Behavior Change for Energy Conservation

MD ZALESNY; K JUDD; T SANQUIST

Pacific Northwest National Laboratory
Behavior, Energy, & Climate Change Conference, Washington DC, 7-10Dec14
Key Points

- You can teach old dogs new tricks
- Energy reduction/conservation needs a mother
- Start small
- Combat operations can interfere with research
Theory Behind the Interventions

► Most behaviors under autonomic control – habits, routines
  ■ Includes behaviors related to daily energy use

► Behavior and behavior change is a function of several factors
  ■ Intention
  ■ Perceived control over behavior
  ■ Beliefs, values
  ■ Perceived behavioral norms
  ■ Value of expected outcomes
Part of broader Department of Defense net-zero energy effort

Five green buildings at FCCO Army Base

Three-month intervention to change two behaviors

- Shut down computers at night
- Set back thermometers 5-10°F at night
Setting, Method, Intervention

- **Mix of civilian and military facilities**
- **Baseline measures**
- **Intervention**
  - Building Energy Monitors
  - Support from senior leadership
  - Computer network staff support
Results

Deployments affected intervention and measures in the 3 military buildings

Three weeks to measurable change in the targeted behaviors

13% - 59% complied with nightly computer shutdown

23% - 32% complied with nightly temperature setbacks

Estimated 2% of building energy savings from the two behaviors
Successful Intervention Strategies

- BEMS and Group Supervisors
- Feedback on energy use during intervention period
- Communications from senior leadership
Questions or Comments
mary.zalesny@pnnl.gov
206-437-9616