EDGE USER GUIDE

Part 1

- Using the Design Tab

Version 3 Revision 1

Contents

Introduction

The aim of this document is to offer comprehensive guidance on the use of the Design Tab within EDGE.

To share feedback with the EDGE team, please send suggestions along with relevant documentation to edge@ifc.org.

EDGE Certification Guidance

EDGE certification is awarded if the required minimum efficiencies of 20% are achieved in the three EDGE categories -- Energy, Water, and Materials. A simple pass/fail system indicates whether the building project has demonstrated the minimum 20% savings in operational energy, water and embodied energy in materials compared to the base case model. Actual percentage savings for each project can be seen on the EDGE certificate as well as in project case studies on the EDGE website. Beyond EDGE certification, EDGE also offers EDGE Advanced for 40% energy savings, with water and material savings remaining at 20%, as well as EDGE Zero Carbon certification. The entire certification process is conducted online through the EDGE software.

Types of Projects:

- **Existing Building Projects**
  Existing buildings may apply for EDGE certification. The same standards for energy and water apply to existing buildings as for new construction.

  Materials in existing buildings that are being kept in the building or re-used and are older than five years may be claimed as "re-used." (This applies to re-use of materials older than five years in new construction as well). To claim a building as existing and/or to claim re-use of materials, the project team must provide documentation from the formal local source that shows the date when the building was constructed or last modified. For example, the formal source in a location may be a building department and the documents may be drawings stamped by the building department. Pictures of the existing building and materials should also be provided as evidence. Guidance on inputs for Existing Buildings in specific fields in the EDGE App is provided in the description of the respective fields.

- **Core & Shell Projects**
  Core and Shell projects are commercial projects where the owner is responsible for the building exterior ("shell") and the core facilities ("core"), but the interior areas are constructed by the tenants ("fit out"). The owner or developer must certify the entire space they own / develop.

  Note: Residential projects that do not provide fit out installations and finishes are NOT considered Core and Shell projects.

  For Core and Shell projects, the measure for which the tenants are responsible can also be claimed in EDGE as per those shown in the next sections of this document. This is allowed only if a "tenant fit-out guide" is included in the lease agreement and signed between the tenants and owners. This tenant fit-out guide must define the requirements to be fulfilled by the tenants for the measure and be included in the EDGE submission. If all tenants have not signed a lease at the time of EDGE certification, the building

owner must show EDGE compliance by providing the template of the lease agreement accompanied by a signed letter stating that the tenant fit-out guide in the template lease agreement will be included in all tenant lease agreements signed for the building.

- **Partial Building Projects**
  A part of a building may apply for EDGE certification. The certification area cannot be within a space that is already conditioned. For example, a retail store within an air-conditioned shopping mall cannot be certified.

  Partial building projects may be either owner led, or tenant led. For owner led certification, the owner must certify all areas within the building that is under the same ownership. For tenant led certification, the tenant must certify all areas that is part of their lease agreement. Certification of tenant area shall expire upon the departure of the tenant from the certified area.

  The certification of partial building projects:
  1. Must not be located within an indoor enclosed conditioned space;
  2. Must have occupancy requirements; and
  3. Must have water consumption requirements.

  For partial building projects:
  - If that space is served by a central HVAC system, the EDGE application can document the specifications of the whole building HVAC systems. If the space is served by a stand-alone system, only that system must be documented.
  - For the envelope, the wall lengths, materials, and WWR ratio should represent the actual space applying for certification. If part of the building envelope is not exposed, this should be reflected, where relevant, under the building dimensions section, with U values of 0.01 entered in EEM05: Insulation of roof; EEM06: Insulation of ground / raised floor slab; and EEM08: Insulation of exterior walls.
  - If bathroom fixtures and fittings are not within the scope of the project, the project must obtain water consumption data (flush rates, flow rates) of all shared facilities. Should these data not be available, the tenant must enter base case values or perform an onsite measurement.
  - In partial Core & Shell, projects that do not have bathrooms (i.e., shared toilets) should not enter any toilet area. The EDGE app will assume consumption without including areas that are not part of the certification.

1. Building Type

EDGE includes the Primary Building Types, and associated Subtypes as per below description. For a building type that is not on the list, select the closest match from the available types or reach out to edge@ifc.org for guidance.

<u>Building Typology & Sub-typology</u>

A. Typology: Homes

Typically used for a single building for one family unit. Examples include single family home, or villa. Townhouses may also be considered under Homes. They can be single unit sub-projects, or multiple units that are part of a development.

<u>Developer Provision of Installations in Homes Typology</u>

In this typology, the project cannot gain savings if no installations are complete during audit. If the developers are not / cannot / will not provide water fixtures and finishes, or part thereof, the following measures must be entered as base case as a weighted average:

- WEM01: Water efficient showerheads
- WEM02: Water efficient faucets for all bathrooms
- WEM04: Efficient water closets for all bathrooms
- WEM06: Water efficient bidets
- WEM08: Water efficient faucets for kitchen sinks

Other measures (e.g., EEM18 Domestic Hot Water System Efficiency) where installations are not present, will be required to enter base case values.

Sub typology: Low, Middle & High Income

The income categories are determined according to the socio-economic classifications of each country. They can be categorized by housing price and/or targeted audience. Any home that obtains any type of subsidy or is part of a social housing program may be considered low income.

Note: Sub-typology Low Income in South Africa is referred to as Subsidized / Gap

B. Typology: Apartments

Typically used for a single building with multiple family units.

<u>Developer Provision of Installations in Apartments Typology</u>

In this typology, the project cannot gain savings if no installations are complete during audit. If the developers are not / cannot / will not provide water fixtures and finishes, or part thereof, the following measures must be entered as base case as a weighted average:

- WEM01: Water efficient showerheads
- WEM02: Water efficient faucets for all bathrooms
- WEM04: Efficient water closets for all bathrooms

- WEM06: Water efficient bidets
- WEM08: Water efficient faucets for kitchen sinks

Other measures (e.g., EEM18 Domestic Hot Water System Efficiency) where installations are not present, will be required to enter base case values.

Sub typology: Low, Middle & High Income

Similar to Homes typology, the income categories are determined according to the socio-economic classifications of each country. They can be categorized by housing price and/or targeted audience. Any home that obtains any type of subsidy or is part of a social housing program may be considered low income.

Note: Sub-typology Low Income in South Africa is referred to as Subsidized / Gap

C. Serviced Apartments

Typically used for projects with non-residential long-term stay. Hostels for long term stays (e.g., student accommodations) can be considered under the 'Serviced Apartments' typology in this case.

