

Global Ecology Research Center

Location: Stanford, CA

Architect: EHDD Architecture



SUSTAINABILITY SNAPSHOT

- Percent of total building area that is daylight: **97**
- Percent of building that can be ventilated or cooled with operable windows: **51**
- Precipitation managed on site: **43**
- EPA Energy Reduction:
- Percent total energy savings: **47**
- Lighting Load after Controls (W/sf): **0.74**

Overview

Global Ecology Research Center at Stanford University is an extremely low-energy laboratory and office building for the Carnegie Institution of Washington. The mission of the new Department of Global Ecology is to conduct basic research on the interactions between the earth's ecosystems, land, atmosphere, and oceans.

This project unified several buildings and activated spaces on a site that the Carnegie Institution has occupied since 1928, improving contact and circulation between two departments and creating an outdoor collaboration space.

Jury Comments:

"This had good numbers; the metrics were really there. We liked that they were very honest about what had not worked ... this was fantastic." – **Alisdair McGregor, Arup / San Francisco, CA**

"They scored high on a Center for the Built Environment POE, but the team has been delving into what didn't work." – **Anne Schopf, FAIA / Mahlum Architects / Seattle, WA**

"LEED ratings were helpful for some of our considerations, but that played out in different ways. In this project, they intentionally opted out of the LEED process to push their own agenda. We appreciated the independent thinking and the explanation about it."

– **John Quale, Assistant Professor / University of Virginia School of Architecture / Charlottesville, VA**



Sustainable Design Intent & Innovation

From the Global Ecology researchers' perspective, the most pressing environmental issues are global climate change, biodiversity, and water issues. The client encouraged the design team to reduce carbon impacts and address biodiversity and water issues while providing laboratory and research spaces that meet the highest standards of comfort and performance. This focus resulted in a 72% reduction in carbon emissions associated with building operation and a 50% reduction in embodied carbon for building materials.

Proper orientation, exceptional daylighting, sunshading, and natural ventilation set the stage for innovative mechanical systems. A "night sky" radiant cooling system demonstrates the same principles of radiant heat loss to deep space in which the researchers are investigating. An evaporative katabatic (downdraft) cooling tower serves as an iconic focal point, while tempering an indoor/outdoor lobby and collaboration space.

The team also aggressively pursued habitat- and water-conservation goals. The exterior wood cladding is salvaged wine-cask redwood, the interior wood and veneers are FSC-certified domestic ash, tables in the conference room and lobby were made from trees salvaged from a nearby municipal yard, workstation tabletops were made from salvaged doors, and recycled aggregate substituted for about 20% of site concrete aggregate. Water use is reduced by one-third through no-irrigation landscaping, dual-flush toilets, a waterless urinal, and low-flow sinks.



Primary Design Team Members

EHDD Architecture	The Engineering Enterprise
DPR Construction, Inc.	BKF Engineers
Rumsey Engineers, Inc.	Oppenheim Lewis, Inc.
Rutherford & Chekene	Charles M. Salter Associates, Inc.
Lutsko Associates	Carnegie Institution at Stanford University
JS Nolan + Associates	Woodring & Associates
Lighting Design, LLC	Design for Science
Loisos + Ubbelohde Associates	

Full project profile:

www.aiatopen.org/hpb/overview.cfm?ProjectID=809

Scott Shell (Primary Contact)

EHDD Architecture
500 Treat Ave., #201
San Francisco, CA 94110
415-285-9193
www.ehdd.com