

# Getting Renewables in the Battle Space

## One Small Tactical Example

LTC Rich Lonardo

On behalf of the Informal COP Power Node IPT

7 May 09

## Report Documentation Page

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- Hear a limited perspective on how technologies get to the battlespace
- Introduction to different organizations working on similar work
- Gain perspective from the folks around you listening to this brief
- Obtain a list of acronyms and lexicon to confuse/impress your friends
- Leave with an awesome respect for those who bear the burden of war

- Presentation Deliverables
- Project Overview:
  - RDECOM FAST Project 09-03: “Power Film Thin Film Voltaic Shade” for Combat Outposts or Stability Operations Relief Node
- Testing
- Lessons Learned
- Questions
- Contacts



# Purpose of the demonstration

- Update Commanders and organizations on a small project involving the employment of a renewable energy device for combat operations or stability operations.
- Project Goals:
  - Reduce fuel demand in battlespace
  - Improve Force Protection
  - Reduce Soldier loads
  - Enable Stability Operations
  - Further develop core DoD material developer team and expertise on renewables
  - Assist Program Managers in executing the Army Modernization Strategy
  - Influence leaders and encourage teaming
- **Focus: One of the furthest points of energy use in the battlespace**





- **Roots:** SETAF Deployable HQ Energy Demand Reduction Effort-MAJ Mike Fleming-FAST SETAF 2008
- Addition of SOUTHCOM/EUCOM interest in renewables to facilitate Stability Operations and remote low density enduring power for HA/DR support.
- **Bottom Line:** COCOM interest for Stability Operations, Need warfighter input for tactical value





*Why this one?*

- **Phase 1: Obtain a Safety Confirmation** on a thin film product and demonstrate a deployable renewable energy module in CONUS and OCONUS.
  - Ft Belvoir- APR
  - EUCOM –JUL 09
- **Phase 2: Conduct power assessments** on Combat Outpost Power Requirements and Stability Operations Relief Node.
  - CONUS: JUL-SEP
    - APG- DTC & NTC-New COP site
  - OCONUS (Site TBD): JUL-OCT
    - Leverage FAST/OSD-PSTF?
- **Phase 3: Conduct an informal Analysis of Alternatives** that supports PM Modernization Strategy (Unfunded/Not Scheduled).

\* Reference draft FAST project summary sheet



Multiple RDECOM Players:



**RDECOM-FAST**  
U.S. Army Research, Development and Engineering Command  
Field Assistance in Science and Technology



US ARMY RDECOM CERDEC  
US ARMY - RDECOM  
TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

U.S. Army Research, Development and Engineering Command



U.S. Army Research, Development and Engineering Command  
**U.S. Army Research Laboratory**

- RDECOM: Manage project and demos
- PM MEP: Conduct Power Assessments
- ACOE: Analyze deployable energy efficient structures
- Service/COCOM: Formalize requirements
- OSD: Provide guidance, contribute lessons learned/data acquisition from Net Zero JCTD
- ATEC/DTC: Manage Test & Evaluation

ID	Task Name	Start	Finish
1	<b>Military Solar Power Shade</b>	<b>Tue 3/31/09</b>	<b>Tue 6/23/09</b>
2	<b>Planning</b>	<b>Tue 3/31/09</b>	<b>Mon 4/20/09</b>
3	Test Plan	Tue 3/31/09	Mon 4/20/09
4	OPSEC	Mon 4/13/09	Mon 4/13/09
5	Environmental	Mon 4/13/09	Mon 4/13/09
6	Risk Assessment	Mon 4/13/09	Tue 4/14/09
7	ATIRS	Wed 4/8/09	Wed 4/15/09
8	<b>Execution</b>	<b>Mon 5/4/09</b>	<b>Mon 5/11/09</b>
9	Initial Inspection/NET	Mon 5/4/09	Mon 5/4/09
10	Safety	Mon 5/4/09	Mon 5/4/09
11	Secured Cargo Vibration	Tue 5/5/09	Tue 5/5/09
12	HFE	Wed 5/6/09	Thu 5/7/09
13	Blowing Rain	Fri 5/8/09	Fri 5/8/09
14	Final Inspection	Mon 5/11/09	Mon 5/11/09
15	<b>Reporting</b>	<b>Wed 5/6/09</b>	<b>Fri 5/15/09</b>
16	HFE Lab Report	Mon 5/11/09	Fri 5/15/09
17	Vibration Lab Report	Wed 5/6/09	Wed 5/13/09
18	Recommendation for DTC Safety Confirmation	Mon 5/11/09	Mon 5/25/09
19	Final Report	Tue 5/12/09	Tue 6/23/09



# Lessons Learned Thus Far

- **Project success driven by a high performance team- not the briefer!**
- Renewables are a low energy density solution
- Education & energy reduction are the first steps
- DoD teams are partnering to make these efforts successful
- Broad area announcements are the invite to industry
- Things to consider:
  - Address government requirements and questions
  - Have patience
- Four things in a government project:
  - Who has oversight of the funds/effort?
  - Who owns the requirement?
  - Who is the government technical expert?
  - Who will the technology transition to and ultimately be procured by?
- Realities: Time and connectivity and resources to get things done

- General Information
  - <https://www.fbo.gov/>
- RDECOM FAST
  - [richard.lonardo@us.army.mil](mailto:richard.lonardo@us.army.mil)
- PM Mobile Electric Power
  - [www.pm-mep.army.mil](http://www.pm-mep.army.mil)
- RDECOM CERDEC PV Lead
  - [Jonathan.cristiani@us.army.mil](mailto:Jonathan.cristiani@us.army.mil)