



## DASH: Database for Analyzing Sustainable and High Performance Buildings

### **BACKGROUND:**

There are currently many research efforts underway that collect robust and extensive building performance data. However:

- Existing project databases are limited in scope (by developer, owner, company, and /or region).
- Metrics are often limited to specific categories, with little or no cross-over:
  - Real estate
  - Energy / Operations
  - Productivity
- With so many existing databases and research studies, data collection methods are not consistent.

In 2004, DASH was established to help address these issues. Current DASH plans include:

**MISSION:** Facilitate consistent collection of measured data about green, sustainable, and high performance buildings through collaboration of existing building information databases, organizations, companies, and researchers.

**SCOPE:** Increase the quantity of, quality of, and access to information about green, sustainable, and high performance buildings by creating a building metric information clearinghouse, identifying gaps in currently collected building data, developing consistent protocols for data collection and reporting, and establishing a national green, sustainable, and high performance building data repository that will support independent assessment and analysis of investment, operation, and occupant-related building metrics.

### **AUDIENCE:**

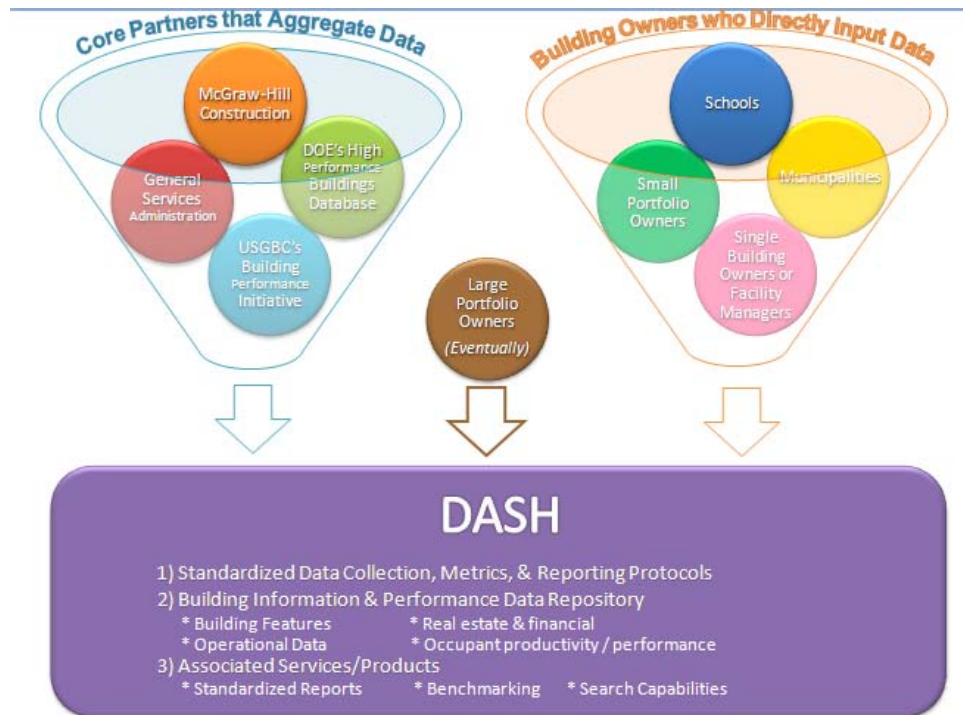
The DASH audience includes the following stakeholders, listed in order of focus:

- Real Property Industry (*decision makers, developers, investors, owners, property management firms, and owner/operators*)
- Researchers & Analysts (*colleges, universities, nonprofits, & government agencies*)
- Consultants, Services, & Products (*architects, engineers, contractors, other specifiers, facility managers, product/technology developers, and energy advocacy groups*)

The DASH database will be a user-friendly national repository for building data, although international information will be encouraged. DASH will collect information about green, sustainable, *and* high performance buildings

### **DASH DATABASE:**

- The DASH database will be a user-friendly national repository for building data, although international information will be encouraged.
- Building identification information will be anonymized and confidential, with partial identifying information possibly being accessible at different access levels, where appropriate and necessary.
- The database will pursue a diversity of building types, geographic locations, and design methods.
- The initial database will focus on new construction and major renovation/rehabilitation projects.
- The DASH Database will offer data providers various levels of participation/data accuracy.



