

# U.S. Team GREEN BUILDING CHALLENGE



# 2002

**A**long with many other countries, the United States accepted the Green Building Challenge (GBC), an international effort to evaluate and improve the performance of buildings worldwide.

GBC started out in 1996 as a competition to determine which country had the greenest buildings; it evolved into a cooperative process among

the countries to measure the performance of green buildings. Although the auto industry can easily measure efficiency in terms of miles per gallon, the buildings industry has no standard way to quantify energy and environmental performance.

The Green Building Challenge participants hope that better tools for measuring the energy and environmental performance of buildings will be an outcome of their efforts and that these tools will lead to higher and better performance levels in buildings around the world. The ultimate goal is to design, construct, and operate buildings that contribute to global sustainability by conserving and/or regenerating natural resources and minimizing nonrenewable energy use.

The United States' Green Building Challenge Team '02 selected five buildings from around the country to serve as case studies; each of the five U.S. building designs (as well as all international case studies) were assessed using an in-depth evaluation tool, called the Green Building Assessment Tool (GBTool). The GBTool was specifically

created and refined by international teams, for the GBC efforts. The goal of this collaborative effort is to improve this evaluation software tool so that it can be used globally, while taking into account regional and national

conditions. The GBTool was used by the U.S. Team to assess and evaluate the energy and environmental performance of these

five buildings:

- Retail (in operation): BigHorn Home Improvement Center, Silverthorne, Colorado
- Office (in operation), Philip Merrill Environmental Center, Chesapeake Bay Foundation, Annapolis, Maryland



Robb Williamson/PIX10884

Jim Yost/PIX09202

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- School (in construction), Clearview Elementary School, Hanover, Pennsylvania
- Multi-family residential (in construction), Twenty River Terrace, Battery Park City, New York
- Office/lab (in design), National Oceanic Atmospheric Administration, Honolulu, Hawaii

These projects were selected, not only because they were good examples of high-performance buildings and had interested owners/design team members, but also because building data was available as inputs to test the software tool. Both the tool and the process have been repeatedly refined and enhanced since the first Green Building Challenge event in 1998; participating countries are continuously providing feedback to further improve the tool and global process for the greatest positive effect.

The GBC 2002 efforts will be showcased throughout the Sustainable Buildings '02 (SB02) International Conference in Oslo, Norway, September 22–25. The Conference brings together high-performance building professionals from around the globe to exchange and discuss critical environmental considerations of our built environment.

The U.S. projects not only used and evaluated the international Green Building Challenge assessment framework, but, in tandem, they used the U.S. National LEED™ (Leadership in Energy and Environmental Design) greenbuilding rating system created by the U.S. Green Building Council. This allowed the U.S. Team to explore what lessons could be earned and shared from both global and national assessment perspectives. For further information on the U.S. LEED™ Green Building Rating System, check out: [www.usgbc.org](http://www.usgbc.org).

In addition, the first national U.S. case study template for green projects was used to compile in-depth data for all five U.S. projects. This template provides a foundation for a consistent green building database. To add your international project to this green building database, please visit the U.S. Department of Energy Web site for High Performance Buildings at: [www.eren.doe.gov/buildings/highperformance/case\\_studies/](http://www.eren.doe.gov/buildings/highperformance/case_studies/)

*For more information about the GBC 2002 U.S. Team or to view brochures for the U.S. projects, visit: [www.highperformancebuildings.gov/gbc\\_2002.html](http://www.highperformancebuildings.gov/gbc_2002.html). In addition, for more in-depth information on the five U.S. GBC '02 case studies, visit the U.S. Department of Energy Web site for High Performance Buildings at: [www.highperformancebuildings.gov/case\\_studies/](http://www.highperformancebuildings.gov/case_studies/)*

## The U.S. GBC '02 Team

### Steering Committee

#### Dru Crawley

U.S. Department of Energy, EE-41  
1000 Independence Avenue, SW  
Washington, DC 20585  
Phone: 202-586-2344 • Fax: 202-586-4617  
druary.crawley@ee.doe.gov

#### Gail A. Lindsey, FAIA

Design Harmony, Inc.  
4429 Trommel Court  
Wake Forest, NC 27587  
Phone: 919-562-7085 • Fax: 919-562-7086  
glindsey@ipass.net

#### Nadav Malin

Environmental Building News  
BuildingGreen, Inc.  
122 Birge Street, Suite 30  
Brattleboro, VT 05301  
Phone: 802-257-7300, ext. 105 • Fax: 802-257-7304  
nadav@buildinggreen.com