Sub typology: Serviced Apartment

D. Hotel

Typically used for projects with non-residential short-term stay. Hotels for short term stays (e.g., tourist hotel accommodations) can be considered under the 'Hotel' typology in this case.

Sub typology: 1-5 Stars

Hotel Star rating shall be determined by the property. Any hostels using the 'Hotel' typology shall select 1 star as a sub-typology.

E. Resorts

Typically refers to a hotel with facilities including full-service accommodations and amenities and is spread across multiple buildings.

Sub typology: 1-5 Stars

Resorts Star rating shall be determined by the property.

F. Retail

Typically refers to properties used to market and sell consumer goods and services. Retail projects in EDGE may be owner occupied and/or Core & Shell projects.

In this typology, only the following measures allowed to be passed onto tenants.

- EEM13 – Cooling System Efficiency
- EEM16 – Space Heating System Efficiency
- EEM22 – Efficient Lighting for Internal Area
- WEM02 – Water Efficient Faucets for all bathrooms

- WEM04 – Efficient Water Closets for all Bathroom
- WEM08 – Water Efficient Faucets for Kitchen Sinks
- MEM03 – Floor Finish

Sub typology: Department Store

Retail project predominantly with a major store carrying a range of merchandise / lines of products.

Sub typology: Shopping Mall

Retail building comprising of multiple tenant types such as anchor tenants, line stores, restaurants, food court, etc.

Sub typology: Supermarket

Retail project with a supermarket / grocery store.

Sub typology: Small Food Retail

Retail project specifically meant for food and/or beverages.

Sub typology: Non-food Big Box Retail

Retail project that has a large footprint, similar to a department store, but sells a limited range of products. For example, a furniture store, or a hardware store

G. Industrial

Refers to industrial projects and/or warehouse projects. The detailed load inputs table must be filled in for all projects, except for core and shell projects, under the industrial typology.

Industrial projects in EDGE may be owner occupied and/or Core & Shell projects.

In this typology for Core & Shell projects with a core that is greater or equal to 20% of total gross internal area, only the following measures will be allowed to be passed onto tenants.

- EEM22 – Efficient Lighting for Internal Area
- WEM02 – Water Efficient Faucets for all bathrooms
- WEM04 – Efficient Water Closets for all Bathroom
- WEM08 – Water Efficient Faucets for Kitchen Sinks
- MEM03 – Floor Finish

Sub typology: Light Industry

Light industry projects include projects with small scale facilities requiring less intensive equipment energy usage.

Projects that are not classified as light industry may still pursue EDGE certification if the project is able to demonstrate a 20% or 40% reduction in energy, water and materials.

Sub typology: Warehouse

Warehouse projects are large buildings where goods may be stored. They may include storage areas requiring cold and/or frozen storage.

H. Office

Office projects in EDGE may be owner occupied and/or Core & Shell projects. The projects may be a full building or occupy part of a building. Minimum certification requirements will apply.

Sub typology: Office

In this typology, only the following measures allowed to be passed onto tenants.

- EEM13 – Cooling System Efficiency
- EEM16 – Space Heating System Efficiency
- EEM22 – Efficient Lighting for Internal Area
- WEM02 – Water Efficient Faucets for all bathrooms
- WEM04 – Efficient Water Closets for all Bathroom
- WEM08 – Water Efficient Faucets for Kitchen Sinks
- MEM03 – Floor Finish

I. Healthcare

Typically refers to building types in in the healthcare community. Healthcare projects in EDGE may be owner occupied and/or Core & Shell projects.

In this typology, only the following measures allowed to be passed onto tenants.

- EEM22 – Efficient Lighting for Internal Area
- WEM02 – Water Efficient Faucets for all bathrooms
- WEM04 – Efficient Water Closets for all Bathroom
- WEM08 – Water Efficient Faucets for Kitchen Sinks
- MEM03 – Floor Finish

Sub typology: Nursing Homes

A facility providing medical care with long term type patients.

Sub typology: Private Hospital

A hospital facility that is privately funded.

Sub typology: Public Hospital

A hospital facility that is government funded.

Sub typology: Multi-specialty Hospital

A hospital facility that offers a wide range of medical services.

Sub typology: Clinics

A medical facility that sees patients who would not require overnight stays.

Sub typology: Diagnostic Center

A medical facility with specialized equipment for diagnostic services.

Sub typology: Teaching Hospital

A hospital facility or medical center that provides medical education and training to health professionals.

Sub typology: Eye Hospital

A hospital facility specializing in disorders of the eye.

Sub typology: Dental Hospital

A hospital facility specializing in dental services.

J. Education

Typically refers to buildings used for educational purposes. Projects such as museums may be modeled under the education typology.

Sub typology: Preschool

Pre-elementary educational projects

Sub typology: School

Education projects at a facility where instructional is provided in a particular discipline.

Sub typology: University

Education projects that are dedicated to higher education.

Sub typology: Sports Facilities

Projects with the primary purpose of being a sports facility.

Sub typology: Other Educational Facilities

Use this sub typology for projects such as museums, religious places, etc.

K. Mixed Use

Mixed Use project may be used in projects that have multiple functions. Ideally, projects with multiple typologies should be modeled under their respective typologies in EDGE. However, these projects may also model their entire building under mixed use. When using the mixed use typology, the project is only issued one certificate for the entire building and may have a stricter base case when computing savings in EDGE.

Projects using mixed use typology **cannot** mix residential, guest accommodation projects, and non-residential projects. The table below provides a description of each category of projects.

Category	Typology covered
Residential	Homes, Apartment
Guest Accommodation	Serviced Apartment, Hotel, Resort

| Non-Residential | Retail, Industrial, Office, Healthcare, Education |

Table 1 Category for Mixed Use (Self Defined) typologies

Based on the above category, projects under different categories MUST submit separate subprojects.

For projects wishing to pursue EDGE Zero Carbon must meet the EDGE Zero Carbon requirements for the declared project area in Mixed Use typology.

Sub typology: Self Defined

1.1. Multiple Building Projects

Projects with multiple buildings may combine the buildings into a single sub-project. The multiple buildings under the same subproject shall meet all the following requirements:

a. Under the same owner / developer at the time of certification;
b. Not be a mixed use / self defined project;
c. Be classified under the same typology;
d. Have the same occupancy profile across the buildings; and
e. Be constructed at the same time (phase).

