U.S. Department of Energy

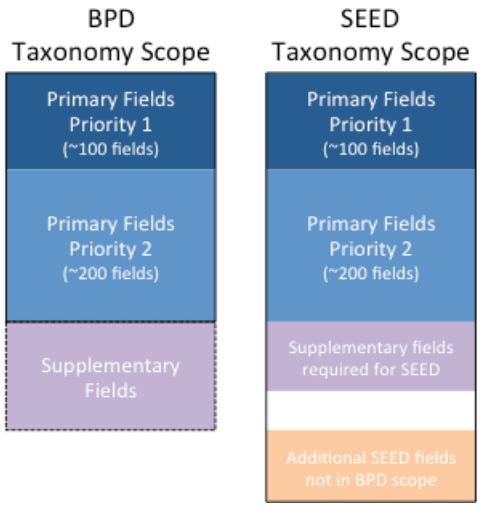
Building Energy Performance TAXONOMY

Version 2.1
5/4/12

Overview:

This document describes the DOE Building Energy Performance (BEP) Taxonomy. The taxonomy is designed to support analysis of the measured energy performance of commercial and residential buildings, with data fields for building characteristics, efficiency measures and energy use. The taxonomy defines and describes these data fields and their relationships.

The BEP Taxonomy is used for the DOE Building Performance Database (BPD) as well as the Standard Energy Efficiency Disclosure (SEED) platform, as shown below. Note that SEED includes additional fields that are outside BPD scope (e.g. property address and auditor contact information).



This documentation is intended to provide stakeholders an understanding the overall data scheme and data fields. The document is not intended to be a software specification for tool developers.

Contents:

"Intro" is this sheet

"Scheme" shows the overall scheme for the taxonomy

"Data Fields-Primary" shows the primary data fields, categorized into two priority levels.

"Data Fields-Supplementary" shows supplementary (optional) data fields that may be applicable for special use cases.

"Data Fields-SEED Additional" shows data fields that are specific to SEED only, and are not part of the BPD.

Taxonomy Objectives:

1. The taxonomy must be general and flexible enough to accommodate a wide set of current and anticipated use cases to analyze the measured energy performance of commercial and residential buildings.
2. The taxonomy must support a wide range of existing data sources that could be imported into the Building Performance Database while also anticipating future data collection efforts that may provide richer datasets.

Taxonomy Development Approach:

Given the objective to accommodate a wide range of current and future use cases and data sources, a combination of "top-down" and "bottom-up" approaches is being used iteratively to develop the taxonomy.

A "top-down" approach was used to develop the overall scheme i.e. data entities, their relationships, and scope of data fields for each entity, based on a general logical understanding of building performance information.

A "bottom-up" approach was used to develop the list of data fields based on existing data sources and taxonomies, which were then mapped to the overall scheme developed using the top down approach.

The development process also included review and consideration of over a dozen related efforts such as the Industry Foundation Classes, OmniClass systems, ASTM BEPA checklist, ASHRAE Audit Procedures Checklist. Where appropriate, data fields and enumerated types from these taxonomies were mapped into the BEP taxonomy. This version also incorporates numerous edits based on comments received via a Request for Information (RFI) published in the Federal Register.

Future Development of this Taxonomy:

This taxonomy will be continually revised as needed:

To accommodate new data fields in future data sources

To increase compatibility with other taxonomies

To accommodate data fields required for new use cases

Scope and Limitations:

This document describes the overall data scheme and data fields. It is not intended to be a detailed technical specification for software implementation.

This document does not include the mapping rules for various data sources.

The taxonomy is focused on data related the measured energy performance of buildings. It is not intended to be a general taxonomy for other building data and applications e.g. structural analysis, space planning, etc.

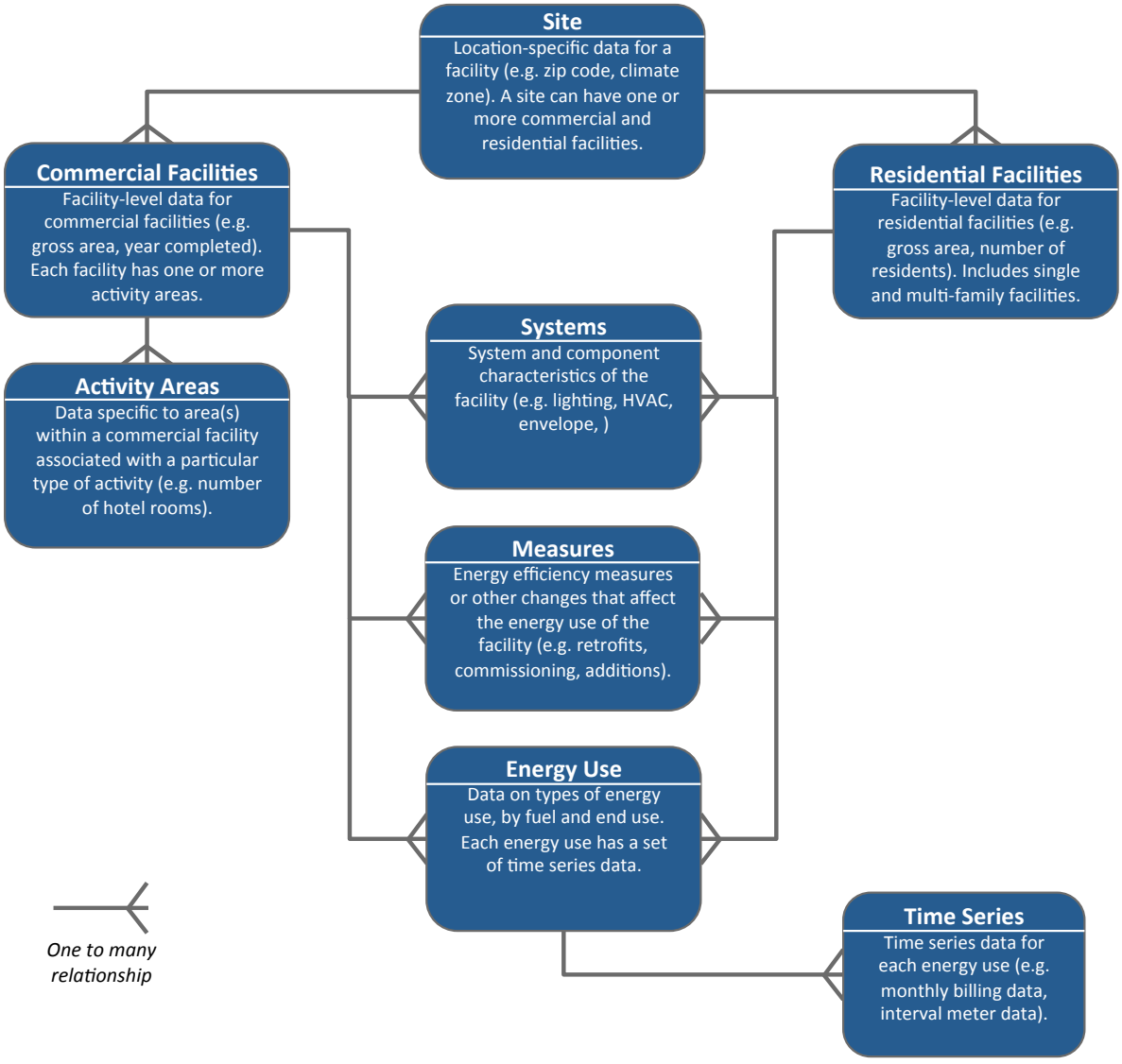
Developed by Lawrence Berkeley National Laboratory
for the U.S. Department of Energy

Taxonomy Scheme

Notes:

1. This figure schematically indicates the major entities and their relationships. It is not intended for use as software documentation.

2. See "Data Fields" worksheets for list of data fields in each entity



U.S. Department of Energy - Building Energy Performance Taxonomy

Primary Data Fields

Notes:

1. Data fields are organized by entity. See "Scheme" worksheet for description of entities and their relationships.

2. Data fields with constrained lists show list items below description.

3. Data Fields have been prioritized into two levels:

Priority 1 fields are in dark blue, bold font

Priority 2 fields are in light blue

4. Most data fields generally apply to all commercial and residential facilities. However, some fields may only apply to certain types of facilities. (e.g. number of guest rooms only applies to lodging facilities)

5. Display tip: Display of data fields and enumerated types can be toggled on/off using buttons on left of row labels.

Priority 2 Fields

(•) Show ( ) Hide

Site

City	**The city in which the site is located.**
State	**The state in which the site is located.**
Postal Code	**The postal code in which the site is located.**
County	The county in which the site is located. If not known, can be derived from Postal Code.
Country	The country in which the site is located.
Climate zone	**The ASHRAE climate zone in which the site is located, or CBECS climate zones if ASHRAE climate zone is unavailable. If not known, can be derived from Postal Code.** 1A, Very Hot - Humid (Miami, FL) 2A, Hot - Humid (Houston, TX) 2B, Hot - Dry (Phoenix, AZ) 3A, Warm - Humid (Memphis, TN) 3B, Warm - Dry (El Paso, TX) 3C, Warm - Marine (San Francisco, CA) 4A, Mixed - Humid (Baltimore, MD) 4B, Mixed - Dry (Albuquerque, NM) 4C, Mixed - Marine (Salem, OR) 5A, Cool - Humid (Chicago, IL) 5B, Cool - Dry (Boise, ID) 6A, Cold - Humid (Burlington, VT) 6B, Cold -Dry (Helena, MT) 7, Very Cold (Duluth, MN) 8, Subarctic (Fairbanks, AK) CBECS - Zone 1 CBECS - Zone 2 CBECS - Zone 3 CBECS - Zone 4 CBECS - Zone 5
Elevation	Elevation of the site. [feet]
Site Type	Site type.

