LIFECYCLE BUILDING CHALLENGE
Captioning for 2008 Award Video

Welcome to the second "Lifecycle Building Challenge."

The U.S. Environmental Protection Agency launched the "Lifecycle Building Challenge" which calls for students and professionals to design buildings that can be easily taken apart in order to recover and reuse building materials. This practice preserves future building materials, and there's no time to waste in greening our buildings—each year more than 100 million tons of building-related construction and demolition debris are landfilled in the United States.

In 2005, EPA's Pacific Southwest office awarded a grant to the Chartwell School in Seaside, California, to develop the school's design for deconstruction strategies. The innovations and lessons from that grant provided the foundation for the Lifecycle Building Challenge.

Professional and student contestants submitted entries in the building and innovation categories. The expert judging panel selected winners in each category from the highly competitive entries from across the country. Thanks to everyone who supported and participated in the Lifecycle Building Challenge. Please visit "lifecyclebuilding.org" to see more of the amazing ideas generated this year. EPA and our partners challenge you to apply lifecycle building thinking, practices, and policies to reduce waste and conserve energy.

First, the **BUILDING CATEGORY.**

In the Building-Student category,

An honorable mention award for integrating reclaimed materials, modular design, zero energy, and overall sustainability goes to **Dan Rockhill** from Studio 804 at the University of Kansas for his project, "Sustainable Prototype." The Sustainable Prototype serves as an Arts Center in Greensburg, Kansas, the city that was devastated by a tornado last year. This modular, prefabricated building reduced waste during construction, minimized site impact, and maximized durability.

An honorable mention award for a realistic solution to a real-life problem goes to **Eric Hansen** from the University of Utah for "Second-Life Iraqi Housing: Temporary to Permanent." This design of easily transportable, flat-packed, folding panels can be set up as a structure, even at night, by a workforce of 36 Marines. The hope is that once the Marines vacate the structure, they can leave it behind to be transitioned into permanent housing for displaced Iraqi families.

And the Winner of the Building-Student Category is:

A team composed of **Brian Kish, Cathy Chung, and Travis Brier** from the Carnegie Mellon Solar Decathlon Team for "TriPod: A Plug and Play Housing System." TriPod is a prototype house that demonstrates the "Plug and Play" concept and is designed to provide an innovative alternative to the current housing industry. TriPod is a prototype house demonstrating the "Plug and Play" concept and is designed to provide an innovative alternative to the current housing industry. The project separates spaces by creating a mechanical "core" that acts as a motherboard that is able to accept multiple "pods" that are living, cooking, and sleeping spaces. This modular zero energy house allows homeowners to change their homes by adding or subtracting pods to suit their needs over time. The installation of a pod takes only one hour.

This team is also the winner of the Outstanding Achievement Award for Best Greenhouse Gas Reduction Design, sponsored by the Building Materials Reuse Association.

In the Building-Professional Built category,

An honorable mention award for excellent use of reclaimed material goes to **Graham Thiel, Ryan Borman, Jose la Cruz Crawford, and Brendan Elherman** from IDEAS, for the "Grass Valley Project: Design with Deconstruction in Mind." The Grass Valley Project used an integrative design process that incorporates principles of environmental design, green building, passive solar, natural daylight, and reclaimed building materials.

An honorable mention award for exceptional design of office strategies and interior modularity goes to **Mitch Boucher from Haworth, Inc.** for "Corporate Headquarters Renovation for Multiple Lifecycles." In this project, Haworth, Inc., deconstructed more than 98% of the building's materials while renovating its U.S. headquarters by using modular building materials including moveable walls, raised access flooring, and modular systems office furniture.

And the Winner of the Building-Professional Built Category is:

Kieran Timberlake Associates for "Loblolly House: Unbolt, Detach, Reassemble." The Loblolly House represents a novel approach to pre-fabricated and modular housing. The Loblolly House is composed of just a few essential elements—a scaffold, blocks, cartridges, and service spines—designed for rapid assembly, disassembly, and redeployment. These items are connected without the use of welding, permanent fasteners, or wet connections, significantly improving the ease of redeployment. The project's embodied energy and carbon footprint analysis includes a design-for-reassembly scenario showing the potential of a near 100% waste diversion design intent.

