

## *Super Containerized Living Units (CLU)*

### **Technology Description**

The SuperCLU program goals are to improve the energy efficiency of current containerized living units (CLUs) by demonstrating energy reducing technologies to the existing CLU design and developing a highly energy efficient CLU, called a SuperCLU. The optimal design of existing CLUs can be achieved by incorporating high energy efficient HVAC systems, high R-value insulation, reflective insulated exterior coatings, and well balanced interior air distribution.

The SuperCLU design will rethink the design of CLUs from an energy efficiency perspective. The design will include lessons learned from the CLU modifications: HVAC design, insulation, reflective exterior coatings, and air distribution. However, it will also take into consideration light weight building materials, better mobility, and maximizing interior space.

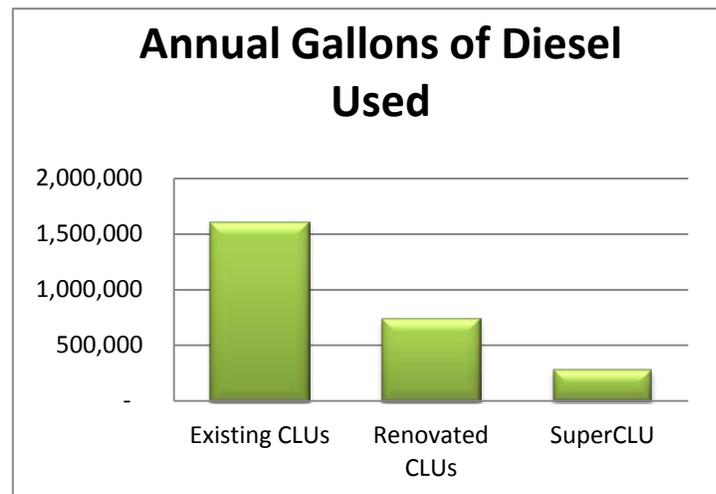
### **Value to the Warfighter**

In addition to significant reduction in energy use, the SuperCLU will also increase the privacy of individuals, increase the space per individual, reduce noise, reduce shipping container size per usable footprint, and allow more people to be comfortably housed in a given unit than the current CLU configuration. Reduced energy consumption by an installation results in a cost-savings that can be redirected to the Warfighter.

### **Economics of the Technology: ROI or Payback**

The demonstration of technologies in renovated existing CLUs should improve energy efficiency by 54 percent in total energy reduction over existing CLUs. The annual reduction will be:

- 855,360 gallons of fuel
- \$2,138,000.00 (\$3.50 per gallon)



**Annual Fuel Use — Comparison of Existing CLUs, Renovated CLUs, and SuperCLUs**

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The design and demonstration of a SuperCLU should improve energy efficiency by 82 percent when compared to existing CLUs. The annual reduction will be:

- 1,298,880 gallons of fuel
- \$3,247,000.00 (\$3.50 per gallon)

### **Technology Transition Documentation**

Technology Transition Category 4.

### **Site Implementation**

Three hundred split systems have been installed; 430 systems are currently being installed; and 250 systems are being procured for Camp Lemonnier, Djibouti, Africa. Djibouti is the primary base of operations for USAFRICOM, supporting over 4,200 personnel. Djibouti is generally arid. Many personnel live CLUs. Approximately 11,000 gallons/day of diesel fuel are required to supply the electricity needed for CLU heating, cooling, lighting, and other functions at monthly cost of \$1,200,000 – \$1,500,000.

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This project was conducted under the Office of the Secretary of Defense, Operational Energy Capabilities Improvement Fund Program.

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