Rural
Suburban
Urban

Number of Facilities — Total number of facilities on the site.

Residential Facility

Residential Facility Type — **Type of residential facility**

Single Family
Multifamily - Uncategorized
Multifamily - Town Houses
Multifamily - Apartment building
Multifamily - Condominiums
Apartment
Mobile Home
Studio
Duplex
Triplex
Four-plex
Condominium
Town Home
Other
Unknown

Year Completed — **Year in which construction was completed.**

Year Occupied — Year in which the facility was first occupied.

Surroundings — Structure(s) surrounding the facility.

Stand-alone
Attached to another building on one side
Attached to another building on two sides.
Attached to another building on three sides.

Orientation — Orientation of the main long axis.

East-West
North-South
North East-South West
North West-South East
Not Applicable

Building Footprint Area — Total area of a lot or site that is surrounded by the exterior walls of a building or portion of a building, exclusive of courtyards. [square feet]

Footprint Shape — General shape of building footprint.

Rectangular
Square
Circular
L-Shaped
U-Shaped
I-Shaped
V-Shaped
Other

Perimeter — Length of a line forming the boundary around the facility. [feet]

Gross Floor Area	**Total floor area of all floors of a building calculated with the external dimensions of the enclosing fixed walls of the building including structures, partitions, corridors, stairs, and conditioned below-grade spaces. Note: All parking areas (enclosed and non-enclosed) should be excluded; atrium should only include the base floor area that it occupies. [square feet]**
Net Floor Area	Gross floor area of a building, excluding the area occupied by walls and partitions, the circulation area (where people walk), and the mechanical area (where there is mechanical equipment) i.e. gross floor area reduced by the area for structural components. [square feet]
Rentable Floor Area	Floor area that is being rented or is for rent. [square feet]
Occupied Floor Area	Floor area that is currently occupied or assigned. [square feet]
Percentage of Common Space	Percent of gross floor area that is common space only
Lighted Floor Area	Floor area of all lighted spaces. [square feet]
Heated Floor Area	Floor area of all spaces that are heated. [square feet]
Cooled Floor Area	Floor area of all spaces that are cooled. [square feet]
Unconditioned Floor Area	Unheated or un-airconditioned floor area of a building. [square feet]
Basement Floor Area	**Basement refers to an enclosed space under all or part of the building in which a person can walk upright. [square feet]**
Basement Heated Floor Area	Area of heated enclosed space under all or part of the building in which a person can walk upright. [square feet]
Basement Air-Conditioned Floor Area	Area of air-conditioned enclosed space under all or part of the building in which a person can walk upright. [square feet]
Attic Floor Area	**Attic refers to floor consisting of open space at the top of a house just below roof; often used for storage. [square feet]**
Attic Heated Floor Area	Area of heated floor space consisting of open space at the top of a house just below roof; often used for storage. [square feet]
Attic Air-Conditioned Floor Area	Area of air-conditioned floor space consisting of open space at the top of a house just below roof; often used for storage. [square feet]
Garage Floor Area	**Garage refers to a space large enough to accommodate a car, with a door opening at least 6 feet wide and 7 feet high. [square feet]**
Garage Heated Floor Area	Area of heated space large enough to accommodate a car, with a door opening at least 6 feet wide and 7 feet high. [square feet]
Garage Air-Conditioned Floor Area	Area of air-conditioned space large enough to accommodate a car, with a door opening at least 6 feet wide and 7 feet high. [square feet]
Volume	Volume of a building measured by its external dimensions. [cubic feet]

Conditioned Building Volume	Heated or air-conditioned air volume of a building. [cubic feet]
Number of Dwelling Units	**Number of individual units in a multifamily facility.**
Aspect Ratio	The ratio of the facility's width to its length.
Number of Floors	Number of floors in the facility.
Floors Above Ground	Number of floors which are above ground.
Floors Below Ground	Number of floors which are underground.
Number of Residents	Number of residents in the facility.
Number of Bedrooms	Bedroom refers to a room intended for sleeping, even if not presently used for sleeping. The number of bedrooms are those that would be listed as descriptive of the apartment or house if it were on the market for sale or rent. A one-room efficiency or studio apartment has no bedrooms.
Number of Complete Baths	Complete bath refers to a full bathroom that contains a sink with running water, a flush toilet, and a bathtub or shower.
Number of Half Baths	Half bath refers to a bathroom which contains a toilet or bathtub or shower.
Number of Rooms	Rooms refers to subdivisions of a housing unit. Whole rooms are rooms such as living rooms, dining rooms, bedrooms, kitchens, lodgers' rooms, finished basements or attic rooms, recreation rooms, and permanently enclosed sun porches that are used year round. Rooms used for offices by a person living in the unit are included. Not considered to be rooms are bathrooms, halls, foyers or vestibules, balconies, closets, alcoves, pantries, strip or pullman kitchens, laundry or furnace rooms, unfinished attics or basements, open porches, and unfinished space used for storage. A partially divided room, such as a dinette next to a kitchen or a living room, is considered a separate room only if there is a partition from floor to ceiling--but not if the partition consists solely of shelves or cabinets. If a room is used by occupants of more than one unit, the room is included with the unit from which it is most easily reached.
Building Certification Type	**Building energy labeling, rating, or sustainability certification obtained.** ASHRAE Building EQ CMP Green Value Score EPA ENERGY STAR Rating EPA ENERGY STAR Label Green Globes Rating UCSGBC LEED Certification for New Construction (NC) UCSGBC LEED Certification for Core & Shell (CS) UCSGBC LEED Certification for Commercial Interiors (CI) UCSGBC LEED Certification For Existing Buildings: Operations & Management (EBOM) UCSGBC LEED Certification for Retail UCSGBC LEED Certification for Schools UCSGBC LEED Certification fro Healthcare UCSGBC LEED Certification Neighborhood Development (ND) UCSGBC LEED Certification for Homes Other

Building Certification Value — **Value specifying building certification, e.g. score or level.**

Certification Year — **Year the facility earned certification.**

Year of Last Remodel — Year of the most recent remodel.

Commercial Facility

Year Completed — **Year in which construction was completed.**

Year Occupied — **Year in which the facility was first occupied.**

Owner Type — **The type of organization, association, business, etc. that owns the facility.**

Property Management Company
Corporation/Partnership/LLC
Religious Organization
Other Non-Profit organization
Privately-Owned School
Individual
Other Nongovernment
Federal Government
State Government
Local Government

Percent Occupied by Owner — Percent of facility area occupied by owner.

Operator Type — Entity responsible for the operation of the facility.

Property Management Company
Owner
Occupant
Combination
Property management company
Other corporation/partnership/LLC
Religious organization
Other non-profit organization
Privately-owned school
Individual owner
Other nongovernment owner
Federal government
State government
Local government
Combination

Surroundings — Structure(s) surrounding the facility.

Stand-alone
Attached to another building on one side
Attached to another building on two sides.
Attached to another building on three sides.

Orientation — Orientation of the main long axis.

East-West
North-South
North East-South West
North West-South East
Not Applicable

Building Footprint Area	Total area of a lot or site that is surrounded by the exterior walls of a building or portion of a building, exclusive of courtyards. [square feet]
Footprint Shape	General shape of building footprint. Rectangular Square Circular L-Shaped U-Shaped I-Shaped V-Shaped Other
Perimeter	Length of a line forming the boundary around the facility. [feet]
Gross Floor Area	**Total floor area of all floors of a building calculated with the external dimensions of the enclosing fixed walls of the building including structures, partitions, corridors, stairs, and conditioned below-grade spaces. Note: All parking areas (enclosed and non-enclosed) should be excluded; atrium should only include the base floor area that it occupies. [square feet]**
Net Floor Area	Gross floor area of a building, excluding the area occupied by walls and partitions, the circulation area (where people walk), and the mechanical area (where there is mechanical equipment) i.e. gross floor area reduced by the area for structural components. [square feet]
Rentable Floor Area	Floor area that is being rented or is for rent. [square feet]
Occupied Floor Area	Floor area that is currently occupied or assigned. [square feet]
Lighted Floor Area	Floor area of all lighted spaces. [square feet]
Heated Floor Area	Floor area of all spaces that are heated. [square feet]
Cooled Floor Area	Floor area of all spaces that are cooled. [square feet]
Unconditioned Floor Area	Unheated or un-airconditioned floor area of a building. [square feet]
Volume	Volume of a building measured by its external dimensions. [cubic feet]
Conditioned Building Volume	Heated or air-conditioned air volume of a building. [cubic feet]
Aspect Ratio	The ratio of the facility's width to its length.
Number of Floors	Number of floors in the facility.
Floors Above Ground	Number of floors which are above ground.
Floors Below Ground	Number of floors which are underground.
Number of Occupants	Number of occupants in the facility.
Building Certification Type	**Building energy labeling, rating, or sustainability certification obtained.** ASHRAE Building EQ CMP Green Value Score EPA ENERGY STAR Rating

EPA ENERGY STAR Label
Green Globes Rating
UCSGBC LEED Certification for New Construction (NC)
UCSGBC LEED Certification for Core & Shell (CS)
UCSGBC LEED Certification for Commercial Interiors (CI)
UCSGBC LEED Certification For Existing Buildings: Operations & Management (EBOM)
UCSGBC LEED Certification for Retail
UCSGBC LEED Certification for Schools
UCSGBC LEED Certification fro Healthcare
UCSGBC LEED Certification Neighborhood Development (ND)
UCSGBC LEED Certification for Homes
Other

Building Certification Value **Value specifying building certification, e.g. score or level.**

Certification Year **Year the facility earned certification.**

Year of Last Remodel Year of the most recent remodel.

Number of Activity Areas Number of separate activity areas (one or more) for this facility, as recorded in this dataset.