**DASH STRUCTURE:**

Green Building Alliance (GBA) has received continued strong support for its role as a facilitator and catalyst for this much-needed project. Starting in Summer 2008, GBA transitioned into co-managing DASH, along with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE). National stakeholders from real estate, industry, consulting, academia, national laboratories, and government continue to be involved in DASH in the following engagement levels: DASH Consortium, DASH Working Groups, and Corresponding Committee.

**DASH CONSORTIUM**

The DASH Consortium primarily consists of organizations that host or hold existing building information databases. These organizations collaborate to promote clarity and consistency in building metric collection about green, sustainable, and high performance buildings, with a goal to effect improvement in how information about all buildings is collected, stored, and analyzed.

**DASH WORKING GROUPS**

- **Metrics & Protocols** (Chaired by ASHRAE and Lawrence Berkeley National Laboratory)
  - Establish prioritized measure and metric lists in standard format that define building information for sustainable, high performance, and/or green buildings in four categories:
    - Building/site features and characteristics
    - Operational data (energy, water, and indoor environmental quality)
    - Real estate & financial information
    - Occupant-based metrics, including productivity, comfort, and performance
  - Establish preliminary DASH protocols for acquiring, analyzing, benchmarking, and reporting data in the four categories listed above.
    - DASH protocols will begin with the following existing protocols documents
      - ASHRAE/USGBC/CIBSE *Performance Measurement Protocols for Commercial Buildings*.
      - PNNL's "Building Cost and Performance Metrics: Data Collection Protocol, Revision 1.0." PNNL-15217

- Initial focus is on building characteristics and operational data. Operations will focus on energy, water, thermal comfort, indoor air quality, lighting, and acoustics.
- **Data Intake** (Chaired by GBA)
  - DASH is collaborating with and will incorporate existing information from various agencies currently collecting building information data and focus on how to integrate these existing data sources into the web-based DASH database.
  - Will work to test DASH protocols and standards reports by populating the DASH database and issuing standard reports.
    - DASH will focus initial data intake for building/site features & operational data.
    - Through the process of populating the DASH database with real data from existing sources, DASH will solicit feedback from constituencies as to the usefulness of the standard reports.
    - DASH will seek to better understand the time & cost required to populate a single building record.
  - The DASH Database will offer data providers various levels of participation/data accuracy:
  - Building identification information will be anonymized and confidential, with partial identifying information possibly being accessible at different access levels, where appropriate and necessary.
    - Partial data records will be accepted.
  - The initial DASH database will initially be an example, not a representative sample (*i.e., a limited subset for in-depth study*).
- **Web Interface** (Chaired by GBA)
  - Working to develop web interface for standard DASH reporting tool (for single building owners or facility managers) based on measure lists and protocols in four categories specified above. Standard reports will include a single building detailed data report and a single building summary data report related to appropriate benchmarks.
    - Will address the database architecture, structure, and operations.
    - The initial database focus will be new construction and major renovation/rehabilitation projects.
    - The database will pursue a diversity of building types, geographic locations, and delivery methods.
- **Outreach** (Inactive)
  - DASH's outreach will be a collaborative effort to instill in building industry stakeholders the benefits of logging building performance.
  - The details of DASH and why its goals are important for its audience will be provided.
  - Once the database is live, Consortium members will reach out to their organization's members and other partners to recruit data providers.

## **COLLABORATION**

The following organizations are part of the DASH Consortium:

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|--|---|
| ● American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) | ● General Services Administration                   |
| ● BOMA International   | ● Green Building Alliance                           |
| ● Department of Energy (DOE)   | ● IFMA  |
| ● Energy Information Administration (EIA)  | ● McGraw-Hill Construction                          |
| ● Environmental Protection Agency  | ● Open Standards Consortium For Real Estate (OSCRE) |
|  | ● U.S. Green Building Council (USGBC)               |

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The following companies and organizations have employees who have taken active roles on one or more of the DASH working groups:

- American Institute of Architects (AIA)
- ASHRAE
- Building Green
- Carnegie Mellon University
- CJL Engineering
- CoStar
- Davis Langdon
- Green Building Alliance
- HaydenTanner, LLC
- Lawrence Berkeley National Laboratory
- McGraw-Hill Construction
- Lawrence Berkeley National Laboratory (LBNL)
- New Buildings Institute (NBI)
- National Renewable Energy Laboratory (NREL)
- OSCRE
- Performance Systems Development
- Pacific Northwest National Laboratory (PNNL)
- Sebesta Bloomberg
- U.S. Green Building Council
- University of California, Berkeley
- University of Pittsburgh

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