

[« Return to Main Page](#) | [Print](#)

HousingZone

## Military Housing Goes Net Zero and LEED Platinum

News Release -- 1/6/2010 8:41:00 AM

**Nashville, Tenn.** — Fort Campbell Family Housing (FCFH), the public/private partnership between Actus Lend Lease (Actus) and the U.S. Department of the Army through the Military Housing Privatization Initiative (MHPI), last December held a groundbreaking ceremony that launched the construction of the first zero-energy homes to be built on a military installation.

The homes, two duplex units, will operate on 54 percent less energy than traditional homes. This significant reduction is expected to offset nearly 16 tons of carbon dioxide annually or the equivalent of the greenhouse gas emissions saved by recycling 5.4 tons of waste every year. In addition, the reduction will result in an annual cost savings of approximately \$1,041 per home. If these savings were projected for all of the 4,457-homes at Fort Campbell, long-term benefits would include an annual savings of up to \$4.6 million base-wide. In addition to the energy savings, an annual reduction of water consumption by 27 percent is expected, including a savings of 7,300 hot water gallons annually.



Actus Lend Lease and the U.S. Department of the Army held a groundbreaking ceremony for the first zero-energy homes at Fort Campbell Dec. 15, 2009.

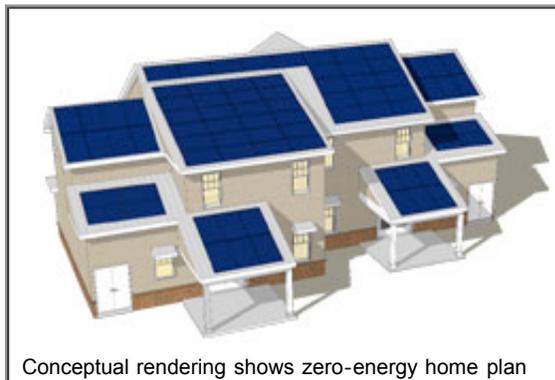
Actus is also pursuing LEED Platinum certification for the two net zero-energy homes. The LEED Green Building Rating System, developed by the [U.S. Green Building Council](#) (USGBC), provides a suite of standards for environmentally sustainable construction. A Platinum rating is the highest possible achievement under the USGBC LEED rating system.

“We’re excited to be working in partnership with the U.S. Army on its first zero-energy homes initiative,” said Dale Connor, Actus Lend Lease managing director. “These homes are only the beginning of what we can achieve, and we’re committed to working together to bring environmentally, socially and economically sustainable community development solutions to military installations throughout the U.S.”

The two homes are expected to be complete by August 2010. While they will be connected to the utility grid, the homes will combine efficient design techniques with onsite solar energy sources intended to produce as much energy as is used from the grid on an annual basis.

Elements include:

- Southern-facing orientation to take advantage of daily/annual cycles of the sun and reduce the need for



Conceptual rendering shows zero-energy home plan with roof-mounted PV solar modules in place.

- mechanical heating and cooling with roof-mounted PV solar modules in place.
- Roof-mounted photovoltaic (PV) solar modules
  - Geothermal heating and cooling system
  - ENERGY STAR appliances
  - Active solar thermal water heating
  - Water flow controls
  - Advanced thermal envelope and airtight building shell
  - Energy efficient windows
  - Active solar thermal water heating

Many of the zero energy related design features are contributing to the potential LEED Platinum certification being sought; however, a significant focus on other sustainable design and construction practices including reducing the need for irrigation by using drought tolerant landscaping, using wood products obtained from suppliers with sustainable forestry practices, and significantly improving indoor air quality by incorporating mechanical ventilation and low VOC paints and finishes, will be incorporated into the final product and contribute to the high performance rating for the structure.

Resident education is also a critical component to achieving net zero-energy. Each home's electrical system is designed to isolate all of the various components within the unit that requires energy. This feature will provide a high level of transparency for energy management, as well as, provide a "real time" energy monitoring capability for the residents. A display monitor will also be part of the home and will allow residents to view and understand how their behaviors and habits affect each system as well as the energy profile of the entire home. In addition, Actus will provide residents with educational materials for living a zero-energy lifestyle and they will be asked to participate in a monthly review of utility usage. These will be rolled up into quarterly energy performance reports that will provide comparisons to project objectives.

Actus adopted an integrated and holistic design approach early in the project's planning stages and will focus heavily on quality control during construction. Made available through the Department of Defense's Environmental Security Transfer Certification Program grant, the expertise of some of the nation's most respected sustainable and high-performance environmental building planners and performance monitoring experts, including the National Association of Home Builders Research Laboratory and the Pacific Northwest National Laboratory, is being used to assist with energy modeling during the design stage and building performance monitoring after the homes are completed. Actus will monitor the performance of the homes against two non-zero-energy homes to measure and ensure maximum efficiency and results of this project will be shared for use in future initiatives.

### **About Fort Campbell Family Housing**

Fort Campbell Family Housing LLC (FCFH) is a 50-year partnership created between the Department of the Army and Actus Lend Lease through the Military Housing Privatization Initiative (MHPI). Since December 2003, FCFH has developed more than 1,000 new homes and renovated more than 2,000 homes, and will continue to finance, develop, build, renovate and operate the site for 50 years.

### **About Actus Lend Lease**

With more than 40,000 homes in its portfolio, Actus Lend Lease is the nation's leader in public/private community development. With a focus on creating sustainable value, Actus Lend Lease communities are unrivaled in their attention to design, technology and environmental sensitivity. Known for its innovative initiatives, Actus Lend Lease has developed some of the most sustainable communities throughout the military, including the two largest solar-powered communities in the U.S. at Army Hawaii and Davis-Monthan Air Force Base, New York State's largest energy-efficient community development at Fort Drum Mountain Community Homes and the largest LEED Silver-certified community in the state of Texas at Fort Hood (Saddlestone Ranch). Actus was also chosen as the Department of Energy's partner to launch Operation Change Out, an initiative geared at replacing all

incandescent light bulbs with the more energy-efficient CFLs on all military installations. Actus has garnered many national awards for its sustainable initiatives, including the 2009 Department of Energy Excellence in Energy Star Promotions Award. For more information, visit [actuslease.com](http://actuslease.com).

---

[« Return to Main Page](#) | [Print](#)

© 2010, Reed Business Information, a division of Reed Elsevier Inc. All Rights Reserved.