Projects that certify multiple buildings under a subproject will be issued one certificate for the entire subproject. Should the project wish to pursue an EDGE Zero Carbon certification, the buildings under the subproject may not be split up into separate subprojects.

1.2. Documentation Submission

Projects should provide a description and summary of the building typology and sub typology.

For projects modeling under mixed use typology, the project should provide clear details on around particular typology / sub-typology was selected.

2. Location

Country

The country in which the project is located. EDGE uses the list of countries from the World Bank.

City

This refers to the city in which the project is located.

For Countries and or Cities that are currently not included in EDGE, users should select the closest city in terms of climate, then send an email to edge@ifc.org to confirm correct selection.

3. Project Detail

A Project is defined as the whole building or development submitted for EDGE certification with the same certifier and owner. For example, a Project may be a residential building with two towers, a mixed-use building with offices and retail space, or multiple buildings with the same specifications in a city or country.

The information in the Project section in EDGE is the top-level information that applies to the whole project.

This section contains the top-level information about the Project, such as owner name and contact information, and is shared across a Project's Subprojects. Changes to the Project Details section are automatically reflected in Subproject files. This section must be completed to submit the project for audit and certification.

- **Project Name*** – The name of the development. Note that this is a required field that serves as the project identifier. To edit the project name after saving, go to File > Rename on the Design tab. This option is no longer available to the Project Team after a project has been sent for audit. To change the name after a project has been sent for audit, please contact edge@ifc.org.
- **Number of Distinct Buildings** – The number of physical buildings that make up the whole project. This field is part of the project description that helps an auditor or reviewer understand the physical make-up of a project. This field helps account for the "number of buildings" certified by EDGE in a client's or auditor's portfolio. This value will be 1 for a single building, or for towers with a shared podium level. The value in this field is for information purposes only and is intended to help visualize the building during the quotation and certification process. The value does not get multiplied by the GIA, unlike the "Subproject Multiplier for the Project" (see the description of that field below under Subproject Details).
- **Project Owner Name** – The name of the key contact from the company/organization that commissioned the EDGE assessment.
- **Project Owner Email** – The email address of the key contact from the company/organization that commissioned the EDGE assessment.
- **Address Line 1** – Primary street address of the project.
- **Address Line 2** – Any additional details for the street address, such as the building number.
- **City** – The city where the project is located.
- **State/Province** – The state or province where the project is located.
- **Postal Code** – The postal code where the project is located (if applicable).
- **Country** – The country where the project is located.
- **Project Owner Phone*** – The phone number of the key contact from the company/organization that commissioned the EDGE assessment.
- **Do you intend to certify?*** – Select Yes, No, or Not Sure, to indicate the intent regarding certification of the Subproject.
- **Share with Investor(s) or Bank(s)?*** - Select Yes, or No, to indicate preference. If a bank is interested in financing projects in the country, IFC will share a summary of the project and developer contact information with the bank. The bank may contact the developer directly.
- **Number of EDGE Subproject(s) Associated** – The total number of files associated with the Project. EDGE calculates this automatically based on the associations established by the user; therefore, this field is not editable by the user.
- **Total Project Floor Area** – The total square meters of internal area of the Project, including any indoor parking. This is the sum of the GIA of all the associated Subprojects within the Project. EDGE calculates the GIA automatically based on the areas and the multipliers (explained under "Subproject Multiplier for the Project") assigned to each Subproject by the user; therefore, this field is not editable by the user. See GIA description under the "Area and Loads Breakdown" section.

- **Project Number** – This information field displays the system-assigned number for the project. It is not editable.
- **Upload project-level documents** – This button links to the location to upload whole project-level documents, for example, a site plan of the project.
- **Download project audit documents** – Clicking on this button downloads the complete set of project documents that have been uploaded thus far. Documents for individual measures are placed in their respective folders in the downloaded set. This allows project team members to access all project documents from one central location. This link is also used by the EDGE Auditor for project documentation review.
- **"Register" button** – The Register button appears once a project has been saved. EDGE now enables a whole project to be registered as one entity and triggers a quotation to be sent.
- **"Associated Subprojects"** – This link appears once a project has been saved. The link expands to show all the Subprojects associated with that Project in addition to the Subproject currently open in the EDGE App.

4. Subproject Detail

A Subproject is each portion of the Project modeled individually in EDGE. The information contained in the Subproject section applies only to the portion being modeled in that file. For example, a Subproject may be Unit Type 1 in a residential building, the retail space in a mixed-use tower, or an individual location for a chain of stores.

This section contains fields associated only with the portion of the Project being described in the current file.

- **Subproject Name*** – The name of the project, or portion of the project, being modeled. This name will appear on the EDGE certificate, for example, "ABC Residential Towers". This is a required field. The field remains editable until a Subproject has been sent for audit. To change the name after a Subproject has been sent for audit, please contact edge@ifc.org.
- **Building Name*** – The name of the building being modeled. For example, it may be the house or apartment block name in Homes or the property name in a hotel building. This is a required field. The field remains editable before the final EDGE certificate is issued.
- **Subproject Multiplier for the Project*** – The Multiplier represents the number of times an entire Subproject is repeated in the Project. For example, if a Project has 5 identical warehouse buildings on a project site, the project team can model only one warehouse, and use 5 as the Multiplier. If the orientation of the buildings in the subproject is not the same, the worst-case orientation should be used. In this case, the project should finalize all the measures, then modify the orientation and provide the records for each orientation during the audit.
    - Apartments: To indicate the number of similar units in a residential apartment building, use the field "No. of Apartments" under Building Data. Do not use the Multiplier option.
    - Homes: To indicate the number of similar homes in a residential development, use the field "No. of Homes" under Building Data. Do not use the Multiplier option.
- **Certification Stage*** – The stage of certification of the project. Enter "Preliminary" for projects in the design stage of new construction or renovation. Enter "Post-Construction" for projects that have

completed construction and are ready for the final verification phase of certification for new construction or renovation. For existing buildings applying for certification, "post-Construction" is the default from the very beginning of the certification process, regardless of the length of time elapsed since construction. For example, an existing project built one month ago, or ten years ago, would both indicate "post-Construction". This is a required field.

