



ASSESSMENT & TRAINING

Audits, hands-on training and peer learning to support sustainability efforts



TOOLS & TIPS

Actionable tips to engage and encourage employees



ENERGY SAVING ENGAGEMENT CAMPAIGNS

Helpful toolkits and templates to engage and encourage employees

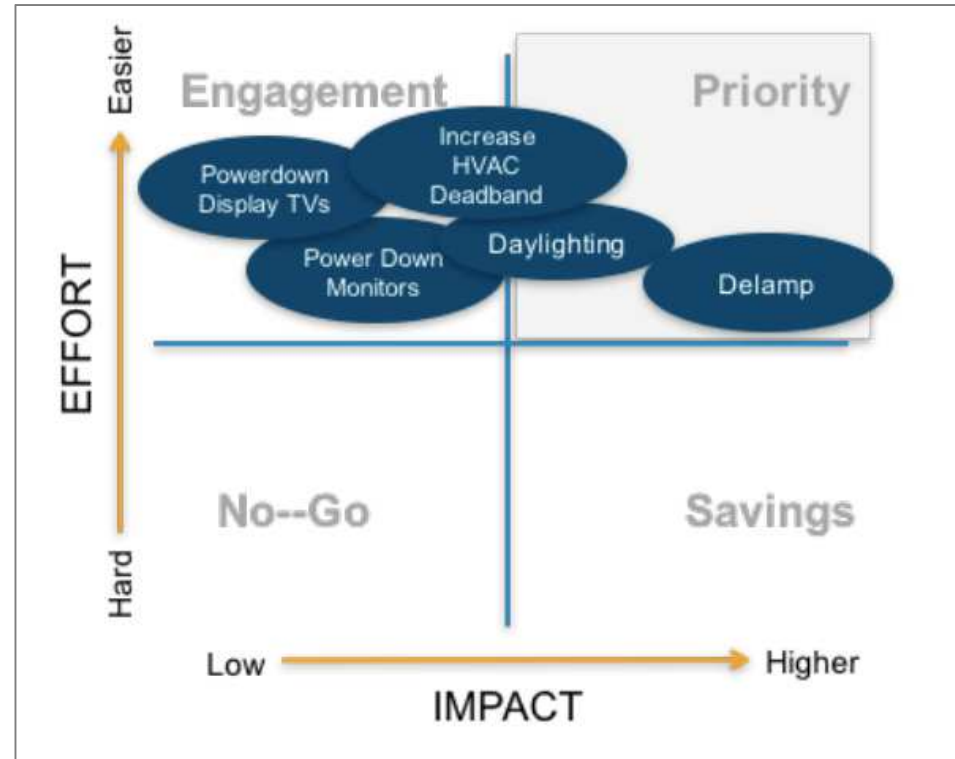


ENERGY ADVISOR & SOFTWARE

Personalized recs & energy tracking, measurement software to create & execute your plan



Energy Practices Inventory: Highlights & targets behavior-based opportunities



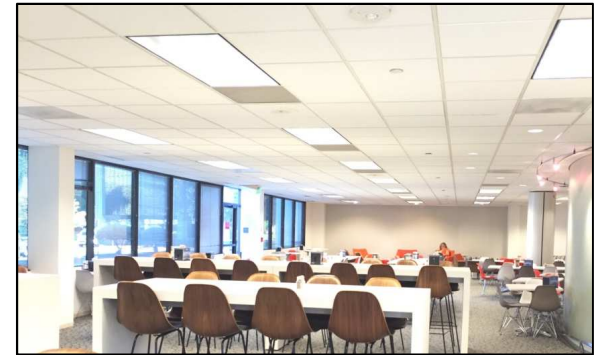
Low-cost, behavior-based initiatives drive energy savings



Energy Practices Inventory: Typical Results



- Completed almost 40 EPIs
 - Large Offices
 - Hotels
 - Universities/Labs
 - Grocery Stores
- Median annual savings:
 - 4.5%, 122,000 kWh, \$16.5K
- Only top 5
 - No- & low-cost conservation/operational recs

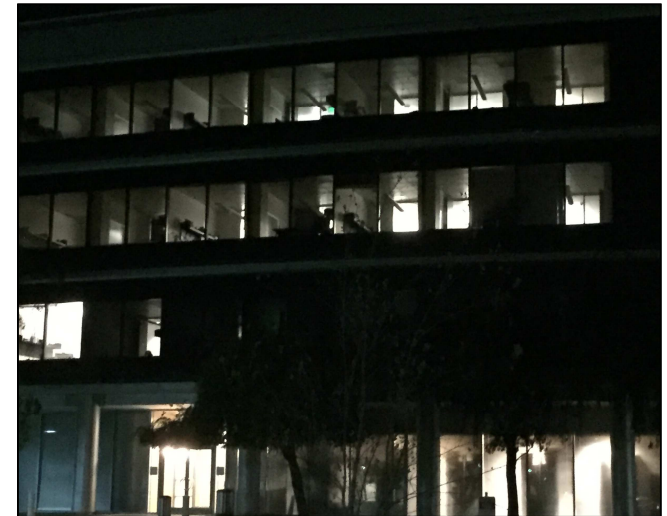




Energy Practices Inventory: Typical Recommendations



- Most common:
Lighting, Plug Load, & HVAC
 - Increasing HVAC setpoints
 - Reducing unnecessary lighting
 - Powering down workstations
 - Powering down equipment
- Achieved through:
 - One-time operational changes
 - Employee engagement campaigns





Engagement campaigns: A popular way to drive energy waste reduction



My name
is Shiny
I'm adopted by
Kim

Adopt A Light

Adopt & care
for switches,
turning them
off when not
in use.



Power Down: Unplucked!

Power down
workstations
or receive a
rubber chicken
as a reminder.



Vampire Slayer

Unplug energy
vampires, or
receive a set
of fangs as a
reminder.



Sweet Goodnight

Power down
workstations
and receive a
sweet treat on
your desk in
the morning.



Engagement campaigns: Plan, Execute, and Measure



Engagement Support

- Campaign planning
- Campaign facilitation
- Marketing and collateral
- Pre- & Post-measurements



Engagement campaigns: Understanding Results

- Measure Impact
- Survey Participants



Engagement campaign: Power Down: Unplucked!

Energy savings **over 4%** in
targeted areas

- Survey Participants
- Employee Results
 - Positive changes in employee energy behaviors
 - Intention to persist and to take behaviors homes
 - Positive impact on employee morale



Engagement campaigns: Lessons Learned (so far)

- Employees (really) like campaigns
- Campaigns capture low-hanging fruit
- Up-front prep leads to better results
- Campaign selection is especially important
- Participants want
 - Clarity on how to play
 - More feedback on impacts



Any Questions?



empowerefficiency™



AZENTIVE
inventive • adaptive • collective

CBSM and Behavior
Change Programs

People-Centered
Practices and Efficient
Technologies

Kat A. Donnelly, Ph.D., P.E.

KDonnelly@EmpowerEfficiency.com

KDonnelly@AZENTIVE.com