Activity Area

Activity Type **A space or area within a building designated for a particular activity**

Vacant
Commercial - Uncategorized
Office - Uncategorized
Office - Administrative/professional
Office - Bank/other financial
Office - Government
Office - Medical non diagnostic
Office - Mixed use
Office - Other
Laboratory
Warehouse - Uncategorized
Warehouse - Refrigerated
Warehouse - Non-refrigerated
Warehouse - Distribution/Shipping center
Warehouse - Self-storage
Food Sales
Convenience store
Convenience store with gas station
Grocery store/food market
Public Safety - Uncategorized
Public Safety - Courthouse
Public Safety - Fire station/police station
Public Safety - Jailhouse
Public Safety - Penitentiary
Truck Terminal
Health Care - Uncategorized
Health Care - Outpatient Uncategorized
Health Care - Outpatient Diagnostic
Health Care - Outpatient Clinic
Health Care - Inpatient
Religious worship
Public Assembly - Uncategorized
Public Assembly - Entertainment/culture
Public Assembly - Movie Theater
Public Assembly - Drama theater
Public Assembly - Large Hall
Public Assembly - Library

Public Assembly - Recreation
Public Assembly - Arena
Public Assembly - Stadium
Public Assembly - Social/meeting
Public Assembly - Funeral home
Public Assembly - Pool
Public Assembly - Other
Education - Uncategorized
Education - College/university
Education - Elementary/middle school
Education - High school
Education - Preschool/daycare
Education - Other classroom
Food Service - Uncategorized
Food Service - Fast food
Food Service - Restaurant/cafeteria
Food Service - Bakery
Food Service - Other
Nursing Home
Lodging - Uncategorized
Lodging - Dormitory/fraternity/sorority
Lodging - Hotel
Lodging - Motel or inn
Lodging - Other
Retail - Uncategorized
Retail - Strip shopping mall
Retail - Enclosed mall
Retail - Other than mall
Retail - Small Box (< 50,000 sf)
Retail - Big Box (> 50,000 sf)
Retail - Vehicle dealership/showroom
Service - Uncategorized
Service - Post office/postal center
Service - Repair shop
Service - Vehicle service/repair shop
Service - Vehicle storage/maintenance
Service - Industrial shop
Service - Dry-cleaning/Laundry
Service - Art/Video/Photography Studio
Service - Other service
Parking Garage
Comm Garage
Industrial
Agricultural
Data Center
Residential
Other

Gross Floor Area **Total floor area of all floors of an activity area calculated with the external dimensions of the space including structures, partitions, corridors, stairs. [square feet]**

Heated Floor Area Floor area of all heated spaces in the activity area. [square feet]

Cooled Floor Area Floor area of all cooled spaces in the activity area. [square feet]

Number of Floors Number of floors in the activity area.

Floors Above Ground Number of floors which are above ground pertaining to the activity area.

Floors Below Ground	Number of floors which are underground pertaining to the activity area.
Floor Height	Average height of the floor(s) pertaining to the activity area. [feet]
Number of Units	Number of individual units, such as retail units, in the activity area.
Seating Capacity	The number of people who can be seated in a specific space, either in terms of the physical space available, or in terms of limitations set by law.
Number of Occupants	**Number of occupants in the activity area.**
Number of Guest Rooms	Number of rooms allocated for guest use in the activity area. (Typically applicable to lodging).
Number of Licensed Beds	The number of beds for which a facility holds a license to operate in the activity area. (Typically applicable to health care).
Average Weekly Operating Hours	**Average weekly operating hours.**
Average Weeks per Year in Use	Average number of weeks per year that the facility or activity area is occupied.

Systems

Note: Separate records may be entered for each system (e.g. lighting, heating, etc.) if a facility has multiple types of that system.

Lighting

Lighting Type	**Type of artificial source of light.** Incandescent Fluorescent - Uncategorized Fluorescent - T5 Fluorescent - T8 Fluorescent - Super T8 Fluorescent - T12 Compact Fluorescent High intensity discharge (HID) Halogen LED Mercury Vapor Sodium Sodium - High Pressure Sodium - Low Pressure Metal Halide Other
Ballast Type	Type of ballast: a piece of equipment required to control the starting and operating voltages of electrical gas discharge lights. Electronic Magnetic Instant start Rapid Start Programmed Start
Lighting Control Type	**Type of control used to manage lighting.** Daylight Dimming Occupancy Sensors Vacancy Sensors

Manual Dimming
Bi-level Control
Timers
Manual
Advanced Controls
EMCS
Other

Installed Power — Installed power for this system. [kW]

Percentage of Total Installed Power — Percent this system is of total installed power. [%]

Percentage of Total Floor Area Served — The percentage of a facility's square footage served by system. [%]

Outside Lighting — True if lighting system is primarily for outside lighting, false otherwise.

Air Distribution

Configuration — **Basic configuration of air-distribution equipment.**

Packaged
Built-up
Split
Other
Unknown

Flow Control — **Type of air flow control.**

Variable Volume
Constant Volume

Duct Configuration — **Configuration of ducts.**

Single
Dual
Three
Unitary

Heating Source — **Source of heating in air-distribution system.**

Hydronic
Steam
Electric Resistance
Furnace
Gas

Cooling Source — **Source of cooling in air-distribution system.**

Direct Expansion
Hydronic

Preheat Source — Source of preheating in air-distribution system.

Hydronic
Furnace
Electric Resistance

Humidification — Humidification type in air-distribution system.

Steam
Water Spray

Dehumidification	Dehumidification type in air-distribution system. Desiccant Wheel Liquid Desiccant
Quantity	Number of systems of this type.
Size	System fan size. [cfm]
Power	Fan power. [kW]
Year of Manufacture	**Year system was manufactured.**
Primary	True if the system is the primary air-distribution equipment for the building.
Percent of Total Installed Capacity	Percent this system is of total installed capacity. [%]
Percent of Floor Area Served	The percentage of a facility’s square footage served by system. [%]
Static Pressure Reset Control	True if there is static pressure reset, false otherwise.
Supply Air Temperature Reset Control	True if there is supply air temperature reset, false otherwise.
Efficiency	**Efficiency of system.**
Efficiency Unit	**Unit used to measure efficiency.** % W/cfm
Fan Motor Efficiency	**Efficiency of the fan's motor.**
Economizer	**Type of air economizer system in this air-distribution system.** Uncategorized Dry-bulb - Uncategorized Dry-Bulb - Fixed Cry-Bulb - Differential Enthalpy - Uncategorized Enthalpy - Fixed Enthalpy - Differential Demand Controlled Ventilation Nonintegrated None
Minimum Outside Air Percentage	Minimum outside air percentage allowed. [%]
Fan Control Type	**Type of fan control.** Outlet Damper Bypass Damper Inlet Guide Vanes VFD Constant Riding Fan Curve Intermittent

Other

Heat Recovery Type

Type of heat recovery within the air distribution equipment.

Run-Around Coil
Thermal Wheel
Heat Pipe
Air-to-Air Heat Exchanger
Earth-to-Air Heat Exchanger
Earth-to-Water Heat Exchanger

Heat Recovery Efficiency

Efficiency of heat recovery. [%]

Duct Insulation

Condition of duct insulation.

Excellent
Good
Average
Poor
Very Poor
None

Duct Sealing

Condition of duct sealing.

Excellent
Good
Average
Poor
Very Poor
None

Duct Location

Location of ducts.

Conditioned Space
Unconditioned Space

Duct Insulation R-Value

R-value of duct insulation.

Heating

Heating Type

Type of heating system. This generally refers to central heating equipment. Zonal heating is recorded in a separate data field.

Furnace
Furnace - Condensing
Boiler - Uncategorized
Boiler - Hot Water
Boiler - Hot Water - Atmospheric Burner
Boiler - Hot Water - Power Burner
Boiler - Hot Water -Sealed Combustion
Boiler - Hot Water - Sealed Combustion Condensing
Boiler - Hot Water - Rotary Cup
Boiler - Steam
Boiler - Condensing
Radiator
Residential Central Heating
Heat Pump - Uncategorized
Heat Pump - Ground Source
Heat Pump - Air Source
Heat Pump - Water Loop
Geothermal Heat Pump
District Steam
Solar Thermal
Induction Unit

Other

Fuel **Main fuel used by the system. Refer to Fuel list in Energy Use.**

Quantity Number of systems of this type.

Capacity System capacity. [Btu/hr]

Year of Manufacture **Year system was manufactured.**

Primary True if the system is the primary equipment.

Efficiency **Efficiency of system.**

Efficiency Unit **Unit used to measure efficiency. Refer to Units in Energy Use for list.**

COP
AFUE

Percent of Total Installed Capacity Percent this system is of total installed capacity. [%]

Percent of Floor Area Served The percentage of a facility's square footage served by system. [%]

Hot Water Reset Control Type of hot water reset control, if any.

Seasonal
Other

Control Type Type of system operation control.

Programmable Thermostat
Manual Thermostat
Digital Thermostat
Timer
EMCS
Other

Zonal Heating

Type **Type of equipment used for heating at the zone.**

VAV Reheat Boxes
CAV Reheat Boxes
Fan Coil Unit
Fan Coil-2 Pipe
Fan Coil-3 Pipe
Fan Coil-4 Pipe
Perimeter Baseboard
Radiant Floor or Ceiling
Low Pressure Under Floor
Pipeless Furnace
Portable Heater
Fireplace
Cookstove
Heating Stove
Built-in Heater
Individual Space Heater

Control Type Type of system operation control.

Programmable Thermostat
Manual Analog Thermostat
Manual Digital Thermostat
On/Off
EMCS
Other

Fuel **Main fuel used by the system. Refer to Fuel list in Energy Use.**

Quantity Number of individual systems of this type.