- **Subproject Type** – The stage in the lifecycle of the building. "New Building" is the default and indicates new construction. "Existing Building" must be selected for existing buildings and renovations. For projects that are existing buildings with a new built extension, "New Building" must be selected.
- **Year of Construction** – This field only applies to Existing Buildings. Enter the year the project was completed, that is, the year the project received the occupancy permit. If the project was completed before the earliest year available in EDGE, select the earliest year available and add a note in the Project Narrative section.
- **Subproject Address**: This is the address that will appear on the EDGE certificate. Note: The Subproject Address may or may not be the same as the Project Address. For example, if a Project has Subprojects in several locations around a city, each Subproject may have its own address.
- **Address Line 1*** – Primary street address of the subproject. This is a required field.
- **Address Line 2** – Any additional details for the street address, such as the building number
- **City*** – The city where the subproject is located. This is a required field.
- **State/Province** – The state or province where the subproject is located.
- **Postal Code** – The postal code where the subproject is located if applicable.
- **Country*** – The country where the subproject is located. This is a required field.
- **Status** – The status of the project lifecycle. For example, self-review, registered etc.
- **Auditor** – The name of the Auditor assigned to the project.
- **Certifier** – The Certification Provider for the project
- **File Number** – The system-assigned number for the unique Subproject file in EDGE (not editable). This file number should be used when enquiring about an issue since there could be multiple subprojects within a project.

5. Building Data

5.1. Typology: Homes & Apartments

5.1.1. Single Typology

Single typology may be used when all the residential units have the same number of bedrooms and the same gross internal area. Expected occupancy should also be the same. Users should enter the relevant details for each unit.

- **No. of Bedrooms.** Note: Studio Apartments should indicate '0' for "number of bedrooms".
- **Total No. of Homes**
- **Average Home Area**
- **No. of Floors Above / Below Grade**: A floor is considered "below grade" if more than 50% of its wall area is below ground level.
- **Floor to Floor Height**
- **Average Roof Area / House**
- **Single Typology**.

5.1.2. Multiple Typologies

Multiple Typologies should be used when all the residential units have different number of bedrooms, occupancy or gross internal area.

Any common areas such as parking, lift, corridors, lobbies etc., should be divided across all the units. For example, if an apartment block has 10 units, and each apartment has 5m2 of utility room within the unit, with a common utility room of 40m2, the project should report a utility room of 5 + 4 = 9m2 of utility room.

Note: Similar to Single Typology EDGE App entry, Studio Apartments should indicate '0' for "number of bedrooms".

The following entries are required to be completed in the multiple typologies entry table. The mandatory requirements (*) of each row must be completed prior to entry of the next typology. If spaces areas are provided (m2/unit), the GIA calculated uses the sum of the nine spaces for each of the typology multiplied by the "number of similar units". Hence users should make sure the individual spaces add up to the total area of the typology.

- *Serial No.**
- *Homes/Apartment Name**
- *No. of Bedroom**
- *Area / Unit (m2/Unit)**
- *Number of Similar Units**
- *Occupancy: (No. of People / Unit)**
- *Bedroom (m2/Unit)*
- *Kitchen (m2/Unit)*
- *Dining (m2/Unit)*
- *Living (m2/Unit)*
- *Toilet (m2/Unit)*
- *Utility (m2/Unit)*
- *Balcony (m2/Unit)*
- *Staircase (m2/Unit)*
- *Enclosed Garage (m2/Unit)*
- *Roof Area (m2/Unit)* Note: For homes typology only.

For projects with open plan areas, the areas for each should be divided accordingly with an 'imaginary line'. Each defined area in the project will also be part of the area definition of certain measures such as the Natural Ventilation measure.

5.2. Typology: Serviced Apartments, Hotels & Resorts

Building Data:

- *Gross Internal Area.* (GIA) This includes all areas that are enclosed within the building(s). The GIA should match and include all areas as entered in the Areas and Loads Breakdown Section.
- *No. of Floors Above Grade / No. of Floors Below Grade*. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) must be calculated. However, EDGE only recognizes whole numbers for the number of floors and the

number will either be rounded up or down accordingly. For example, if a project enters 1.4 floors, EDGE will use 1 floor in all calculations. If the project enters 1.5 floors, EDGE will recognize the project as a building with 2 floors.

- *Floor to Floor Height.* This is the slab-to-slab height. In some cases, if projects have different floor heights, the project must calculate a weighted average (based on floor area) and enter this into the EDGE App.
- *Aggregate Roof Area*. This is the total roof area of the building(s).

Operational Details:

- *Working Days*. This is the number of operational days. For hotels, it is generally 7 days a week.
- *Hours of Operation*. This is the number of hours where the front desk is fully staffed and expecting regular guest check-ins.
- *Occupancy Density*. This data point applies only to Serviced Apartment Projects. The project needs to consider the total occupancy and divide this by the total build up area.
- *Average Occupancy Rate*. This is based on the serviced apartment / hotel / resort occupancy or expected occupancy rate in percentage.

5.3. Typology: Retail
Building Data

- *Gross Internal Area.* (GIA) This includes all areas that are enclosed within the building(s). The GIA should match and include all areas as entered in the Areas and Loads Breakdown Section.
- *No. of Floors Above Grade / No. of Floors Below Grade*. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) must be calculated. However, EDGE only recognizes whole numbers for the number of floors and the number will either be rounded up or down accordingly. For example, if a project enters 1.4 floors, EDGE will use 1 floor in all calculations. If the project enters 1.5 floors, EDGE will recognize the project as a building with 2 floors.
- *Floor to Floor Height.* This is the slab-to-slab height. In some cases, if projects have different floor heights, the project must calculate a weighted average (based on floor area) and enter this into the EDGE App.
- *Aggregate Roof Area*. This is the total roof area of the building(s).

Operational Details

- *Working Days*. This is the number of operational days.
- *Hours of Operation*. This is the number of hours where the retail mall is in operational, including pre- and post-operational hours whereby there are staff preparing for the opening and closing of the building.
- *Average Footfall Per Day*. This is based on the average number of people entering the building per day.

5.4. Typology: Industrial
Building Data

- *Gross Internal Area.* (GIA) This includes all areas that are enclosed within the building(s). The GIA should match and include all areas as entered in the Areas and Loads Breakdown Section.

- **No. of Floors Above Grade / No. of Floors Below Grade**. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) must be calculated. However, EDGE only recognizes whole numbers for the number of floors and the number will either be rounded up or down accordingly. For example, if a project enters 1.4 floors, EDGE will use 1 floor in all calculations. If the project enters 1.5 floors, EDGE will recognize the project as a building with 2 floors.
- **Floor to Floor Height.** This is the slab-to-slab height. In some cases, if projects have different floor heights, the project must calculate a weighted average (based on floor area) and enter this into the EDGE App.
- **Aggregate Roof Area**. This is the total roof area of the building(s).

