

Sharing the Road to Energy Efficiency with Principal Investigators



Alison Farmer



Matt Gudorf

Learning Objectives

- Identify the needs and priorities of lab principal investigators
- Anticipate and explain potential areas of conflict between efficiency projects and the needs of PIs
- List successful strategies for engaging scientists and gaining support for efficiency projects
- Discuss how to demonstrate positive outcomes to stakeholders

(Why) do we care?

- The reason labs exist
- Practical and political
- Best practices guide:
 - Interviews with facilities, EH&S, scientists
 - **Your input**

Everyone cares about energy

- Most PIs value energy efficiency*
- PIs would pay more for efficient equipment**
- But not everyone cares what's above the ceiling tiles



OMG

Little
busy here



* 2015 CEEL study: 65% of key decision makers in US labs say energy efficiency is important or very important when purchasing equipment. ** On average 5-10% more.

PI priorities

- Research
- Safety
- Funding
- Peace and quiet
- Comfort
-
-
- Lab energy efficiency



Saturn!

The UCI approach

UC as a system sets a goal/policy

- Currently this goal is carbon neutral by 2025
- UC Irvine also has goals/policies that align with the UC Office of the President
- Carbon Neutral by 2025
- Year 1990 emissions levels by 2020
- All new buildings will be LEED Gold or better

When scoping a project FM has an initial meeting with building staff/Dean(s)/PIs

- Current issues with the building
- Research that is taking place
- Concerns with proposed retrofits
- Q&A from a high level about the work

UCI FM formulates a scope of work

- Scope incorporates as much feedback as budget allows from initial meeting
- Scope incorporates the schedule feedback from initial meeting

UCI FM hire consultant

- Project is designed. If any issues that will change how we plan to move the work forward come up we communicate those to the scope/planning group in the building for feedback

The UCI approach

UCI FM bids the project for construction

- FM holds town hall meeting for building occupants, explains scope and nature of project, asks for partnership in delivery of project
- Contractor is at the meeting so that interested staff can meet and greet
- FM explains to all in attendance the project, scope, whys, hows, and most importantly that their dean(s) or building manager has already bought into this project.

Construction

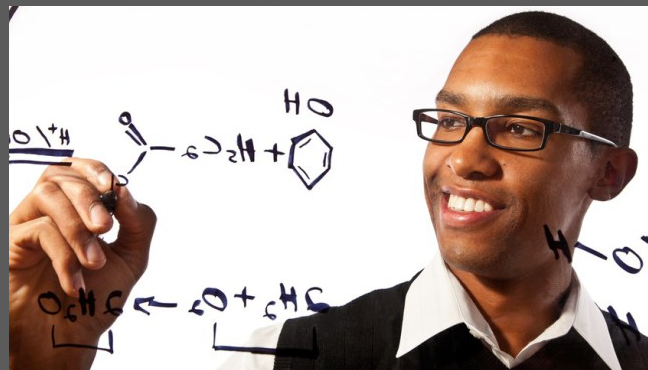
- Posted schedules and 2 week notices
- Constant communication about the work

Post - construction

- Training town hall where we give information about using any new Smart features to the building occupants.
- Follow up on any concerns just as we would punch list items.

The players

1. Researchers (including PIs)
2. Facilities engineering
3. Lab managers
4. Consultants
5. Contractors
6. Vendors
7. EH&S
- 8.
- 9.
- 10.



Who should be talking with PIs?

My research is sensitive to vibration and noise

My lab needs to be at $71^{\circ}\text{F} \pm 1^{\circ}\text{F}$ 24 hours a day

My experiments cannot be interrupted



How can we tell needs from desires?

Control of the ambient lighting is key

I need the room to be dust free

I need 3 ULTs in this room



Can we balance current and future needs?

Demonstrating positive outcomes

1. Space temperature logging
2. Light meter readings
3. Sound level measurements
4. Before and after photos
- 5.
- 6.
- 7.

You...
you made it worse.



Opening a dialog

1. Town hall meetings
2. Questionnaires
3. Interviews
4. Design charrettes
5. Project email address
- 6.
- 7.
- 8.
- 9.

Facilities is planning an energy project and they want our feedback!

