



GO GREEN, BE GREEN
LIVE ARMY GREEN

Sub-metering

How is it Better than Master Metering?

by

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- ★ Background/The Present
- ★ Challenges
- ★ Results
- ★ New Program Focus
- ★ The Future
- ★ Summary



Now is the time, more than ever for the Army to **LIVE GREEN.**

Across the Department of Defense, energy conservation programs are underway with a goal to reduce our overall energy consumption in the United States by 20 percent, and ultimately reducing our dependency on foreign energy.

The Office of the Secretary of Defense (OSD) and the Department of the Army's (DA) Residential Communities Initiative (RCI) (with Congressional support) has required DA to work with each privatized family housing partner to develop procedures which provide incentives for Soldiers and their Families living on post to be responsible for their energy consumption. Saving energy and our nation's precious natural resources are key elements of the program.

LIVE ARMY GREEN is the Army and privatized partner's communications program for Soldiers and their Families to gain a better understanding of the OSD and the DA's utility policy through energy saving tips, programs and events as well as providing conservation education at each installation.

"We have developed a program based on fairness and it makes Soldiers responsible only for their consumption. Just like our Soldiers are leading the fight against the global war on terrorism, we now see Soldiers and their families being good stewards about saving our nation's energy."

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Army Housing Privatization – Residential Communities Initiative (RCI)

44 Installations (34 Projects) – End-State 85,711 Homes & 1,396 UPH Apartments

- Ft Carson, CO – Nov 99
- Ft Hood, TX – Oct 01
- Ft Lewis-McChord AFB, WA – Apr 02 / Oct 08
- Ft Meade, MD – May 02
- Ft Bragg-Pope AFB, NC – Aug 03 / Sep 07 (UPH Dec 07)
- Pres of Monterey-Naval PS, CA – Oct 03
- Ft Stewart-Hunter AAF, GA – Nov 03 (UPH Jan 08)
- Ft Campbell, KY – Dec 03
- Ft Belvoir, VA – Dec 03
- Ft Irwin-Moffett FAF-Parks RFTA, CA – Mar 04 (UPH Mar 04)
- Ft Hamilton, NY – Jun 04
- Ft Detrick, MD / Walter Reed AMC, DC – Jul 04
- Ft Polk, LA – Sep 04
- Ft Shafter / Schofield Brks, HI – Oct 04
- Fts Eustis-Story, VA – Dec 04
- Ft Leonard Wood, MO – Mar 05
- Ft Sam Houston, TX – Mar 05
- Ft Drum, NY – May 05 (UPH Jul 07)
- Ft Bliss, TX-White Sands MR, NM – Jul 05
- Ft Benning, GA – Jan 06
- Ft Leavenworth, KS – Mar 06
- Ft Rucker, AL – Apr 06
- Carlisle Brks, PA-Picatiny Arsenal, NJ – May 06
- Ft Gordon, GA – May 06
- Ft Riley, KS – Jul 06
- Redstone Arsenal, AL – Oct 06
- Ft Knox, KY – Dec 06
- Ft Lee, VA – Aug 07
- West Point, NY – Aug 08
- Ft Jackson, SC – Aug 08
- Ft Sill, OK – Nov 08
- Fts Wainwright-Greely, AK – Apr 09
- Ft Huachuca-Yuma PG, AZ – Apr 09
- Aberdeen PG, MD – Dec 09

- **Current: 44 of 44 Installations Privatized**
 - \$2B Govt Equity = \$12.6B Private Development
 - 6.3 to 1 leverage; OSD goal is ≥ 3 to 1
- RCI includes 98% of Army Family Housing in U.S.

- UPH: 1 Installation (1 Project) in Development**
 - Ft Bliss, TX – 2010 (358 Apartments)



- √ 1998 OSD established mandatory privatization utility policy
- 1999 Ft Carson awarded privatization project; Army paid utilities
- May 2000 Army leadership approved Army utility policy for RCI
- Dec 2000 Legislation required project to pay -- derailed Army utility policy
- Jan 2001 Army held Fort Hood RCI project pending resolution
- Mar 2001 OMB / HAC MILCON Subcommittee rejected Army policy
- Apr 2001 SECARMY agreed to align Army utility policy with OSD
- Mar 2002 Army published RCI utility policy
- Apr 2003 Army held Utility Policy Implementation Workshop
- Jan 2004 Army held Implementation Session with sites / partners
- Mar 2004 Army held follow-on Session to develop detailed plan / procedures
- 2004-2007 Sessions continued, PAO plans published; mock billings started; media events continued (latest at PoM with Army & Navy Families)
- √ Sep 2006 Began Army Program



Past: How Army measured utility consumption in housing

- ★ Master meters were used to cover large areas of the installation
 - Many housing and non-housing uses in the meter coverage area
 - Most sites used S.F. or other engineering method to calculate usage
- ★ Housing (dollars) ended up supporting other installation utility costs
- ★ No incentive for users to conserve energy

Present: Current Army Program for measuring utility usage in housing (Energy Conservation Program):

- ★ Meters now in place for electricity/heating (water optional for Partner)
- ★ Partnership sets average usage baseline for each utility by housing type
- ★ Adjust baseline to account for weather and price fluctuations, i.e., tenant only responsible for excess usage due to own behavior
- ★ Consumption data sent to 3rd party that processes data and send bills (above baseline) / statements (below baseline) to residents
- ★ Test and inform occupants during period of "Mock Billing"
- ★ Reward those who conserve below baseline; bill those who don't