Operational Details

- **Working Days**. This is the number of operational days. For hotels, it is generally 7 days a week.
- **Number of Holidays**. This is the number of days where occupant is not expected to be working.
- **Hours of Operation**. This is the number of hours where the staff / workers are expected to be working in the area.
- **Occupancy Density**. This data point applies only to the office component of the Light Industry / Warehouse sub-typology. For detailed occupancy density, enter this in Detailed Load Inputs in the Areas & Loads Breakdown section.

5.5. Typology: Office & Education
Building Data

- **Gross Internal Area.** (GIA) This includes all areas that are enclosed within the building(s). The GIA should match and include all areas as entered in the Areas and Loads Breakdown Section.
- **No. of Floors Above Grade / No. of Floors Below Grade**. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) must be calculated. However, EDGE only recognizes whole numbers for the number of floors and the number will either be rounded up or down accordingly. For example, if a project enters 1.4 floors, EDGE will use 1 floor in all calculations. If the project enters 1.5 floors, EDGE will recognize the project as a building with 2 floors.
- **Floor to Floor Height.** This is the slab-to-slab height. In some cases, if projects have different floor heights, the project must calculate a weighted average (based on floor area) and enter this into the EDGE App.
- **Aggregate Roof Area**. This is the total roof area of the building(s).

Operational Details

- **Working Days**. This is the number of operational days. For hotels, it is generally 7 days a week.
- **Number of Holidays**. This is the number of days where occupant is not expected to be working.
- **Hours of Operation**. This is the number of hours where the staff / workers are expected to be working in the area.
- **Occupancy Density**. The occupancy density is the number of people per unit of floor area.

5.6. Typology: Healthcare
Building Data

- **Gross Internal Area.** (GIA) This includes all areas that are enclosed within the building(s). The GIA should match and include all areas as entered in the Areas and Loads Breakdown Section.
- **No. of Floors Above Grade / No. of Floors Below Grade**. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) must be calculated. However, EDGE only recognizes whole numbers for the number of floors and the number will either be rounded up or down accordingly. For example, if a project enters 1.4 floors, EDGE will use 1 floor in all calculations. If the project enters 1.5 floors, EDGE will recognize the project as a building with 2 floors.
- **Floor to Floor Height.** This is the slab-to-slab height. In some cases, if projects have different floor heights, the project must calculate a weighted average (based on floor area) and enter this into the EDGE App.
- **Aggregate Roof Area**. This is the total roof area of the building(s).

Operational Details

- **Working Days**. This is the number of operational days. For healthcare, it is generally 7 days a week.
- **Hours of Operation**. This is the number of hours where the staff / workers are expected to be working in the area.
- **Occupancy Density**. The occupancy density is the number of people per unit of floor area.
- **Average Occupancy Rate**. This is the average occupancy rate of the healthcare facility.

5.7. Typology: Mixed Use
Building Data

- **Gross Internal Area.** (GIA) This includes all areas that are enclosed within the building(s). The GIA should match and include all areas as entered in the Areas and Loads Breakdown Section.
- **No. of Floors Above Grade / No. of Floors Below Grade**. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) must be calculated. However, EDGE only recognizes whole numbers for the number of floors and the number will either be rounded up or down accordingly. For example, if a project enters 1.4 floors, EDGE will use 1 floor in all calculations. If the project enters 1.5 floors, EDGE will recognize the project as a building with 2 floors.
- **Floor to Floor Height.** This is the slab-to-slab height. In some cases, if projects have different floor heights, the project must calculate a weighted average (based on floor area) and enter this into the EDGE App.
- **Aggregate Roof Area**. This is the total roof area of the building(s).

Operational Details

- **Working Days**. This is the number of operational days.
- **Hours of Operation**. This is the number of hours where the staff / workers / FTEs / visitors are expected to be occupying in the area.
- **Occupancy Density**. The occupancy density is the number of people per unit of floor area given in m2 per person.

6. Area & Loads Breakdown

6.1. Common Data Points Across All Typologies

6.1.1. Default

- **_Area with Exterior Lighting_**. Projects should identify the location (boundary) of all exterior areas that require lighting, except external car parking area. This includes landscape lighting, outdoor feature lighting, etc.
- **_External Car Parking Area_**. Projects with external car park requiring lighting should report the areas in this field.

6.1.2. Water End Uses

- **_Irrigated Area_**. This refers to areas that install an irrigation system. Examples of irrigation system include sprinkler systems, drip irrigation, manual irrigation with hose. Projects with no irrigation system or projects that rely on natural rainfall, should indicate 0 m2 in irrigation and cannot claim water savings in measure WEM13.
- **_Swimming Pool Type._** All Projects have the option to select if pools are present on site, as well as enter options for a heated/unheated pool, indoor/outdoor pool.
- **_Swimming Pool_** (m2). The total area of the pool(s) shall be entered in this field.
- **_Car washing (YES/NO)_**. All Projects that have the option for car washing (e.g., with taps located in common areas) should indicate a "yes".
- **_Washing Clothes (YES/NO)._**
    - Non-Residential projects: "Yes" should be selected if the project provides a space and a connection point for a washing machine.
    - Residential projects: All residential projects shall select "yes" whether a washing machine is provided or not.
- **_Process Water (YES/NO)._** Refers to the manufacturing process water or process water used by equipment (e.g., water required for medical devices used in hospitals). This does not include HVAC water, as HVAC water is already accounted for when a water-cooled chiller is selected.
- **_Dishwasher (YES/NO)_**
    - Non-Residential projects: "Yes" should be selected if the project provides a space and a connection point for dishwasher(s) in a kitchen, pantry, or restaurant.
    - Residential projects: All residential projects shall select "yes" if a dishwasher is provided, or a space and connection is provided for the purpose of installing a dishwasher. "No" may be selected if there is no provision for a dishwasher and no space and connection allocated for the potential installation of a dishwasher.
- **_Pre-Rinse Spray Valve (YES/NO)._** A pre-rinse spray valve is generally used in kitchens to remove food waste from dishes prior to dishwashing. It can also be used in homes with no dishwashers. Projects should select "Yes" if such a feature is installed. Select "No" if fixtures will not be procured at the time of post construction audit, or if this is not mentioned in the tenant guidelines.

