



Principles of BEDES Philosophy

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Five Principles of BEDES Philosophy

1. Be useful
2. Be inclusive
3. Be unambiguous
4. Don't preclude future functionality
5. Support future functionality where possible

1. Be useful

- Plan for diverse users
- Users decide what is useful for their needs
- *Use Cases* provide a guide for users

2. Be inclusive

- Anything may be useful to someone
- Err on the side of inclusion
- Unique elements may be referenced to other specifications, e.g., weather data

3. Be unambiguous

- Use narrowest definition where possible
- Avoid self-referential definitions, e.g.,
“Recursive: see “Recursive”
- Allow for user-defined terms, e.g., “Other:
[please specify]”

4. Don't preclude future functionality

- Maintain simplicity & transparency of design
- Don't set relationships that prevent others from determining functionality

5. Support future functionality where possible

- Balance need for static reference document with future changes
- Plan for future changes, e.g., BEDES 2.0

Terms That Don't Really Describe BEDES

- 1. Specification – No**
- 2. Schema – No**
- 3. Database – No**
- 4. Exchange Protocol – Possibly in the future**
- 5. Technical Standard – Possibly in the future**

1. Specification

- An exact statement of the particular data that needs to be collected, satisfied, or essential characteristics that a user requires
- BEDES does not **specify** required data to be included—these are left for the user to choose.

2. Schema

- The description of the entire configuration of a database, including instructions for the organization of the tables, relations between fields, index, etc.
- BEDES does not include **instructions** on the organization of the material, as the organization is neutral with respect to use

3. Database

- An organized collection of data, typically organized to model relevant aspects of reality in a way that supports processes requiring this information. *If the “schema” is the design, the database is the implementation of the design with data in it.*
- BEDES is currently not envisioned as a database, because there is no schema and BEDES does not contain the data.

4. Exchange Protocol

- A set of rules and regulations that determine how content is managed
- BEDES is not a protocol, as it does not prescribe **how** to use the terms.

5. Technical Standard

- A formal document that establishes uniform engineering or technical criteria, methods, processes and practices
- BEDES could be a technical standard, e.g., it could be adopted by a standards body, e.g., ANSI.

What Other Terms Best Describe BEDES?

- Dictionary
- Glossary
- Lexicon
- Nomenclature
- Taxonomy
- Terminology

1. Dictionary

- A reference containing an alphabetical list of words, with information given for each word, usually including definitions, pronunciation, figure of speech, and origin.
- A dictionary contains: **TERMS, DEFINITIONS, and TYPES**

2. Glossary

- A list of terms in a special subject, field, or area of usage, with accompanying definitions
- A glossary contains: TERMS, DEFINITIONS, but not TYPES

3. Lexicon

- The vocabulary of a person, language, or branch of knowledge.
- A lexicon contains: TERMS, but not DEFINITIONS, or TYPES

4. Nomenclature

- A set or system of names or terms, as those used in a particular science or art, by an individual or community
- Nomenclature contains: **TERMS & DEFINITIONS**, but not **TYPES**

5. Taxonomy

- The process or system of describing the way in which different things are **related** by putting them in groups

A taxonomy contains: TERMS, but not DEFINITIONS or TYPES

6. Terminology

- The system of terms belonging or peculiar to a science, art, or specialized subject; nomenclature.

Terminology contains: TERMS & DEFINITIONS, but not TYPES

Alternative Names for BEDES

0. Keep the name BEDES—change the words, e.g., Building Energy DEScriptors
1. Building Energy Terminology (BET)
2. Dictionary of Building Energy Terms (DBET)
3. Glossary of Building Energy Terms (GBET)
4. Building Energy Nomenclature (BEN)
5. Others:



BEDES 2.4 (Beta)

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]

