

Efficient

Environmental

Healthy

Economical

Practical

**High
Performance
Buildings
Case Studies
Database**

www.highperformancebuildings.gov/case_studies

Available Case Study Topics:



Search Options:

The HPB Database has several quick search options, including location, owner, project name, building type, and building size. It also has detailed search capabilities, which allow multivariable searches based on the options listed above and others, such as keywords, rural/suburban/urban context, and the amount of available detail.

What is it?

The U.S. Department of Energy (DOE) produced the High Performance Buildings (HPB) Database to help improve building performance by showcasing examples of green buildings and providing a standardized format for displaying performance results. DOE also seeks to standardize methods for reporting building performance by collecting data on topics such as energy, materials, indoor environmental quality, and land use.

The database collects information from buildings around the world, ranging from commercial interiors to large buildings and even whole campuses and neighborhoods. These may be certified green projects, or projects that have one or more notable environmental features.

Using state-of-the-art Web database technology, the HPB Database can accommodate project information at various levels of detail. An "Overview" level describes key information, including a project's function and most significant green features. More detailed information about the project is separated into a series of modules on process, performance, and results, so that a designer can provide details on all aspects of the project, or only on selected topics. Database users are able to select projects that contain details in a particular area of interest, among many other search options.

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Case Study Search page

Big Horn Home Improvement Center

Overview

- Location: Silverthorne, CO
- Building type(s): Commercial office, Industrial, Retail
- New construction
- 44,422 sq. ft. (4,127 sq. meters)
- Project scope: 1-story building
- Completed April 2000

The Center was constructed in three distinct phases. This description focuses only on the third phase.

Built on a previously developed site in Silverthorne, CO, the Big Horn Home Improvement Center is an example of responsible development.

The Center was built in three phases. The third phase, housing a hardware store and lumber yard, is especially interesting to the green building audience and is the only portion discussed here.

Environmental Aspects

This commercial facility features numerous energy-saving innovations. Extensive daylighting and natural ventilation cooling systems lower energy demand. Bragging a standing-seam roof-integrated photovoltaic system, the largest commercial PV array in the state, Big Horn has set up a net metering agreement to sell electricity back to the utility company.

Additionally, existing on-site wetland areas were expanded and utilized in the development of Big Horn's stormwater management plan.

Why use it?

Specific, reliable information on high-performance buildings is in great demand. Many organizations are collecting and publishing case studies of exemplary projects. The work required to create those case studies is being repeated unnecessarily, and project teams are inundated with repetitive requests for information.

The HPB Database is a centralized clearinghouse in which information about a project can be entered once, and then accessed by everyone. Once in the database, projects can be

published on DOE's Energy Efficiency and Renewable Energy (EERE) Web site and on the Web sites of other partner organizations.

To facilitate this widespread use, the database provides great flexibility. A project can be described in great detail or just with an overview. It can also contain details about one topic area and not about others. In addition, each partner has total control over which projects it chooses to publish, and even which detail pages to include for each project.

Who's using it?

The HPB Database is already being used by:

- Building designers (architects, engineers, interior designers, landscape architects) seeking examples of green projects to inform their designs;
- Students looking for information about green projects for their research;
- Building owners seeking examples to learn from and design professionals to hire.

As the number of projects grows, the Database will become increasingly useful to additional audiences, such as:

- Policy-makers seeking data on trends in green design and technology;
- Researchers seeking data on the best buildings and how they perform.

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Case Study Search page

The Conde Nast Building at Four Times Square (4 Times Square)

Overview

- Location: New York, NY
- Building type(s): Commercial office, Retail
- New construction
- 1,600,000 sq. ft. (150,000 sq. meters)
- Project scope: 48-story building
- Completed January 2000

As soon as April 2000, all available space in 4 Times Square was leased and 98% was already occupied.

In 1995, Four Times Square was the first speculative office building to be developed in New York City in almost a decade. Its size and financial structure (multi-tenanted and not owner-operated) in the U.S. to adopt standards for energy efficiency, sustainable materials, and indoor environmental quality, as well as for responsible construction, operations, and maintenance practices.

Environmental Aspects

Energy efficiency and indoor air quality were given special consideration in Four Times Square.

Site & Use

- Urban infill/redevelopment
- Previously developed land, Preexisting structure(s)

Owner & Occupancy

- Owned and occupied by The Durst Organization, Corporation, for-profit

Building Programs

Indoor Spaces: Office, Restrooms, Retail general

Keywords

Commissioning, Transportation benefits, HVAC, Efficient lighting, On-site renewable electricity, C&E waste management, Occupant recycling, Daylighting, Natural ventilation, Ventilation effectiveness, Low-emitting materials

Partners

Organizations are invited to collaborate by populating the database and displaying projects from it on their own Web sites.

Contact hpbddata@BuildingGreen.com for details.

Log in and submit your project today!

For more information, visit

www.highperformancebuildings.gov/case_studies



Produced for the
U.S. Department of Energy's Office of
Energy Efficiency and Renewable Energy
by the
National Renewable Energy Laboratory
a DOE national laboratory

NREL/BR-550-33113

February 2003



Printed with renewable-source ink on paper containing at least 50% wastepaper, including 20% postconsumer waste