#### Joel Ann Todd

14 Webb Road  
Cabin John, Maryland 20818  
Phone: 301-229-8820 • Fax: 301-229-4322  
joeltodd@cpcug.org

#### Paul Torcellini, PhD

National Renewable Energy Laboratory (NREL)  
1617 Cole Boulevard  
Golden, CO 80401  
Phone: 303-384-7528 • Fax: 303-384-7540  
Paul\_Torcellini@nrel.gov

### Project Contacts

#### (1) Clearview Elementary School

##### John A. Boecker, AIA

Vice President  
Director of High Performance Green Design  
L. Robert Kimball and Associates  
4400 Deer Path Road, Suite 105  
Harrisburg, PA 17110  
Phone: 717-221-0770 • Fax: 717-221-8860  
boeckj@lrkimball.com

##### Marcus B. Sheffer

Energy Opportunities  
1200 E Camping Area Road  
Wellsville, PA 17365-9783  
Phone: 717-292-2636 • Fax: 717-292-0585  
sheffer@sevengroup.com

#### (2) The Philip Merrill Environmental Center, Chesapeake Bay Foundation

##### Gregory A. Mella, AIA

SmithGroup, Inc.  
1825 I Street, NW, Suite 250  
Washington, DC 20006  
Phone: 202-842-2100 • Fax: 202-974-4608  
GMella@dc.smithgroup.com  
Gregory.mella@smithgroup.com

#### Michael Fellingner, Summer Student Intern

National Renewable Energy Laboratory (NREL)  
1617 Cole Boulevard  
Golden, CO 80401  
Phone: 303-384-6348 • Fax: 303-384-6226  
Michael\_fellingner@nrel.gov

#### (3) The BigHorn Home Improvement Center

##### Don Sather and Betsy Sather

Developers and Business Owners  
The BigHorn Center and BigHorn Materials and  
Ace Hardware  
PO Box 1850, 1241 Blue River Parkway  
Silverthorne, CO 80498  
Phone: 970-513-1525, ext. 402 • Fax: 970-668-3360  
DonSather@Netscape.net

##### Chip Radebaugh

c/o BigHorn Center and BigHorn Materials and  
Ace Hardware  
PO Box 1850, 1241 Blue River Parkway  
Silverthorne, Colorado 80498  
Phone: 970-513-1525, ext. 402 • Fax: 970-668-3360  
chpradeb@yahoo.com

##### Agata Miodonski, Student Intern

National Renewable Energy Laboratory (NREL)  
1617 Cole Boulevard  
Golden, CO 80401  
Phone: 303-384-6182 • Fax: 303-384-6226  
agata\_miodonski@nrel.gov

#### (4) The National Oceanic Atmospheric Administration (NOAA)

##### Greg Franta, FAIA

ENSAR Group, Inc.  
2305 Broadway  
Boulder, CO 80304  
Phone: 303-449-5226 • Fax: 303-449-5276  
greg@ensargroup.com

##### Victor Olgay, AIA

ENSAR Group, Inc.  
2305 Broadway  
Boulder, CO 80304  
Phone: 303-449-5226 • Fax: 303-449-5276  
victor@ensargroup.com

#### (5) Twenty River Terrace, Battery Park City

##### Peter McCourt

Battery Park City Authority  
One World Financial Center  
New York, NY 10281-1097  
Phone: 212-417-4302 • Fax: 212-417-4381  
mccourtp@bpcauthor.org

##### Rafael Pelli

Cesar Pelli and Associates  
322 8th Avenue, 18th Floor  
New York, NY 10001  
Phone: 212-417-9496 • Fax: 212-417-9497  
rpelli@cesar-pelli.com

##### John Amatruda, RA

Associate  
Steven Winter Associates, Inc.  
50 Washington Street  
Norwalk, CT 06854  
Phone: 203-857-0200, ext. 221 • Fax: 203-852-0741  
amatruda@swinter.com

### Graphic Contacts

#### Greg Oaklief

Oaklief Creative  
1425 Normandy Road  
Golden, CO 80401  
Phone: 303-237-3032  
oaklief@qwest.net

#### Lauren Poole

National Renewable Energy Laboratory  
1617 Cole Boulevard  
Golden, CO 80401  
Phone: 303-384-7466  
Lauren\_poole@nrel.gov

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