Cooling

Cooling Type **Type of cooling equipment. This generally refers to central cooling equipment. Zonal cooling is recorded in a separate data field. Use of fans or blowers by themselves without chilled air or water is not included in this definition of air conditioning.**

Residential Central Air Conditioning
Split AC System
Heat Pump - Uncategorized
Heat Pump - Ground Source
Heat Pump - Air Source
Heat Pump - Water Loop
Heat Pump - Geothermal
District Chilled Water
Chiller - Uncategorized
Chiller - Absorption
Chiller - High Pressure Absorption
Chiller - Low Pressure Absorption
Chiller - Turbine Driven
Chiller - Engine Driven
Chiller - Modular
Evaporative Cooler
Cooling Tower - Uncategorized
Cooling Tower - Open
Cooling Tower - Closed
Condenser
Other

Chiller Compressor Type Type of compressor in the chiller.

Reciprocating
Screw
Scroll
Centrifugal

Chiller Cooling Type Chiller cooling type.

Air cooled
Water cooled

Fuel **Main fuel used by the system. Refer to Fuel list in Energy Use.**

Quantity Number of individual systems of this type.

Capacity Capacity of the system. [tons]

Efficiency **Efficiency of system.**

Efficiency Unit **Unit used to measure efficiency.**

COP
EER

SEER
kW/ton

Year of Manufacture — **Year system was manufactured.**

Primary — True if the system is the primary cooling equipment for the building.

Energy Star — True if equipment is Energy Star rated.

Percent of Total Installed Capacity — Percent this system is of total installed capacity. [%]

Percent of Floor Area Served — The percentage of a facility's square footage served by system. [%]

Chilled Water Reset Control — Type of control on chilled water reset.

Seasonal
Other

Cooling Tower Control Type — Type of system operation control.

Wet Bulb Reset
Max Cells
Min Cells

Control Type — Type of system operation control.

Programmable Thermostat
Manual Thermostat
Digital Thermostat
Timer
EMCS
Other

Zonal Cooling

Type — **Type of equipment used for cooling at the zone.**

Radiant Ceiling
Chilled Beam
Fan Coil-2 Pipe
Fan Coil-3 Pipe
Fan Coil-4 Pipe
PTAC
Room Air Conditioner
Low Pressure Under Floor

Control Type — Type of system operation control.

Programmable Thermostat
Manual Analog Thermostat
Manual Digital Thermostat
On/Off
EMCS
Other

Fuel — **Main fuel used by the system. Refer to Fuel list in Energy Use.**

Quantity — Number of individual systems of this type.

Other HVAC

Other HVAC Type
Type of heating, ventilation, and air-conditioning (HVAC) equipment that is not classified as heating, cooling, air-distribution, zonal heating, or zonal cooling.
Humidifier
Dehumidifier
Other

Fuel
Main fuel used by the system. Refer to Fuel list in Energy Use.

Quantity
Number of individual systems of this type.

Capacity
Capacity of the system. [Btu]

Year of Manufacture
Year system was manufactured.

Percent of Total Installed Capacity
Percent this system is of total installed capacity. [%]

Percent of Floor Area Served
The percentage of a facility's square footage served by system. [%]

Control Type
Type of system operation control.
Programmable Thermostat
Manual Thermostat
Digital Thermostat
Timer
EMCS
Other

Service Hot Water

Service Hot Water Type
Type of water heating equipment for hot running water.
Outdoor
Storage Tank - Uncategorized
Storage Tank - Distributed
Storage Tank - Looped
Storage Tank - Point-Of Use
Storage Tank - Direct-fired
Unspecified
Instantaneous
Heat pump
Tankless
Heat Exchanger
Other

Fuel
Main fuel used by the system. Refer to Fuel list in Energy Use.

Quantity
Number of individual systems of this type.

Size
Size of system. [gallons]

Capacity
Capacity of the system. [Btu]

Year of Manufacture
Year system was manufactured.

Energy Star	**True if equipment is Energy Star rated.**
Control Type	Type of system operation control. Programmable Thermostat Manual Thermostat Digital Thermostat Timer EMCS Other
Efficiency	**Efficiency of system.**
Efficiency Unit	**Unit used to measure efficiency.** COP AFUE
Storage Tank Insulation R-Value	Insulation R-Value of hot water storage tank.
Storage Tank Insulation Thickness	**Insulation thickness of hot water storage tank. [inches]**

General Controls & Operations

Regular HVAC Maintenance	Level of routine inspection and service for HVAC equipment. None Yes - unspecified As Needed Daily Weekly Bi-Weekly Monthly Semi-Quarterly Quarterly Semi-Annually Annually
Heat Lowered	Times programmable thermostat lowers the heat. During the day At night
AC Adjusted	Times programmable thermostat adjusts air conditioning. During the day At night
Occupied Day Setting	Temperature set during the day when occupied.
Unoccupied Day Setting	Temperature set during the day when unoccupied.
Sleeping Hours Setting	Temperature set during sleeping hours. (Applies to residential facilities).

Wall

Exterior Wall Type	**Type of exterior wall construction.** Brick Brick Cavity Stone Concrete - Uncategorized Concrete - Panels

Concrete - Block
Concrete Poured
Concrete Non-Load Bearing
Concrete Load Bearing
Concrete - Insulated Forms
Concrete - Aerated
Metal - Uncategorized
Insulated Metal Panels
Sheet Metal
Masonry
Frame Wall
Frame Wall and Masonry
Glass Curtain Wall
SIPS
EIFS and Masonry
EIFS
Wood Walls
Other
Unknown

Wall R-Value — The walls' resistance to heat flow.

Percentage of Total Wall Area — Percentage of this exterior wall type relative to total wall area. [%]

Wall Insulation Type — **Wall insulation type.**

Loose Fill
Batts
Spray-On
Rigid
Other
None
Unknown

Wall Insulation Thickness — **Thickness of wall insulation. [inches]**

Basement wall insulation thickness — Thickness of basement insulation. [inches]

Tightness — Air tightness (sealing) of building.

Excellent
Good
Average
Poor
Very Poor

Roof / Ceiling

Roof Type — **Type of roof construction.**

Built-up
Shingles
Slate or tile shingles
Wood shingles/shakes/other wood
Asphalt/fiberglass/other shingles
Metal surfacing
Plastic/rubber/synthetic sheeting
Concrete
Cool Roof
Green Roof
No one major type
Other

Unknown

Roof Color — **General color shading of the roof.**

White
Light
Dark
Other
Unknown

Deck Type — Roof deck material type.

Concrete
Metal
Wood
Other
Unknown

Roof R-Value — The roof's resistance to heat flow.

Percentage of Total Roof Area — Percentage of area covered by this roof type, relative to the total roof area. [%]

Roof Insulation Type — **Type of roof insulation.**

Loose Fill
Batts
Spray-On
Rigid
Unknown
Other
None

Roof Insulation Thickness — **Thickness of roof insulation. [inches]**

Attic/Ceiling R-value — The attic/ceiling's resistance to heat flow.

Attic/Ceiling Insulation thickness — **Thickness of insulation in attic/ceiling. [inches]**

Attic/Ceiling Insulation Type — **Type of material used to insulate attic/ceiling.**

Fiberglass
Rockwool
Insulsafe
Recycled Cotton
ISOCY
Icynene
Unknown
Other
None

Radiant Barrier — **True if a radiant barrier is installed, false otherwise.**

Fenestration

Window Glass Type — **Type of glass in windows.**

Low-e
Tinted
Reflective
Tinted/Reflective

Other

Operable Windows — **True if windows are operable and can be used as ventilation, false otherwise.**

Windows Gas Filled — True if windows are gas filled, false otherwise.

Window Glass Layers — **Number of layers in window type.**

Single-pane
Double-pane
Triple-pane
Multi-layered
Single-Paned with Storms
Other

Window R-value — The windows' resistance to heat flow.

Solar Heat Gain Coefficient (SHGC) — SHGC is the fraction of incident solar radiation admitted through a window, both directly transmitted and absorbed and subsequently released inward.

Window Visible Transmittance — Amount of visible light transmitted trough the window vs. full transmittance. [%]

Window to Wall Ratio — **Ratio of total window area to total wall area.**

Window Frame Type — Type of window frame.

Aluminum - Uncategorized
Aluminum - No thermal break
Aluminum - Thermal break
Composite
Fiberglass
Steel
Vinyl
Other
Unknown

Exterior Shading Type — **Any type of overhang or awning on the outside of the building designed to limit solar penetration.**

External Overhangs
Awnings
Solar Screens
Solar Film
Other
None

Exterior Shading Orientation — Orientation of window exterior shading.

North
North East
North West
South
South East
South West
East
West

Interior Shading Type — Type of interior shading.

Blinds

Curtains
Shades
Other
Unknown

Skylights **True if skylights are present, false otherwise.**

Windows Weather-Stripped True if windows are weather-stripped, false otherwise.

Exterior Door Type Exterior entrance/exit doors type.

Solid Wood
Hollow Wood
Uninsulated Metal
Insulated Metal
Glass

Doors Weather-Stripped True if exterior doors are weather-stripped.

Floor / Ground Coupling

Ground Coupling **The manner in which the building is connected to the ground.**

Full Heated Basement
Full Unheated Basement
Half Heated Basement
Slab
Crawl Space
Continuous Angle

Perimeter Insulated **True if floor perimeter is insulated, false otherwise.**

Floor Insulation Thickness **Thickness of insulation in floor. [inches]**

Floor R-Value The floor's resistance to heat flow.

IT System

IT System Type Type of information/technology (IT) system.

Personal Computer
Server
Printing
Cash Register
Audio
Display
Networking
Security
Set Top
Telephoning
Business Equipment
Power
Other

Quantity Number of individual systems of this type.

Electrical Plug Intensity Plug load per square foot. [Watts/sq.ft.]