In the Building-Professional Unbuilt category,

An honorable mention for excellent use of a container goes to **Clay Aurell, Josh Blumer, Schuyler Bartholomay, Jason Schmidt, and Chris Holiday** of AB Design Studio for "ME:LU." ME:LU stands for "Modular Expandable Living Unit" and is based on a concept of providing a housing module that can work for a single person, a family, or even a temporary work force. The project incorporated expandability, sustainability, and reuse into its modular living unit by using two standard cargo containers as a basic unit; identical openings allow the containers to be added or reconfigured in various ways.

And the Winner of the Building-Professional Unbuilt Category is:

A team composed of **Irina Wong, Grace Kim, Peggy Heim, Sam Schafer, and Michael Mariano** from Schemata Workshop for a project entitled "The Workshop." The Workshop is a building designed to function as a temporary space while still giving the feel of permanence. The Workshop is assembled of prefabricated building components for optimized efficiency and minimum waste. There are two units in the building – the first story is an office; the second is an apartment. The building is elevated on concrete piers and cantilevers over an existing structure on-site. Only the existing building and concrete piers will remain after the building is relocated for its next lifecycle.

Next, the INNOVATION CATEGORY.

In the Innovation-Student Category, the winner is:

A team composed of **Shaney Peña-Gómez, Alison Lang, Jeremy Anterola, Chris Houseley, and Howard Mack** from the HOK Student Intern Program for "Trans/spot: Transient Awareness Center." The structure is a modular configuration that is assembled and reassembled in empty lots across the city of Chicago to provide information to the local residents. In time, the structure has the flexibility to truly adapt to the needs of the community. The lifecycle of this building is an empirical tool for educating the city. The solution is not necessarily for prototypical building forms, but more so for creating modular accessible informational public spaces.

This team is also the winner of the Outstanding Achievement Award for Best School Design (K through 12).

In the Innovation-Professional Built Category, the winner is:

A team composed of **Nathan Benjamin, Bradley Hardin, and Dan Fox** from Planet Reuse for "Planet Reuse–Material Reuse Tool." Planet Reuse.Com is an online resource that provides homeowners, architects, deconstruction professionals, and local municipalities with an industry solution to find, reclaim, and sustainably deconstruct building materials. Planet Reuse has supported the reuse of more than 20,100 tons of building materials to reduce over 2,000 tons of greenhouse gas emissions. This successful concept continues to remove common barriers associated with material reuse and is pushing forward in completing a buildings' lifecycle.

In the Innovation-Professional Unbuilt Category,

An honorable mention award for holistic lifecycle analysis, quantifying the benefits of renovation, goes to **Chessa Adsit-Morris and Kathy Wardle** from Busby Perkins+Will for "Life-Cycle Assessment Study of Buchanan Building-D." Originally built in 1960 as a multi-purpose classroom, Buchanan-D is currently being renovated to meet current and future academic needs. As part of the project, the team completed a post-mortem life cycle assessment and salvage value cost estimate study. The study provided an in-depth look at the salvaged value, environmental life cycle benefits and ramifications, the tradeoffs of renovating versus constructing a new building, and lifecycle cost analysis matrix.

In addition to the Outstanding Achievement Awards previously announced, there are two winners to recognize in these special recognition categories.

The Winner for **Best of the Bay Area Satellite Competition** is a team composed of **Joel M. Karr, T. Jason Anderson, and Mona Husni** from Group 41 Architects for "Contain Your Enthusiasm." In this project, three shipping containers can make a three-bedroom home of 1,300 square feet with 9-foot ceilings. As family composition changes, additional modules can be added on top, next to, or around the existing units by simply adding new piers at each corner and dropping a new container in place. The houses are designed for long-term durability and minimal maintenance and epitomize green construction: about 50 percent of shipping containers are designed for a single use, but because the cost to reuse them is generally too high, they are often left to rust at shipping facilities.

Finally the Winner of the **Outstanding Achievement Award for Best Residential Design** is a team composed of **Benno van Noort and Bob Bartow** from Spoor Design for "Spoor House." The goal of this project is to promote sustainable living in suburban communities. The design is focused on a dwelling the size of the average home built in the 1970s—1,500 square feet on one-tenth of an acre. The house was prefabricated with five ISO shipping containers, using off-the-shelf sustainable technologies, and conventional building techniques. The structure is designed to be separated into five modules, which can be transported anywhere and are easily reassembled. The design can be altered easily to create a cluster of homes made with the same techniques but different in appearance.