GREEN GLOBES

GREEN BUILDING INITIATIVE

PROJECT PROFILE

>EXISTING OFFICE: ASHRAE National Headquarters

ASHRAE HEADQUARTERS "OPEN RESEARCH" FACILITY FINDS TRANSPARENT ALLY IN GREEN GLOBES

As a membership organization for building systems' professionals that promotes sustainability, it made perfect sense for The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) to turn its own building into a living laboratory.

Housed in a 1965 structure, ASHRAE completely renovated its Atlanta-based headquarters in 2008. Although the remodel of the two-story, 34,700 square-foot building was a significant undertaking, ASHRAE chose renovation rather than building new in order to keep materials out of the landfill and uphold their industry's sustainability beliefs.

Green Globes provided an opportunity for continuous existing building improvements, and Michael Vaughn, ASHRAE'S manager of Research and Technical Services, discovered that Green Globes put him in the driver's seat.

"The online survey tool gave me more control in the process," explains Vaughn. "Pop-up notes in the sections led me through in a logical fashion, so I was able to structure my back-up information to match the survey. I could see whether we were on target or not, which gave me a higher confidence level."

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PROJECT RATING:
FOUR GREEN GLOBES

Guided by a technical advisory committee, members donated mechanical equipment that allowed ASHRAE's headquarters to highlight separate systems on each floor for research and monitoring. These energy-efficient systems, contributed to ASHRAE's award of 4 Green Globes:

• A dedicated outdoor air supply (DOAS) system provides conditioned outdoor air to occupants throughout the entire building at rates that are 30% higher than code minimums. The system also includes an energy recovery wheel, which transfers energy from the exhaust stream to the incoming stream.

• On the second floor, 12 ceiling-mounted, ducted, heat pumps connect to a ground-source well field providing heat and cooling. A closed-loop piping system circulates water between the building and the ground-source wells

• One-third of the roof contains a 20 kW photovoltaic solar array of 120 panels. The energy fed to the utility grid equates to approximately 8% of the building's annual energy consumption.

• The site was enhanced by the removal of on-grade parking for a bio-retention pond, reducing heat island effects and lowering site runoff by 31%.

• 92% of building structure/shell was retained and 2,200 tons of construction waste were recycled.

OPEN BOOK

The revamped building now allows members worldwide to peer inside its workings with 1,300 trended points of data available via Internet to provide needed access for sound research and study of building improvements.

Vaughn liked that fact that Green Globes' straightforward approach revealed improvements he could readily implement.

For example, the organization previously didn't track waste recovery. "By going through the Green Globes' spreadsheet, I realized that was something we could easily do. Now, we work with our vendors to quantify it," Vaughn says. "We also added an eyewash station to benefit our janitorial service providers, and we documented our emergency procedures to make sure we had things covered – that was very useful," asserts Vaughn.

Green Globes final report included a suggestion for daylight harvesting with sensors to further enhance the building's remarkable energy efficiency. Vaughn says ASHRAE has watched lighting technology rapidly improve and is now on the verge of making changes in this area.

For an organization that plans to maintain a high level of building performance over time, Green Globes offers clear guidance. "The process is self-paced and somewhat tutorial so I didn't have to read a manual before I could dive in, start compiling information and answer the survey," explains Vaughn. "Working with the assessor also created a more personal connection and provided me direct feedback."

> GREEN GLOBES RATINGS

Once an assessment is verified by a third party, properties achieving a score of 35% or more receive a Green Globes rating based on the percentage of total points (up to 1000) achieved.

85-100% (FOUR GREEN GLOBES)
Reserved for select building designs which serve as national or world leaders in energy and environmental performance. The project introduces design practices that can be adopted and implemented by others.

70-84% (THREE GREEN GLOBES)
Demonstrates leadership in energy and environmental design practices and a commitment to continuous improvement and industry leadership.

55-69% (TWO GREEN GLOBES)
Demonstrates excellent progress in achieving eco-efficiency results through current best practices in energy and environmental design.

35-54% (ONE GREEN GLOBE)
Demonstrates movement beyond awareness and commitment to sound energy and environmental design practices by demonstrating good progress in reducing environmental impacts.