Energy Star	True if equipment is Energy Star rated.

Process Load

Process Load Type	Type of general miscellaneous equipment not categorized elsewhere. Medical Equipment Laboratory Equipment Machinery Motor Air Compressor Fume Hood Appliance Gaming/Hobby/Leisure Infrastructure Electric Vehicle Charging Other
Fuel	Main fuel used by the system. Refer to Fuel list in Energy Use.
Quantity	Number of individual systems of this type.
Installed Power	Installed power of process load. [Watts]
Efficiency Value	Efficiency of system.
Efficiency Unit	Efficiency class of the system.

Cooking

Cooking Type	Type of cooking as an energy end use (does not include employee lounge areas that are equipped with microwaves, other food preparation equipment, and/or vending machines.) Residential Kitchen Commercial - Uncategorized Commercial - Fast Food / Small Restaurant Commercial - Large Restaurant Institutional - Uncategorized Institutional - Cafeteria Institutional - Snack Bar / Small Kitchen
Fuel	Main fuel used by the system. Refer to Fuel list in Energy Use.

Refrigeration

Refrigeration Type	Type of refrigeration equipment. Refrigeration - Uncategorized Refrigeration - Case Refrigeration - Walk-in Commercial - Uncategorized Commercial Freezer - Uncategorized Commercial Freezer- Walk-in Commercial Freezer - Case Commercial Refrigerator - Uncategorized Commercial Refrigerator - Walk-in Commercial Refrigerator - Open Case Commercial Refrigerator - Closed Case Residential - Uncategorized Residential - Full-Sized, One Door Residential - Full-size, Two Doors Residential - Half or Quarter Size

Residential Freezer - Uncategorized
Residential Freezer - Manual Defrost
Residential Freezer - Frost Free
Refrigerated Vending Machine
Refrigerator - Uncategorized
Freezer - Uncategorized

Quantity	Number of individual systems of this type.
Size	Size of system. [cubic feet]
Year of Manufacture	Year system was manufactured.
Energy Star	True if equipment is Energy Star rated.
Doors	Door configuration of the refrigerator/freezer unit. Side-by-side Top and bottom Other Null

Dishwasher

Dishwasher Type	A built-in or portable appliance used for automatically cleaning dishware, utensils, and cutlery. Residential - Uncategorized Residential - Built-in under counter Residential - Portable Residential - Counter-top Commercial - Uncategorized Commercial - Under Counter Commercial - Single Tank Commercial - Conveyor
Fuel	Main fuel used by the system. Refer to Fuel list in Energy Use.
Year of Manufacture	Year system was manufactured.
Energy Star	True if equipment is Energy Star rated.

Laundry

Laundry Type	Type of laundry system. Laundry - Uncategorized Washer - Uncategorized Washer - Residential Washer - Commercial Dryer - Uncategorized Dryer -Residential Dryer - Commercial All-in-One Combination Washer Dryer Unitized/Stacked Washer/Dryer Pair Onsite Laundry Facility
Fuel	Main fuel used by the system. Refer to Fuel list in Energy Use.
Year of Manufacture	Year system was manufactured.

Energy Star	True if equipment is Energy Star rated.

Conveyance	
Conveyance System Type	Type of vertical or horizontal transportation equipment that moves people or goods between levels, floors, or sections. Escalator Elevator Moving Walkway
Quantity	Number of individual systems of this type.
Control Type	Type of system operation control. Electro-Mechanical Digital Other

On-Site Generation	
On-Site Generation Type	Type of on-site energy generation system. PV Fuel Cell Microturbine Turbine Cogeneration Plasma Gasification Generator - General Solar Thermal Geothermal Biomass Hydrothermal Wind Reciprocating Engine Other Unknown
Fuel Generated	Fuel type generated by generator system. Refer to Fuel list in Energy Use.
Quantity	Number of individual systems of this type.
Capacity	Capacity of the system.
Capacity Unit	Unit used to measure capacity. Refer to Unit list in Energy Use.

Energy Storage	
Energy Storage Type	Type of equipment that has the ability to hold energy for later retrieval. Battery Ice Storage Chilled Water Storage
Quantity	Number of individual systems of this type.
Energy Storage Capacity	Maximum energy that can be stored.[Btu]

Pool	
Pool Type	Type of pool.

Hot Tub/ Spa
Pool - Uncategorized
Pool -Olympic
Pool - Recreational
Pool - Short Course
Spa Jacuzzi

Quantity Number of individual systems of this type.

Heated True if fuel is used to heat the pool. False, otherwise.

Fuel Main fuel used to heat the pool. Refer to Fuel list in Energy Use.

Pool Volume Volume of the pool. [gallons]

Number of Pool Pumps Number of pool pumps used for the pool.

Control Type Type of control used to manage heating of pool.

Programmable Thermostat
Manual Thermostat
Digital Thermostat
EMCS
Timer attached to pool pump
Other

Measures

Measure List **Energy efficiency measures, or other changes that affect the energy use of this facility. Measures may be multi-selected to indicate 'packages' of measures.**

Commissioning or Retrocommissioning
Cleaning and/or Repair - Uncategorized
Training and/or Documentation - Uncategorized
Operating Protocols, Calibration, and/or Sequencing - Uncategorized
Envelope - Uncategorized
Envelope - Replace Glazing
Envelope - Increase Wall Insulation
Envelope - Increase Ceiling Insulation
Envelope - Increase Roof Insulation
Envelope - Cool/Green Roof Installed
Envelope - Add Window Films
Envelope - Add Shading Devices
Envelope - Cleaning and/or Repair
Envelope - Weather Stripping
Envelope - Insulation or Replacement of Solar Screens
Envelope - Insulate Attic Hatch / Stair Box
Envelope - Add Attic/Knee Wall Insulation
Envelope - Insulate Thermal Bypass
HVAC - System - Uncategorized
HVAC - System - Operating Protocols, Calibration, and/or Sequencing
HVAC - System - Cleaning and/or Repair
HVAC - System - Training and/or Documentation
HVAC - Heating - Uncategorized
HVAC - Heating - Replace Boiler or Furnace
HVAC - Heating - Replace Burner
HVAC - Heating - Replace Packaged Terminal Units
HVAC - Heating - Add Heat Recovery
HVAC - Heating - Convert Gas-Fired Unit to Boiler Loop
HVAC - Heating - Boiler Room Insulation
HVAC - Heating - Operating Protocols, Calibration, and/or Sequencing
HVAC - Heating - Cleaning and Repair

HVAC - Ventilation - Uncategorized
HVAC - Ventilation - Duct Sealing
HVAC - Ventilation - Balancing
HVAC - Ventilation - Operating Protocols, Calibration, and/or Sequencing
HVAC - Ventilation - Upgrade Fans
HVAC - Ventilation - Cleaning and Repair
HVAC - Cooling -Uncategorized
HVAC - Cooling - Replace Chiller
HVAC - Cooling - Replace Package Units
HVAC - Cooling - Operating Protocols, Calibration, and/or Sequencing
HVAC - Cooling - Economizer Cycle
HVAC - Cooling - Heat Recovery
HVAC - Cooling - Add or replace Cooling Tower
HVAC - Cooling - Install VSD on Electric Centrifugal Chillers
HVAC - Distribution - Uncategorized
HVAC - Distribution - Add Pipe Insulation
HVAC - Distribution - Add Duct Insulation
HVAC - Distribution - Balancing
HVAC - Distribution - Operating Protocols, Calibration, and/or Sequencing
HVAC - Distribution - Replace/Modify AHU
HVAC - Distribution - Repair Leaks / Seal Ducts
HVAC - Distribution - Improve Fans or Pumps
HVAC - Distribution - Convert System from Steam to hot Water
HVAC - Distribution - Convert CV System to VAV System
HVAC - Controls - Uncategorized
HVAC - Controls - Add or Upgrade BAS/EMS/EMCS
HVAC - Controls - Add or Upgrade Controls
HVAC - Controls - Pneumatic to DDC Convert
Domestic Hot Water - Uncategorized
Domestic Hot Water - Replace or Upgrade Heater
Domestic Hot Water - Heat Recovery
Domestic Hot Water - Add Pipe Insulation
Domestic Hot Water - Install Low-Flow Fixtures
Domestic Hot Water -Add Recirculating Pumps
Domestic Hot Water - Separate DHW from Heating
Domestic Hot Water - Operating Protocols, Calibration, and/or Sequencing
Motors - Uncategorized
Motors - Replace with higher efficiency
Motors - Replace with VSD
Motors - Add Drive Controls
Lighting - Uncategorized
Lighting - Retrofit/Replace
Lighting - Cleaning and/or Repair
Lighting - Operation Protocols, Calibration, and/or Sequencing
Lighting - Retrofit with T-8
Lighting - Retrofit with T-5
Lighting - Retrofit with CFLs
Lighting - Add occupancy sensors
Lighting - Add daylight dimming
Data Center - Uncategorized
Process/Plug Equipment - Uncategorized
Process/Plug Equipment -Operating Protocols, Calibration, and/or Sequencing
Process/Plug Equipment - Cleaning and/or Repair
On-Site Generation - Uncategorized
Fuel Conversion
Addition or Annex
Other

Scope **Percentage of the building floor space affected. [%]**

Description Description of measure.