★ Education for residents/Soldiers

- Program is not a loss of benefits – now have the opportunity to get a check for usage below the utility baseline
- Young homeowners – many have never received a utility bill before

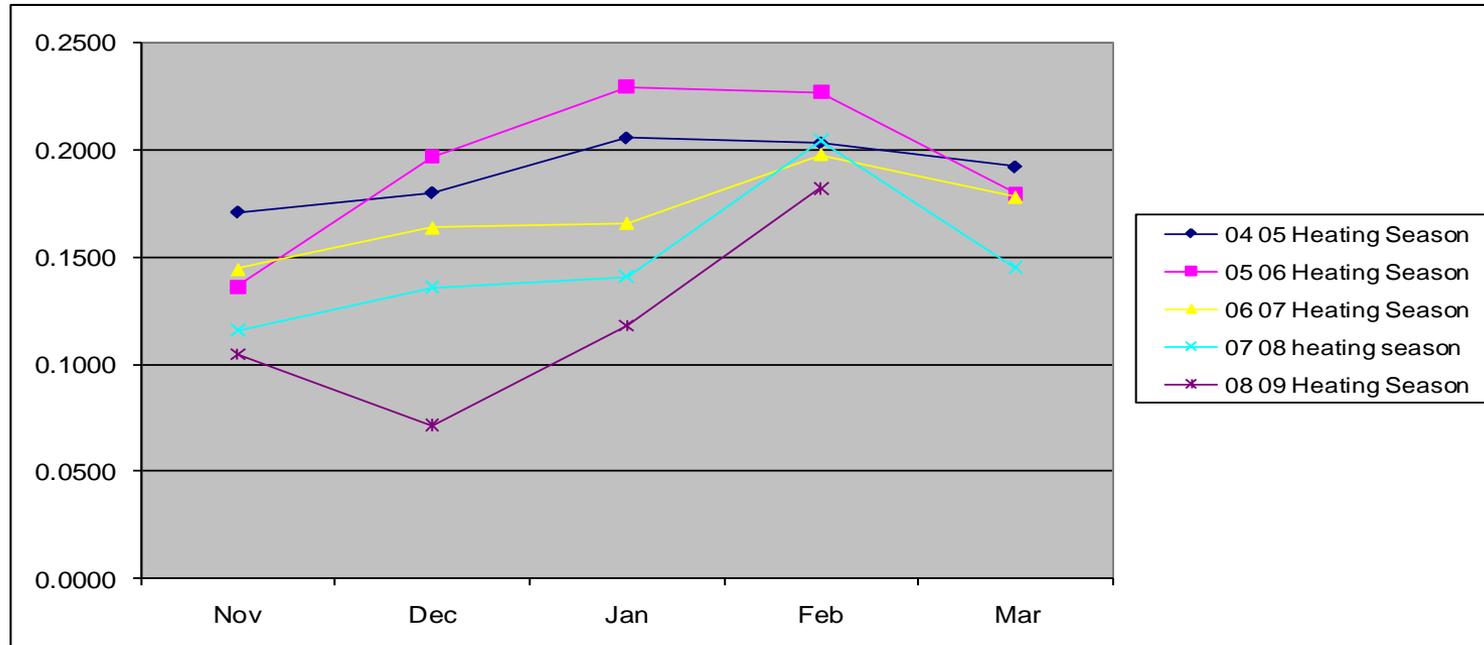
★ Metering

- Switched electric boxes – meters did not match up to correct homes
- Problems with non-residential usage tied into electric system inside metering system (excess usage)
- Other mechanical/HVAC problems that needed to be diagnosed – initially increased maintenance costs

★ Tracking of Data – Partners need to develop tracking mechanism for savings as additional homes come on line



Gas Consumption Analysis



- ★ Graph above is typical usage for a project (therm per heating degree day) – shows the drastic cut in usage as soon as program was implemented 2006-2007 season
- ★ Now have >40,000 homes in the Energy Conservation Program
- ★ >\$30M in utility cost savings over last 3 plus years
- ★ >\$3M in utility billing adjustments back to projects due to faulty methodology



★ Holistic Program

- Army
- Installation
- Project Company
- Family

★ Lifestyle Change

GREEN CORNER

TIP OF THE MONTH:

In winter, a thermostat set at 68 degrees or lower during the day when the home is occupied is recommended. Your kilowatt-hour usage for heating increases approx. 3% for each degree of temperature setting above 68 degrees.



LIVE **ARMY** GREEN

Kids CORNER

Tips for being **GREEN**

- Help recycle cans, bottles and paper at home and at school
- Ride your bike or walk to school if you can, too many cars equals a lot of air pollution
- Use both sides of your paper at school and at home
- Don't leave the water running while you're brushing your teeth
- Turn the lights off when you leave a room
- Always turn the TV off when your finished watching it
- Use sponges or washable cloths to clean up your messes instead of paper towels
- Don't leave the refrigerator door open- get what you want quickly and shut the door
- Don't ever think you're not important to our Earth- YOU ARE



Future Technologies – Energy Monitoring

- ★ Smart metering projects – (Electric)
- ★ In-home devices – (Pilot Project)
- ★ In-home energy management (Pilot)
- ★ Ice cold test



- ★ Program is working as expected, BUT, communication is critical
- ★ Initial program implementation required getting all parties a seat at the table to make it work
- ★ Actual implementation was not an issue (problems that were expected did not occur)
- ★ People do not focus on conserving energy unless they are held accountable
- ★ Continued focus on getting to the individual level and showing them how their specific actions can save money and/or reduce consumption overall

