



BEHAVIORAL OPPORTUNITIES FOR ENERGY SAVINGS IN OFFICE BUILDINGS

BEHAVIOR, ENERGY, & CLIMATE CHANGE (BECC) CONFERENCE
WASHINGTON, DC | DECEMBER 2014

DOUGLAS MILLER | DMILLER@RMI.ORG

RMI. Creating a clean, prosperous,
and secure energy future.™



A FIELD EXPERIMENT IN LONDON OFFICE BUILDINGS TARGETING OFFICE NORMS TO CHANGE INDIVIDUAL ENERGY USE BEHAVIOR

Details about the field experiment...

- About 1,100 participants across 4 London office buildings over ~1 month
- An intervention occurred on 1-2 floors, while another 1-2 floors were controls
 1. “Public Commitment” was used in 3 buildings: university, private, and public
 1. “Social Feedback” was used in 1 building: public
- Observational count data collected for computer monitors on/off status during post-workday hours
- Half-hourly electricity meter readings collected from both public buildings

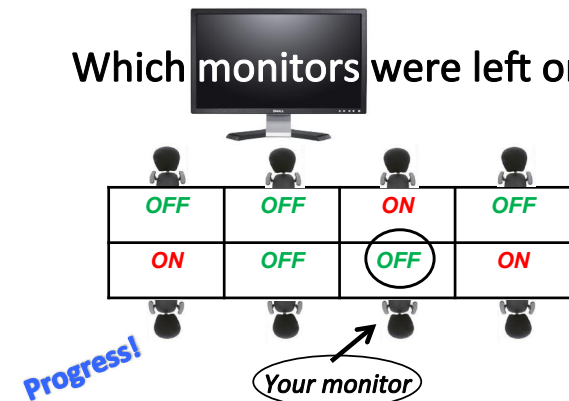
...for which one of the following two interventions were applied in each building

1. *Public Commitment*



2. *Social Feedback*

Which monitors were left on?



Last night, 223 out of 317 computer monitors on the 2nd floor were switched **off**

Last Tuesday, 188 computer monitors were switched **off** environment@rbkc.gov.uk



INTERVENTIONS THAT MODIFY OFFICE NORMS CAN CREATE SIGNIFICANT CHANGE IN INDIVIDUAL ENERGY-SAVING BEHAVIOR

Key implications:

- **Recruitment challenges:** less observed interest in behavior change than expected, especially in the private sector
- **Big impact, relatively little effort:** small, norm-focused interventions can create significant change in individual energy use behavior in office environments
- **No difference between intervention types:** both interventions were equally effective in changing behavior
- **No difference between organization types:** similar levels of change can be expected across different types of organizations for interventions that target office norms
- **No difference within organizations:** similar levels of change can also be expected within a single organization (i.e., across different departments)
- **Important role of automation for energy savings:** it can be easier to save energy by removing the need for behavior change via automation technologies

AN INITIATIVE BY ROCKY MOUNTAIN INSTITUTE TO CHANGE HOW ORGANIZATIONS EVALUATE ENERGY EFFICIENCY

Integrate the value beyond energy cost savings of energy efficiency into decision-making

Enhance the value proposition of deep energy retrofits

Increase investment in deep energy retrofits in commercial buildings

The Deep Retrofit Value (DRV) Initiative's strategic emphases include:

- **Alignment** – demonstrates how energy efficiency supports the existing incentives and goals of organizations
- **Influence** – entails collaboration with influential, diverse peers and associations
- **Education & Training** – integrates content with widely held certification / accreditation programs and in workshops
- **Support** – provides evidence and methodologies to consider the full range of benefits of efficient buildings



Energy cost savings are just the tip of the iceberg of the full suite of benefits that energy-efficient buildings provide



EFFORTS THAT TARGET INTERNAL STAFF & EXTERNAL PEER NETWORKS ARE POWERFUL FOR CHANGING ORGANIZATIONAL BEHAVIOR

Insights from 1st year of DRV Initiative...

- **Power of partnerships:** working with influential groups helps motivate more investment in energy efficiency
- **Power of stories:** providing real-world examples inspires change
- **Power of people:** building larger, more diverse internal coalitions for energy efficiency enables funding
- **Power of scale:** focusing on the scale of the benefits rather than exactness helps create trust in energy efficiency's value beyond energy cost savings

...yet much more learning and work remains

- **A double “ask”:** many organizations do not currently have measures in place to track energy efficiency's value beyond energy cost savings
- **First-mover challenge:** organizations want more examples, but want others to provide these examples
- **Slow adoption:** despite progress building a foundation to dramatically increase investment in energy efficiency, uptake in the market is slower than needed



Creating a clean, prosperous,
and secure energy future TM