



TROPEC



*Transformative
Reductions in
Operational Energy
Consumption*

May 2012



Overview

- Genesis of TROPEC
- The Innovations Network
- Laboratory Testing
- Field Testing
- Transitions

GOAL: Reduce operational energy consumption at PACOM FOBs by 50% in 36 months



Genesis of TROPEC

- FY 12 Call for Proposals, Operational Energy Capabilities Improvement Fund (ASD OEPP, 14 JUN 2011)
- USMC EXFOB, Net Zero Plus project, and others resulted in significant reductions in desert FOB energy consumption
- Needed similar project for non-desert environments

TROPEC combines the Department of Energy's expertise in energy efficiency & demand reduction with PACOM and MEC's expertise in operations in tropical environments



Distinguishing Features

- *Tropical environment*
- *All energy demands focus*
- *Innovations Network*
- *Base level goals*

What works here...



May not work here....



Innovations Network

- System to rapidly identify promising energy efficiency technologies from all corners, and select for testing the most promising technologies that meet TROPEC criteria.
 - *Must be an energy demand reduction technology*
 - *Must be suitable for field conditions in a tropical environment*
 - *Should focus on major energy consuming activities*
- Focus: HVAC, structures, computing, lighting, electronics, other loads (water heating, pumping, etc...)
- Submit proposals at www.tropec.net

The I-NET will thoroughly search the energy efficiency landscape to evaluate as many technologies as possible—with a special focus on non-traditional development pathways—to find suitable candidates



Laboratory Testing

- Led by Oak Ridge and Lawrence Berkeley National Laboratories
 - ORNL specialties: shelters, HVAC, integration
 - LBNL specialties: lighting, information technology
- Lab testing goals:
 - Achieve an 85% reduction in billet HVAC energy use
 - Achieve a 50% overall FOB energy reduction

Laboratory testing will provide scientists and engineers the opportunity to test technologies in a controlled environment



Field Testing

- Led by the MARFORPAC Experimentation Center (MEC)
 - Technical support from ORNL/LBNL
- Near-term testing in the following exercises:
 - CRIMSON VIPER (Thailand) -- COBRA GOLD (Thailand)
 - BALIKITAN (Philippines) -- TALISMAN SABRE (Australia)
- Areas of testing/study include:
 - Performance in an operational environment
 - Ease of integration with existing systems
 - Impact on other logistic elements



Team TROPEC

- PACOM: (PACOM.Tropec@pacom.mil)
 - Lt Col Martin Lindsey -- Steve Kiser
 - Ross Roley -- Doug Ellman
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 - Kurt Andrews -- Rosalie Bareng
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Questions?