Mockup of Module 1

Field	Data Type	Definition	Unit of Measure	Source	Mapping
Gross Floor Area	Number (Single)		Square feet (IP)	BEDES Beta	IEP / HPXML: GrossFloorArea RETS: BuildingAreaTotal ESPM: Property Floor Area (Buildings)
		Gross floor area is the sum of the floor areas of the spaces within the building, including basements, mezzanine and intermediate-floored tiers, and penthouses with the headroom height of 7.5 ft. (2.2 meters) or greater. Measurements must be taken from the exterior faces of exterior walls OR from the centerline of walls separating buildings, OR from the centerline of walls separating spaces. Excludes non-enclosed (or non-enclosable) roofed-over areas such as exterior covered walkways, porches, terraces or steps, roof overhangs, and similar features. Excludes air shafts, pipe trenches, and chimneys. Excludes floor area dedicated to the parking and circulation of motor vehicles (ASHRAE)		HPXML	
Net Floor Area	Number (Single)		Square feet (IP)	BEDES Beta	HPXML: NetFloorArea
		Net occupiable floor area: the floor area of an occupiable space defined by the inside surfaces of its walls but excluding shafts, column enclosures, and other permanently enclosed, inaccessible, and unoccupiable areas. Obstructions in the space such as furnishings, display or storage racks, and other obstructions, whether temporary or permanent, may not be deducted from the space are considered to be part of the net occupiable area (ANSI/ASHRAE Standard 62.1-2007)		HPXML	
Rentable Floor Area	Number (Single)		Square feet (IP)	BEDES Beta	
		Definition			
Conditioned Floor Area	Number (Single)		Square feet (IP)	HPXML	
		All finished space that is within the (insulated) conditioned space boundary (i.e., within the insulated envelope), regardless of HVAC configuration (RESNET Formal Interpretation 2010-02 http://www.resnet.us/standards/Floor_Area_Interpretation.pdf).		HPXML	
Occupied Floor Area	Number (Single)		Square feet (IP)	BEDES Beta	HPXML: FinishedFloorArea
		Definition			
Lighted Floor Area	Number (Single)		Square feet (IP)	BEDES Beta	
		Definition			
Heated Floor Area	Number (Single)		Square feet (IP)	BEDES Beta	IEP: ConditionedAreaFraction (derived) HPXML: HeatedFloorArea
		Definition			
Cooled Floor Area	Number (Single)		Square feet (IP)	BEDES Beta	IEP: ConditionedAreaFraction (derived) HPXML: CooledFloorArea
		Definition			
Unconditioned Floor Area	Number (Single)		Square feet (IP)	BEDES Beta	

Mockup of Module 1 – Constrained List Type

Field	Data Type	Definition	Unit of Measure	Source	Mapping
Residential Facility Type	Constrained List	Type of Residential Facility, from the following list:	n/a	BEDES Beta	
		Single Family - Uncategorized			
		A single-family attached or detached home, if not specified. It is defined in opposition to a multi-family dwelling.			
		Single Family - Attached		BEDES Beta	
		A single-family home attached to some other home or structure.			
		Single Family - Detached		BEDES Beta	RETS: Single Family Residence IEP: Single-Family ESPM: Single Family Home
		A single-family detached home, also called a single-detached dwelling or separate house is a free-standing residential building.			
		Manufactured Home		BEDES Beta	RETS: Manufactured Home
		A facility used as a main living accommodation that was assembled off-site and rests on a foundation, not on wheels. Also known as a trailer home.			
		Mobile Home		RETS	
		A vehicle parked in one particular place and used as a permanent living accommodation.			
		2-4 Unit Building		BEDES Beta	RETS: Duplex Triplex Quadraplex
		A unit in a building with two to four housing units--a structure that is divided into living quarters for two, three, or four families or households in which one household lives above or beside another. This category also includes houses originally intended for occupancy by one family (or for some other use) that have since been converted to separate dwellings for two to four families. Typical arrangements in these types of living quarters are separate apartments downstairs and upstairs or one apartment on each of three or four floors.		US DOE EIA. www.eia.gov/emeu/recs/glossary.html	
		5+ Unit Building		BEDES Beta	
		A unit in a building with five or more housing units--a structure that contains living quarters for five or more households or families and in which one household lives above or beside another.		US DOE EIA. www.eia.gov/emeu/recs/glossary.html	
		Multifamily - Uncategorized		BEDES Beta	
		Definition			
		Multifamily - Town Homes		BEDES Beta	RETS: Townhouse
		Definition			
		Multifamily - Condominiums		BEDES Beta	RETS: Condominium
		Definition			
		Apartment Unit		BEDES Beta	RETS: Apartment
		Definition			
		Studio Unit		HPXML	
		Definition			
		Other		BEDES Beta	
		Definition			
		Unknown		BEDES Beta	
		Definition			