Start Date	**Date the implementation began.**
End Date	**Date the implementation was completed.**
Life	Life expectancy of measure. [years]
First Cost	**The sum of the initial expenditures to implement the measure; includes items such as equipment, transportation, installation, preparation for service, as well as other related costs. [US $]**
O&M Cost	Operation and maintenance cost per year relating to the measure. [US $ /year]
Funding from Rebates	Amount of funding gained from rebates. [US $]
Funding from Tax Credits	Amount of funding gained from tax credits. [US $]

Energy Use

Fuel — **Type of fuel.**

- Electricity
- Electricity (Renewable)
- Natural Gas
- Natural Gas (Renewable)
- Fuel Oil
- Fuel Oil No.1
- Fuel Oil No.2
- Fuel Oil No.4
- Fuel Oil No.5 and No.6
- District Steam
- District hot water
- District chilled water
- Solar hot water
- Bottled gas (LPG or propane)
- Propane
- Liquid Propane
- Kerosene
- Diesel
- Coal
- Coal (anthracite)
- Coal (bituminous)
- Coke
- Wood
- Combination
- Other

Complete Fuel — **True if this Energy Use record covers total consumption of this fuel type in this facility; false otherwise.**

End Use Type — **End use that this Energy Use primarily applies to.**

- Whole Building
- Whole Building Baseload
- Lighting - Uncategorized
- Lighting - Interior
- Lighting - Exterior
- Heating
- Cooling
- Ventilation
- Pump
- IT
- Plug Load

Process Load
Conveyance
Domestic Hot Water
Refrigeration
Cooking
Dishwasher
Laundry
Pool Heating
Other

Complete End Use — True if this Energy Use covers total consumption of this end use; false otherwise.

Units — **Units for energy use.**

cmh (cubic meters per hour)
ccf (hundred cubic feet)
kcf (thousand cubic feet)
MCF(million cubic feet)
cfh (cubic feet per hour)
Wh
kWh (thousand Watt-hours)
MWh (million Watt-hours)
Btu
kBtu (thousand Btu)
MBtu (million Btu)
therms
Lbs. (pounds)
KLbs. (thousand pounds)
MLbs. (million pounds)
Tonnes
kg (kilogram)

Interval Type — **Indicates whether the reading is meant to be representative of a specific time interval.**

15-minute
Hourly
Daily
Monthly
Annual

Reading Time Zone Code — The 3 letter code for the time zone where the reading was taken.

Reading Type — Interval meters either average or give point readings for each time step.

Point
Median
Average
Total
Estimate
Other

Summer Peak — Peak demand in the summer.

Winter Peak — Peak demand in the winter.

Time Series

Start Time Stamp — **The timestamp that marks the beginning of the time step.**

End Time Stamp — **The timestamp that marks the end of the time step.**

Reading	**The numerical value of the reading.**
Interval Peak	Maximum value in this interval.
Interval Minimum	Minimum value in this interval.

U.S. Department of Energy - Building Energy Performance Taxonomy

Supplementary Data Fields

Notes:

1. These data fields are supplementary to the primary fields; and are implemented as needed to support special use cases

2. Data fields are organized by entity. See "Scheme" worksheet for description of entities and their relationships.

3. Data fields with constrained lists show list items below description.

4. Most data fields generally apply to all commercial and residential facilities. However, some fields may only apply to certain types of facilities. (e.g. school district only applies to schools)

5. Display tip: Display of data fields and enumerated types can be toggled on/off using buttons on left of row labels.

Site

Complex Type

If the site hosts a complex, the main purpose or use of the complex as a whole.

College/university/junior college
Primary or secondary school (K-12)
Other type of school
Office complex
Retail complex
Religious campus or complex
Hospital or other health care complex
Lodging or resort complex
Post office complex
Other type of government complex
Industrial complex
Transportation complex
Other type of campus or complex
Multifamily
Unknown

School District

The school district the site pertains to.

eGRID Region

Emissions & Generation Resource Integrated Database (eGRID) region in which this site is located.

Tax Floor Area

The floor area for the site as defined by the tax records.

Residential Facility

Facility Number

Number for the specific facility (out of total for site).

Year Completed Range

If exact year of construction completion is unknown, this is a range.

Number of Floor Plans

Number of floor plans in a multi-family facility.

Floor Plan Type

Floor plan type. There may be as many types as number of different floor plans.

1 Bed / 1 Bath
1 Bed / 1+ Bath
2 Bed / 1 Bath
2 Bed / 1+ Bath
3+ Bed / 1+ Bath

Number of Units per Floor Plan

Number of units with floor plan specified in Floor Plan Type.

Facility Tax Floor Area	**The floor area for the facility as defined by the tax records. [square feet]**
Enclosed Floor Area	**Floor area of all spaces enclosed by walls. [square feet]**
Conditioned Floor Area	**Floor area of all spaces that are either heated or cooled. [square feet]**
Semi-conditioned Floor Area	**Partially heated or air-conditioned floor area of a building. [sq. ft.]**
Heated Only Floor Area	**Floor area of all spaces that are only heated. [square feet]**
Cooled Only Floor Area	**Floor area of all spaces that are only cooled. [square feet]**
Heated and Cooled Floor Area	**Floor area of all spaces that are both heated and cooled.**
Non-Enclosed Floor Area (w/roof)	**Floor area of all spaces that are not enclosed by walls but do have a roof. [square feet]**
Open Floor Area (w/o roof)	**Floor area of all spaces that are not enclosed by walls and do not have roofs. [square feet]**
Facility Height	**Height of the facility. [feet]**
Floor-to-Floor Height	**Average height of the floor(s), measured from floor to floor/ceiling. [feet]**
Number of Floors in Housing Unit	**Number of floors in unit, which is part of a building.**
Number of Conditioned Floors	**Number of conditioned floors above ground.**
Number of Conditioned Floors Above Ground	**Number of floors that are conditioned and are above ground.**
Numbers of Conditioned Floors Below Ground	**Number of floors that are conditioned and are below ground.**
Household Type	**The type of household consisting of persons who are permanently resident in the same dwelling unit.** Family household Married couple, no children Male householder, no spouse Female householder, no spouse Nonfamily household Single male Single female Other
Ownership Status	**The relationship of a housing unit's occupants to the structure itself, not the land on which the structure is located.** Own/Buying Renting Occupying without payment of rent

Government Subsidized Housing	**True if multifamily property receives affordable public local, state or federal subsidies, false otherwise.**
Occupant Income Range	**Annual income of the household occupants.** Lowest Fifth Second Fifth Middle Fifth Fourth Fifth Highest Fifth Top 5%
Occupant Education	**Highest education level of the household occupants.** No High School Some High School High School Graduate Some College Vocational/Technical/Associates Degree Bachelor's Degree Some Post Graduate Master's Degree Professional Degree Doctoral Degree
Resident Population Type	**This is a descriptor used to identify multifamily housing that may be marketed to and/or dedicated for specific resident populations. Applies to the majority (more than 50%) of the residents.** No specific Resident Population Student Military Senior/Independent Living Special Accessibility Needs Other
Number of Adults	**Number of persons age 18 or older residing in the residence.**
Number of Children	**Number of persons under the age of 18 residing in the residence.**
Number of Non-bedrooms	**Non-bedrooms refers to rooms not intended for sleeping.**

Commercial Facility

Facility Number	**Number for the specific facility (out of total for site).**
NAICS Code	**North American Industry Classification System code.**
Ownership Status	**The relationship of a commercial facility's occupants to the structure itself, not the land on which the structure is located.** Own/Buying Rent Occupied without payment of rent
Facility Tax Floor Area	**The floor area for the facility as defined by the tax records. [square feet]**
Enclosed Floor Area	**Floor area of all spaces enclosed by walls. [square feet]**

Conditioned Floor Area	Floor area of all spaces that are either heated or cooled. [square feet]
Semi-conditioned Floor Area	Partially heated or air-conditioned floor area of a building. [sq. ft.]
Heated Only Floor Area	Floor area of all spaces that are only heated. [square feet]
Cooled Only Floor Area	Floor area of all spaces that are only cooled. [square feet]
Heated and Cooled Floor Area	Floor area of all spaces that are both heated and cooled.
Non-Enclosed Floor Area (w/roof)	Floor area of all spaces that are not enclosed by walls but do have a roof. [square feet]
Open Floor Area (w/o roof)	Floor area of all spaces that are not enclosed by walls and do not have roofs. [square feet]
Basement Floor Area	Basement refers to an enclosed space under all or part of the building in which a person can walk upright.
Facility Height	Height of the facility. [feet]
Floor-to-Floor Height	Average height of the floor(s), measured from floor to floor/ceiling. [feet]
Number of Conditioned Floors	Number of conditioned floors above ground.
Number of Conditioned Floors Above Ground	Number of floors that are conditioned and are above ground.
Numbers of Conditioned Floors Below Ground	Number of floors that are conditioned and are below ground.

Activity Area

Activity Area Name	Name or identifying description of activity area.
Exterior Entrance to the Public	True if facility has an exterior entrance for public use, false otherwise.
Enclosed Floor Area	Floor area of all spaces enclosed by walls. [square feet]
Non-Enclosed Floor Area (w/roof)	Floor area of all spaces that are not enclosed by walls but do have a roof. [square feet]
Open Floor Area (w/o roof)	Floor area of all spaces that are not enclosed by walls and do not have roofs. [square feet]
Conditioned Floor Area	Floor area of all spaces that are either heated or cooled. [square feet]
Office Air-Conditioned	True if office space is air-conditioned, false otherwise.
Office Heated	True if office space is heated, false otherwise.

Senior Care Facility Total Resident Capacity	Total resident capacity in senior care facility.
Occupant Density	Number of occupants per 100 square feet.
Hours per Day Guests on Site	Hours per Day Guests on Site
Number of Months in Use	Number of months the building is in full operational mode.
Average Occupancy Percentage	Percentage of occupancy. [%]
Room Density	Number of rooms per 1,000 square feet.
Number of Businesses	Number of distinct businesses operating in the facility.
Weekly Hours of Parking Access	Number of hours parking is accessible in an average week.
K - 12 School - Open Weekends	true if the school facility is open on weekends; false otherwise.
Floor area of full-service spas	Floor area of full-service spas. [square feet]
Floor area of gym/fitness center	Floor area of gym or fitness center. [square feet]
Dorm has Computer Lab	True if dormitory includes a computer lab, false otherwise.
Hospital - Tertiary Care?	True if tertiary care is offered at the hospital, false otherwise.