6.2. Description of Areas for Typology: Serviced Apartments

- **Apartment Area:** Total GIA of all the apartment.
- **Lobby**: Indoor area located near the entrance of the serviced apartment.
- **Corridors**: Circulation Zone.

- **Recreational Area**: Areas used for recreational purposes.
- **Back of House**: Kitchen Area.
- **Indoor Car Parking**: Parking located within a building, requiring mechanical ventilation.
- **Studio:** GIA of a unit of studio apartment.
- **1 Bedroom**: GIA of a unit of a 1 Bedroom apartment.
- **2 Bedroom**: GIA of a unit of a 2 Bedroom apartment.
- **3 Bedroom**: GIA of a unit of a 3 Bedroom apartment.
- **4 Bedroom**: GIA of a unit of a 4 Bedroom apartment.
- **Covered Car Parking Area.**

6.3. Description of Areas for Typology: Hotels & Resorts

- **Guest Rooms**: GIA of hotel rooms.
- **Restaurant & Cafeteria**: Area where food is prepared in a kitchen and served.
- **Bars**: Area where beverages (drinks) are served.
- **Lockers**: Location of lockers for storage of items.
- **Reception**: Indoor area located near the entrance of the building.
- **Lobby**: Indoor area located near the entrance of the building (Similar to Reception with a smaller area).
- **Administrative Office**: Office area within the hotel / resort.
- **Tea & Coffee Shops**: Area where food is served with minimal food preparation is required.
- **Laundry**: Area where washing machines and dryers are located for guest.
- **Health Spa**: Facilities such as health spa and gyms should be included within this.
- **Linen & Store**: Storage area.
- **Kitchen**: Area solely for food preparation that is not part of a restaurant.
- **Corridors**: Circulation zone.
- **Conference / Banquet**: Large event hall.

6.4. Description of Areas for Typology: Retail

6.4.1. Description of Areas for Sub Typology: Department Store

- *General Sales Area*: Open area selling non-refrigerated items.
- *Electronics Area*: Area selling electronic / electrical-powered equipment or goods.
- *Food Sales*: Area selling food items. Preparation of food in the sales area, if done on site, should be considered under "Kitchen & Food Preparation".
- *Dry Storage*: Storage area that does not require refrigeration.
- *Cold Storage Area*: Storage area for grocery supplies that requires refrigeration at -4 °C.
- *Frozen Storage*: Storage area for grocery supplies that requires frozen refrigeration at -20 °C.
- *Bathrooms*: Toilets within the retail typology. This may or may not include areas with showers.
- *Office*: All enclosed space used for work area. This may include open plan or closed / private office area.
- *Mechanical & Electrical*: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- *Corridors & Lobby*: Customer circulation zone.
- *Kitchen & Food Preparation*: Refers to the following areas type:

a. Food Court; and/or
b. Areas such as staff break rooms that have food preparation areas.

- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.

6.4.2. Description of Areas for Sub Typology: Shopping Mall

- **Anchor Store Area (Supermarket)**: The main tenant that is a supermarket (grocer).
- **Anchor Store Area (Other)**: The main tenant that is not a supermarket.
- **Line Store Area**: The designated area or section within a retail store where products from a specific brand or product line are displayed and sold.
- **Atrium**: An open, interior, sky-lit court usually located at the center of a building and often surrounded by multiple stories.
- **Leisure & Entertainment**: Large areas that are primarily used for leisure & entertainment type activities. This may include areas such as movie theatres or indoor sports facilities within a mall.
- **Kitchen & Food Preparation**: Refers to the following areas type:
  a. Food Court; and/or
  b. Areas such as staff break rooms that have food preparation areas.
- **Dry Storage**: Storage area not requiring frequent access.
- **Bathrooms**: Toilets within the retail typology. This may or may not include areas with showers.
- **Office**: All enclosed space used for work area. This may include open plan or closed / private office area.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Mall Area (Communal Corridors)**: Circulation space / area within the mall.
- **Data Center**: A physical location that stores computing IT equipment.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.

6.4.3. Description of Areas for Sub Typology: Supermarket

- **General Sales Area**: Open area selling non-refrigerated items.
- **Refrigerated Area**: Area within a supermarket / grocery store requiring refrigeration (e.g., dairy section, etc.)
- **Frozen Section**: Area within a supermarket / grocery store requiring freezer storage at -20 °C (e.g., ice cream section, etc.).
- **Bakery**: An area that produces and sells baked goods. If the supermarket does not produce the items within the bakery, that area may be classified under "General Sales".
- **Dry Storage**: Storage area for grocery supplies that does not require refrigeration.
- **Cold Storage Area**: Storage area for grocery supplies that requires refrigeration at -4 °C.
- **Frozen Storage**: Storage area for grocery supplies that requires frozen refrigeration at -20 °C.
- **Bathrooms**: Toilets within the retail typology. This may or may not include areas with showers.
- **Office**: All enclosed space used for work area. This may include open plan or closed / private office area.

- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Kitchen & Food Preparation**: Refers to the following areas type, as applicable:
    a. Food Court; and/or
    b. Areas such as staff break rooms that have food preparation areas.

6.4.4. Description of Areas for Sub Typology: Small Food Retail
- **General Sales Area**: Open area selling non-refrigerated items.
- **Refrigerated Area**: Area for food that requires refrigeration.
- **Frozen Section**: Area for food requiring freezer storage at -20 °C.
- **Dry Storage**: Storage area for supplies that does not require refrigeration.
- **Cold Storage Area**: Storage area for supplies that requires refrigeration at -4 °C.
- **Bathrooms**: Toilets within the retail typology. This may or may not include areas with showers.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Kitchen & Food Preparation**: Refers to the following areas type, as applicable:
    a. Restaurant Area; and/or
    b. Areas such as staff break rooms that have food preparation areas.

6.4.5. Description of Areas for Sub Typology: Non-Food Big Box Retail
- **General Sales Area**: Open area selling non-refrigerated items.
- **Office**: All enclosed space used for work area. This may include open plan or closed / private office area.
- **Corridors & Lobby**: Customer circulation zone.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking
- **chen & Food Preparation**: Refers to the following areas type, as applicable:
    a. Food Court; and/or
    b. Areas such as staff break rooms that have food preparation areas.

6.5. Description of Areas for Typology: Industrial
6.5.1. Description of Areas for Sub Typology: Light Industry
- **Office**: All enclosed space used for work area. This may include open plan or closed / private office area.
- **Receiving Area**: Working area where goods / materials are delivered to.
- **Shipping Area**: Working area where goods / materials are picked up from.
- **Production Area**: Working area during the production of a good.
- **Inventory Area**: Working area for the management of inventory.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.

- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- Cold Storage Area

6.5.2. Description of Areas for Sub Typology: Warehouse

- **Office**: All enclosed space used for work area. This may include open plan or closed / private office area.
- **Data Center**: A physical location that stores computing IT equipment.
- **Kitchenette**: Food preparation areas for staff / occupants.
- **Inventory Control**: Working area for management of items from stock to their destination.
- **Storage**: Storage area for goods.
- **Frozen Section**: Area for goods requiring freezer storage at -20 °C.
- **Cold Storage Area**: Storage area for supplies that requires refrigeration at -4 °C.
- **Fruit & Vegetable Storage**: Storage area for supplies that requires refrigeration at 14 °C.
- **Packaging**: Working area for packaging of items.
- **Receiving & Shipping**: Working area where goods are delivered to or picked up from.
- **Restrooms**: Toilets or Bathrooms. This may or may not include areas with showers.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Car Parking (Indoor)**: Enclosed parking. This is not the same as covered parking.

6.6. Description of Areas for Typology: Office

- **Open Plan Office**: An office layout where employees work in the same open space / area.
- **Private / Closed Office**: An office design layout with individual enclosed workspaces for an employee or a small number of employees.
- **Corridor**: Circulation Space for building users.
- **Conference**: Large rooms for meetings.
- **Data Center**: A physical location that stores computing IT equipment.
- **Lobby**: Entry circulation space.
- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas.
- **Bathrooms**: Toilets within the office typology. This may or may not include areas with showers.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Mechanical & Electrical, Store**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment. The area should also include any storage area such as cleaning supplies storage, etc.

6.7. Description of Areas for Typology: Healthcare

6.7.1. Description of Areas for Sub Typology: Nursing Home

- **Patient Areas – General**: Ward areas for patients.
- **Patient Areas – Specialty Wards**: Ward areas for patients requiring specialized care.
- **Consultation Rooms**: An enclosed space used for consultation with patients, or a doctor's office.
- **Office**: All enclosed space used for administrative type work (non-consultation). This may include open plan or closed / private office area.

- **Corridors**: Circulation area.
- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas.
- **Food Court**: Area where food is prepared and sold within the healthcare facility.
- **Waiting Area**: Area for visitors.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Data Center**: A physical location that stores computing IT equipment.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Laundry**: An area designated for a washer and/or a dryer.

6.7.2. Description of Areas for Sub Typology: Private Hospital

- **Patient Areas – General**: Ward areas for patients.
- **Patient Areas – Specialty Wards**: Ward areas for patients requiring specialized care.
- **Intensive Care Units (ICUs)**: Ward areas for patients for patients requiring intensive care.
- **Pre & Post Operating Rooms**: Preparation area for patient and staff prior to surgery.
- **Operating Rooms**: An enclosed space primarily used for surgeries.
- **Consultation Rooms**: An enclosed space used for consultation with patients, or a doctor's office.
- **Therapy Rooms**: Area used for various medical treatments that may require specialized equipment.
- **Diagnostic Services**: Room with the use of specialized equipment to diagnose a medical condition. (e.g., X-Ray rooms, MRI rooms etc.).
- **Office**: All enclosed space used for administrative type work (non-consultation). This may include open plan or closed / private office area.
- **Corridors**: Circulation area
- **Central Sterile Supply Department**: An area used to sterilize surgical instruments.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Bathrooms / Storage**: Toilets within the hospital typology. This may or may not include areas with showers. Also includes areas used for Storage.
- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas.
- **Food Court**: Area where food is prepared and sold within the healthcare facility.
- **Laundry**: An area designated for a washer and/or a dryer.
- **Data Center**: A physical location that stores computing IT equipment.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Waiting Area**: Area for visitors.

6.7.3. Description of Areas for Sub Typology: Public Hospital

- **Patient Areas – General**: Ward areas for patients.
- **Patient Areas – Specialty Wards**: Ward areas for patients requiring specialized care.
- **Intensive Care Units (ICUs)**: Ward areas for patients for patients requiring intensive care.

- **Pre & Post Operating Rooms**: Preparation area for patient and staff prior to surgery.
- **Operating Rooms**: An enclosed space primarily used for surgeries.
- **Consultation Rooms**: An enclosed space used for consultation with patients, or a doctor's office.
- **Therapy Rooms**: Area used for various medical treatments that may require specialized equipment.
- **Diagnostic Services**: Room with the use of specialized equipment to diagnose a medical condition. (e.g., X-Ray rooms, MRI rooms, etc.).
- **Office**: All enclosed space used for administrative type work (non-consultation). This may include open plan or closed / private office area.
- **Corridors**: Circulation area.
- **Central Sterile Supply Department**: An area used to sterilize surgical instruments.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Bathrooms / Storage**: Toilets within the hospital typology. This may or may not include areas with showers. Also includes areas used for Storage.
- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas.
- **Food Court**: Area where food is prepared and sold within the healthcare facility.
- **Laundry**: An area designated for a washer and/or a dryer.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Data Center**: A physical location that stores computing IT equipment.
- **Waiting Area**: Area for visitors.

6.7.4. Description of Areas for Sub Typology: Multi-Specialty Hospital

- **Patient Areas – General**: Ward areas for patients
- **Intensive Care Units (ICUs)**: Ward areas for patients for patients requiring intensive care.
- **Pre & Post Operating Rooms**: Preparation area for patient and staff prior to surgery.
- **Operating Rooms**: An enclosed space primarily used for surgeries.
- **Consultation Rooms**: An enclosed space used for consultation with patients, or a doctor's office.
- **Therapy Rooms**: Area used for various medical treatments that may require specialized equipment.
- **Diagnostic Services**: Room with the use of specialized equipment to diagnose a medical condition. (e.g., X-Ray rooms, MRI rooms etc.).
- **Office**: All enclosed space used for administrative type work (non-consultation). This may include open plan or closed / private office area.
- **Corridors**: Circulation area
- **Central Sterile Supply Department**: An area used to sterilize surgical instruments.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Bathrooms / Storage**: Toilets within the hospital typology. This may or may not include areas with showers. Also includes areas used for Storage.
- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas.

- **Food Court**: Area where food is prepared and sold within the healthcare facility.
- **Laundry**: An area designated for a washer and/or a dryer.
- **Data Center**: A physical location that stores computing IT equipment.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Waiting Area**: Area for visitors.