Systems

Lighting

Lighting Efficacy	Luminous efficacy of lighting. [lm/W]
Specular Reflectors	True if fixtures have specular reflectors, false otherwise.
Percent lit when open	Percentage of square footage that is lit electrically during usual operating hours. [%]
Percent lit when closed	The percentage of square footage that is lit electrically during all hours other than the usual operating hours. [%]

Air Distribution

Static Pressure	The designed static pressure for the system.
Zone Count	Number of zones serviced by the conditioning system.
Fan Placement	Placement of fan relative to the air stream.

Series
Parallel
Draw Through
Blow Through

Flow Configuration

Configuration of air flow.

Stud
Furrdown
Upflow
Horizontal
Other

Duct Type

Type of duct material.

Flex - Uncategorized
Grey Flex
Mylor Flex
Duct Board
Sheet Metal
Galvanized
Flexible
Fiberboard
No Ducting
Other

Bucket Type

Bucket type.

Duct Board
Metal

Duct Pressure Test Leakage (cfm)

Duct leakage found from pressure test. Reported in cubic feet per minute. [cfm]

Duct Pressure Test Leakage (Percentage)

Duct leakage found from pressure test. Reported as a percentage. [%]

Heating

Distribution Type

Type of distribution.

Hot Water Pipes
One Pipe Steam
Two Pipe Steam
Air
Other

Location

Location of heating equipment.

Indoors
Outdoors
Closet

Draft Type

Draft mechanism used for drawing air through the boiler.

Natural
Mechanical Forced
Mechanical Induced

Zone Count

Number of zones serviced by the equipment

Exclusive to this Facility

True if the asset is used exclusively for the present facility; false otherwise.

Cooling

Water-side Economizer	**True if there is a waterside economizer in use, false otherwise.**
Location	**Location of cooling equipment.** Indoors Outdoors Closet
Zone Count	**Number of zones serviced by the equipment**
Cooling Equipment Redundancy	**True if there is backup cooling equipment. False otherwise.**

Other HVAC

Location	**Location of system.** Indoors Outdoors Closet Garage Attic Other
Zone Count	**Number of zones serviced by the equipment**

Service Hot Water

Location	**Location of system.** Indoors Outdoors Closet Garage Attic Other

General Controls & Operations

Task Lighting In Use	**True if task lighting is used.**
Lighting Daily Hours	**Average hours per day lights are on.** 1 to 4 hours per day 4 to 12 hours per day More than 12 hours per day All day
EMCS Used	**True if an Energy Management and Control System is in use, false otherwise.**
Primary HVAC Control Strategy	**Primary HVAC equipment control strategy.** Pneumatic Electric Mixed
Percent of rooms controlled by thermostatic radiator valves	**Percent of rooms controlled by thermostatic radiator valves. [%]**

Percent of rooms controlled by electronic zone valves with thermostats	**Percent of rooms controlled by electronic zone valves with thermostats. [%]**
Percent of rooms controlled by wireless temperature sensors	**Percent of rooms controlled by wireless temperature sensors. [%]**
Percent of rooms controlled by demand control ventilation	**Percent of rooms controlled by demand control ventilation. [%]**
Lighting reduced during off hours	**True if lighting load is reduced during off hours. False otherwise.**
AC Replaced in Last 10 Years	**True if air conditioning equipment or components have been replaced in the last ten years; false otherwise.**
Number of Coils Replaces	**If air conditioning was replaced in the last ten years, then the number of coils that were replaced.**
Number of Air Handlers Replaced	**If air conditioning was replaced in the last ten years, then the number of air handlers that were replaced.**
Number of Guest Meals	**Number of guest meals served per year.**
Quantity of Laundry	**Quantity of laundry processed on-site annually**
Wall	
Wall Area	**Total exposed above-grade wall area. [square feet]**
Roof/Ceiling	
Roof Slope	**Roof slope type.** Flat Pitched > 2:12 < 2:12
Roof Area	**Surface area of roof. [square feet]**
Percent of Roof Terraces	**Percentage of roof made up of terraces. [%]**
Terrace R-Value	**The terrace's resistance to heat flow.**
Attic Access Location	**Specifies if access to the attic is through a conditioned or unconditioned space.** Conditioned Space Unconditioned Space
Fenestration	

Window Area	Total window area. [square feet]
Percent Vision Glazing	Percent of vision glazing of exposed wall area. Vision glazing is windows that provide a connection to the outdoors. [%]
Year of Last Window Replacement	Year of last window replacement, if known.
Percent of Window Area Shaded	Percent of window area that is shaded. [%]
Percent Skylight Area	Percentage of roof area that is skylight(s). [%]
Skylight SHGC	SHGC is the fraction of incident solar radiation admitted through a window, both directly transmitted and absorbed and subsequently released inward.
Skylight Visible Transmittance	Amount of visible light transmitted trough the window vs. full transmittance.
Number of Exterior Doors	The number of doors that lead to the exterior.
Floor/Ground Coupling	
Carpet	True if floors are carpeted, false otherwise.
Plumbing Penetration Sealing	True if plumbing penetration sites are sealed, false otherwise.
IT System	
UPS System Redundancy	True if there is a backup uninterruptable power supply (UPS). False otherwise.
Density	Number of assets of this type per 1,000 square feet.
Process Load	
Capacity	Capacity of all process equipment.
Capacity Unit	Unit used to measure capacity. Refer to Unit list in Energy Use.
Cooking	
Capacity High	Capacity of all cooking equipment.
Capacity Unit	Unit used to measure capacity. Refer to Unit list in Energy Use.
Refrigeration	
Density	Number of assets of this type per 1,000 square feet.
Dishwasher	
Quantity	Number of individual assets of this type.
Laundry	

Quantity	**Number of individual assets of this type.**
On-Site Generation	
Annual Operation Hours	**Hours in operation per year. [hours/year]**
Pool	
Indoor	**True if the pool asset is indoors. False otherwise.**
Pool Area	**Surface area of pool. [square feet]**
Measures	
Simple Payback	**The length of time required for an investment to pay for itself. [year]**
Cost Effectiveness Screening Method	**Method for cost effective screening.** Simple Payback NPV
O&M Cost Annual Savings	**Operation and maintenance annual cost savings. [US $ /year]**
Total Job Hours	**Total hours billed to the measure. [US $ /year]**
Annual Savings Estimate (Cost)	**Estimate of cost savings per year. [US $ /year]**
Annual Savings Estimate (Energy)	**Estimate of energy savings per year. [Btu / year]**
Annual Savings (Cost)	**Cost savings per year. [US $ /year]**
Annual Savings (Energy)	**Energy savings per year. [Btu / year]**
Implementation Status	**Implementation status of measure.** Completed Selected Discarded Recommended In Progress Satisfactory Repair Not Achieved
Work Performed By	**Entity who performed the work.** Retro-Commissioning Team Building Staff Outside Contractor
Energy Use	
Rate Structure	**Rate structure type for utility billing.**
Metering Configuration	**Configuration of metering.** Direct metering (Tenants directly metered) Master meter without sub-metering (Tenants not directly metered or sub-metered) Master meter with sub-metering (Tenants sub-metered by building owner)

Other

Emissions Factor

Emissions factor associated with this fuel according to EPA. [kg Co2e/Mbtu]

Fuel Interruptibility

This refers to the practice of supplementing fuel by other means when there are interruptions in supply from the utility.

Interruptible

Firm

Shared Energy System

True if this energy system is shared with multiple buildings on a site, such as shared chilled water.

SEED Additional Data Fields

Notes:

1. These data fields are specific to SEED and are not within the scope of the Building Performance Database. They include Personally Identifiable Information (PII) and calculated energy and water metrics imported from other tools.

2. Data fields are organized by entity. See "Scheme" worksheet for description of entities and their relationships.

3. Data fields with constrained lists show list items below description.

4. Most data fields generally apply to all commercial and residential facilities. However, some fields may only apply to certain types of facilities. (e.g. property management contact information)

5. Display tip: Display of data fields and enumerated types can be toggled on/off using buttons on left of row labels.

Site

Site ID	**Unique number identifying the site.**
Address Field 1	**Street Address or other address field.**
Address Field 2	**Street Address or other address field.**
City ID Code	**Field can be used for any city identification code. There may be multiple City ID Codes, such as 3 for borough, block, and lot.**
City ID Code Name	**Name of city identification code. There may be multiple City ID Code Names, such as 3 for "Borough," "Block," and "Lot."**
Longitude	**The angular distance of a place east or west of the meridian.**
Latitude	**The angular distance of a place north or south of the Earth's equator.**

Residential Facility

Facility ID	**The unique facility identifier.**
Facility Name	**Name of the facility.**
Address Field 1	**Street Address or other address field.**
Address Field 2	**Street Address or other address field.**
Owner Name	**Owner of the facility.**
Facility Contact	**Primary contact for the facility.**
Owner Care-Of Name	**Owner care-of contact for the facility.**
Owner Address 1	**Street Address or other address field for the facility owner.**

Owner Address 2	Street Address or other address field for the facility owner.
Owner City	The city in which the facility owner is located.
Owner State	The state in which the facility owner is located.
Owner Postal Code	The postal code in which the facility owner is located.
Owner Phone Number	Home phone number of residential facility owner, if appropriate.
Facility Phone	Phone number to reach primary property contact.
Facility E-Mail Address	E-mail to reach primary property contact.
Property Management Company	Company name managing the property.
Property Management Address	Address of the property management company.
Property Management Contact	Primary contact for the property management company.
Property Management Phone	Phone number of property management company.
Property Management E-Mail Address	E-mail address for property management company.
Agency	Federal agency, required to designate a facility as a federal property in Portfolio Manager.
Department/Region	Federal department/region, required to designate a facility as a federal property in Portfolio Manager.
PM Unique Building Identifier	Portfolio Manager Building identifier
Federal Real Property ID	Federal real property ID, required to designate a facility as a federal property in Portfolio Manager.
Administrator	Designates this Portfolio Manager account as administrator over other customer accounts.
Shared By	Designates the original Portfolio Manager account who has shared this facility data.
PM Last Modified Date	Last date of Portfolio Manager data entry.

Eligibility for ENERGY STAR	Indicator signifying whether or not a facility is eligible for the ENERGY STAR Label.
ENERGY STAR Application Status	Status of ENERGY STAR application.
Space Use Alerts	Portfolio Manger alerting that space types within the same facility are incompatible.
Year(s) Labeled	The year or years in which the facility was ENERGY STAR Labeled.
Approval Date – Last ENERGY STAR	The period ending date associated with last (i.e. most recent) ENERGY STAR Label received.
Baseline Rating	A facility's baseline estimated energy use rating, as calculated by Portfolio Manager.
Target Rating	ENERGY STAR target rating selected by Portfolio Manager user.
Building Profile Status	The status of the building profile submission process for Portfolio Manger.
Federal Sustainability Checklist Completion Percentage	Percentage of the Federal High Performance Sustainability Checklist that has been completed for federal building in Portfolio Manager.
Notes	Facility level details about the building in Portfolio Manager.
Service and Product Provider	The ABS Service and Product Provider associated with this Portfolio Manager Facility.

Commercial Facility

Facility ID	The unique facility identifier.
Facility Name	Name of the facility.
Address Field 1	Street Address or other address field.
Address Field 2	Street Address or other address field.
Owner Name	Owner of the facility.
Owner Care-Of Name	Owner care-of contact for the facility.
Owner Address 1	Street Address or other address field for the facility owner.
Owner Address 2	Street Address or other address field for the facility owner.
Owner City	The city in which the facility owner is located.

Owner State	**The state in which the facility owner is located.**
Owner Postal Code	**The postal code in which the facility owner is located.**
Agency	**Federal agency, required to designate a facility as a federal property in Portfolio Manager.**
Department/Region	**Federal department/region, required to designate a facility as a federal property in Portfolio Manager.**
PM Unique Building Identifier	**Portfolio Manager Building identifier**
Federal Real Property ID	**Federal real property ID, required to designate a facility as a federal property in Portfolio Manager.**
Administrator	**Designates this Portfolio Manager account as administrator over other customer accounts.**
Shared By	**Designates the original Portfolio Manager account who has shared this facility data.**
PM Last Modified Date	**Last date of Portfolio Manager data entry.**
Eligibility for ENERGY STAR	**Indicator signifying whether or not a facility is eligible for the ENERGY STAR Label.**
ENERGY STAR Application Status	**Status of ENERGY STAR application.**
Space Use Alerts	**Portfolio Manger alerting that space types within the same facility are incompatible.**
Year(s) Labeled	**The year or years in which the facility was ENERGY STAR Labeled.**
Approval Date – Last ENERGY STAR	**The period ending date associated with last (i.e. most recent) ENERGY STAR Label received.**
Baseline Rating	**A facility's baseline estimated energy use rating, as calculated by Portfolio Manager.**
Target Rating	**ENERGY STAR target rating selected by Portfolio Manager user.**
Building Profile Status	**The status of the building profile submission process for Portfolio Manger.**
Federal Sustainability Checklist Completion Percentage	**Percentage of the Federal High Performance Sustainability Checklist that has been completed for federal building in Portfolio Manager.**
Notes	**Facility level details about the building in Portfolio Manager.**
Service and Product Provider	**The ABS Service and Product Provider associated with this Portfolio Manager Facility.**

Measures

Audit Date	**Date Report was conducted or generated.**
Auditor Name	**Name of auditor responsible for execution of Energy Efficiency Measure.**
Auditor Qualification	**Qualification of auditor responsible for execution of Energy Efficiency Measure.** PE CEM BPI-BA RESNET-Home Partner RA Other
Auditor Qualification Number	**Certificate number, license number, etc., of Auditor Qualification 1.**
Auditor Qualification State	**If Auditor Qualification 1 is state-issued, the state the qualification is from.**
Auditor with 3 Years Experience or More	**Name of person with at least three years auditing experience.**
Years of Auditing Experience	**Number of years of auditing experience.**
Auditor Company	**Company or organization the auditor represents.**
Auditor Company Address	**Address of auditor.**
Auditor Company Phone Number	**Phone number of auditor.**
Auditor E-Mail Address	**E-mail of auditor.**
Audit Certification Type	**Type of audit certification issued.**
Name of Audit Certification Holder	**Name of designated audit certification holder.**
Retro-commissioning Date	**Date retro-commissioning was conducted.**
Implementer Name	**Name of implementer responsible for execution of Energy Efficiency Measure.**
Implementer Qualification	**Qualification of implementer responsible for execution of Energy Efficiency Measure.** PE CEM BPI-BA RESNET-Home Partner RA Refrigerating System Operating Engineer High Pressure Boiler Operating Engineer

Other

Implementer Qualification Number	**Certificate number, license number, etc., of Implementer Qualification 1.**
Implementer Qualification State	**If Implementer Qualification 1 is state-issued, the state the qualification is from.**
Implementer with 1 Year Experience or More	**Name of person with at least one year retro-commissioning experience.**
Years of Retro-commissioning Experience	**Number of years of retro-commissioning experience.**
Implementer Company	**Company or organization the implementer represents.**
Implementer Company Address	**Address of implementer.**
Implementer Company Phone Number	**Phone number of implementer.**
Name of Retro-commissioning Certification Holder	**Name of designated retro-commissioning certification holder.**
Retro-commissioning Certification Type	**Type of retro-commissioning certification issued.**
Audit ID	**ID code for this Audit.**
Measure ID	**ID code for this Measure.**
Notes	**Additional relevant information regarding the measure.**

Energy Use + Metrics

Identifier	**Name or identifier of the Energy Use e.g. fuel type or meter number.**
Energy Use Metric Type	**Type of calculated energy use metric.** Portfolio Manager Energy Performance Rating Whole Building Energy Use Intensity (Source) Whole Building Energy Use Intensity (Source, Weather Normalized) Whole Building Energy Use Intensity (Site) Green House Gas Emissions (CO2e) Baseline Data Center Source PUE Baseline PUE-PDU Input Baseline PUE-UPS Output Baseline Site IT Equipment Input Energy (kWh) Baseline Site PDU Input Energy (kWh)

Baseline Site PDU Output Energy (kWh)
Baseline Site UPS Output Energy (kWh)
Baseline Source IT Energy (kBtu)
Current Data Center Source PUE
Current PUE-PDU Input
Current PUE-UPS Output
Current Site IT Equipment Input Energy (kWh)
Current Site PDU Input Energy (kWh)
Current Site PDU Output Energy (kWh)
Current Site UPS Output Energy (kWh)
Current Source IT Energy (kBtu)
National Average PUE
Baseline Direct GHG Emissions (MtCO2e)
Baseline Indirect GHG Emissions (MtCO2e)
Baseline Total GHG Emissions (MtCO2e)
Change from Baseline: GHG Emissions (MtCO2e)
Current Direct GHG Emissions (MtCO2e)
Current Indirect GHG Emissions (MtCO2e)
Current Total GHG Emissions (MtCO2e)
Baseline Energy Period Ending Date
Current Energy Period Ending Date
Baseline Water Period Ending Date
Current Water Period Ending Date
Baseline Total On-Site Renewable Electric Use (kWh)
Current Total On-Site Renewable Electric Use (kWh)
Percent of Electricity from On-Site Renewable (%)
Total Avoided GHG Emissions from Green Power (MtCO2e)
Total Green Power Purchased (MWh)
Total Renewable Energy Sold to Grid (kWh)
Total Revenue From Energy Sold to the Grid (USD $)
Baseline Site Energy Intensity (kBtu/sq.ft)
Baseline Total Site Energy Use (kBtu)
Current Total Site Energy Use (kBtu)
National Median Site EUI (kBtu/sq.ft)
Target Site Energy Intensity (kBtu/sq.ft)
Weather Normalized Site EUI (kBtu/sq.ft)
% Difference from National Median Site Energy per Square Foot (%)
Baseline Site Electric Use (kWh)
Baseline Site Natural Gas Use (therms)
% Difference from National Median Source Energy per Square Foot (%)
Baseline Source Energy Intensity (kBtu/sq.ft)
Baseline Weather Normalized Source Energy Intensity (kBtu/sq.ft)
National Median Source EUI (kBtu/sq.ft)
Baseline Total Source Energy Use (kBtu)
Current Total Source Energy Use (kBtu)
Data Center- IT Energy Configuration
Data Center- PDU Input Energy (kWh)
Data Center- UPS Output Energy (kWh)
Data Center - UPS Capacity (kW)

Water Use Metric Type **Type of annual water use metric.**

Indoor Water Cost (US $)
Indoor Water Use (kGal)
Indoor Water Use Intensity (Gal/sq.ft.)
Other Water Cost (US $)
Other Water Use (kGal)
Outdoor Water Cost (US $)
Outdoor Water Use (kGal)
Total Indoor and Outdoor Water Cost (US $)
Total Indoor and Outdoor Water Use (kGal)
Wastewater/Sewer Cost (US $)
Wastewater/Sewer Use (kGal)

Utility	**Name of utility company billing this Energy Use.**
Power Plant	**Portfolio Manager field.**
Energy Use Alerts	**Portfolio Manger generated alerts relating to energy use.**
Water Use Alerts	**All alerts for this facility that are related to water use.**