6.7.5. Description of Areas for Sub Typology: Clinics

- **Consultation Rooms**: An enclosed space used for consultation with patients, or a doctor's office.
- **Diagnostic Services**: Room with the use of specialized equipment to diagnose a medical condition (e.g., X-Ray rooms, MRI rooms etc.).
- **Office**: All enclosed space used for administrative type work (non-consultation). This may include open plan or closed / private office area.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Bathrooms / Storage**: Toilets within the hospital typology. This may or may not include areas with showers. Also includes areas used for Storage.
- **Waiting Area**: Area for visitors.
- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Data Center**: A physical location that stores computing IT equipment.
- **Laundry**: An area designated for a washer and/or a dryer.

6.7.6. Description of Areas for Sub Typology: Diagnostic Center

- **Diagnostic Services**: Room with the use of specialized equipment to diagnose a medical condition. (e.g. X-Ray rooms, MRI rooms etc.).
- **Office**: All enclosed space used for administrative type work (non-consultation). This may include open plan or closed / private office area.
- **Corridors**: Circulation area.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Bathrooms / Storage**: Toilets within the hospital typology. This may or may not include areas with showers. Also includes areas used for Storage.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Data Center**: A physical location that stores computing IT equipment.
- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas.
- **Waiting Area**: Area for visitors.

6.7.7. Description of Areas for Sub Typology: Teaching Hospital

- **Patient Areas – General**: Ward areas for patients
- **Patient Areas – Specialty Wards**: Ward areas for patients requiring specialized care.
- **Intensive Care Units (ICUs)**: Ward areas for patients for patients requiring intensive care.
- **Pre & Post Operating Rooms**: Preparation area for patient and staff prior to surgery.

- **Operating Rooms**: An enclosed space primarily used for surgeries.
- **Consultation Rooms**: An enclosed space used for consultation with patients, or a doctor's office.
- **Diagnostic Services**: Room with the use of specialized equipment to diagnose a medical condition. (e.g. X-Ray rooms, MRI rooms etc.).
- **Office**: All enclosed space used for administrative type work (non-consultation). This may include open plan or closed / private office area.
- **Corridors**: Circulation area.
- **Central Sterile Supply Department**: An area used to sterilize surgical instruments.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Bathrooms / Storage**: Toilets within the hospital typology. This may or may not include areas with showers. Also includes areas used for Storage.
- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas.
- **Food Court**: Area where food is prepared and sold within the healthcare facility.
- **Laundry**: An area designated for a washer and/or a dryer.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Data Center**: A physical location that stores computing IT equipment.
- **Waiting Area**: Area for visitors.
- **Education, Auditorium**: Large area for public gathering.

6.7.8. Description of Areas for Sub Typology: Eye Hospital

- **Patient Areas – General**: Ward areas for patients.
- **Operating Rooms**: An enclosed space primarily used for surgeries.
- **Consultation Rooms**: An enclosed space used for consultation with patients, or a doctor's office.
- **Diagnostic Services**: Room with the use of specialized equipment to diagnose a medical condition. (e.g., X-Ray rooms, MRI rooms, etc.).
- **Corridors**: Circulation area.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Bathrooms / Storage**: Toilets within the hospital typology. This may or may not include areas with showers. Also includes areas used for Storage.
- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas.
- **Food Court**: Area where food is prepared and sold within the healthcare facility.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Waiting Area**: Area for visitors.
- **Data Center**: A physical location that stores computing IT equipment.
- **Refraction**: A semi-dark room with specialized equipment.
- **Optical**: A room with specialized equipment.

6.7.9. Description of Areas for Sub Typology: Dental Hospital

- **Operating Rooms**: An enclosed space primarily used for surgeries.

- **Consultation Rooms**: An enclosed space used for consultation with patients, or a doctor's office.
- **Diagnostic Services**: Room with the use of specialized equipment to diagnose a medical condition (e.g., X-Ray rooms, MRI rooms, etc.).
- **Corridors**: Circulation area.
- **Mechanical & Electrical**: A technical room or space in the building dedicated to mechanical and/or electrical and/or plumbing equipment.
- **Bathrooms / Storage**: Toilets within the hospital typology. This may or may not include areas with showers. Also includes areas used for Storage.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Data Center**: A physical location that stores computing IT equipment.
- **Waiting Area**: Area for visitors.
- **Kitchen & Food Preparation**: Areas such as staff break rooms that have food preparation areas. Food court area, as applicable, may also be included in this area.

6.8. Description of Areas for Typology: Education

6.8.1. Description of Areas for Sub Typology: Preschool

- **Classrooms**: Room whereby students are being taught.
- **Meeting Rooms**: Space for staff / teacher discussion.
- **Play Rooms**: Rooms with toys for preschoolers.
- **Office/Administration Rooms**: All enclosed space used for administrative purposes (non-teaching). This may include open plan or closed / private office area.
- **Restrooms**: Toilets or bathrooms with the educational facility. This may or may not include areas with showers.
- **Cafeteria**: Areas such as staff break rooms that have food preparation areas.
- **Corridors**: Circulation area.
- **Staff Rooms**: Areas such as staff break rooms (non-food area).
- **Other Space Types**: These can be self-defined areas by modifying detailed loads input.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.
- **Worship Places**: Religious area.

6.8.2. Description of Areas for Sub Typology: School

- **Classrooms**: Room whereby students are being taught.
- **Meeting Rooms**: Space for students / teams to discuss issues and collaborate on projects.
- **Labs**: A room used for the teaching and demonstration of certain subject matter.
- **Office/Administration Rooms**: All enclosed space used for administrative purposes (non-teaching). This may include open plan or closed / private office area.
- **Auditoriums**: Large area for public gathering.
- **Library**: an area with the collection of books.
- **Computer Rooms**: Room for the teaching of computer related subjects. Such room is expected to have multiple screens / monitors and computers.
- **Worship Places**: Religious area.
- **Corridors**: Circulation area.
- **Sports Room**: Holding room for the gathering of athletes.
- **Workshops**: Room with equipment meant for workshop activities.

- **Restrooms**: Toilets or bathrooms with the educational facility. This may or may not include areas with showers.
- **Other Space Types**: These can be self-defined areas by modifying detailed loads input.
- **Cafeteria**: Areas such as staff break rooms that have food preparation areas.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.

6.8.3. Description of Areas for Sub Typology: University

- **Classrooms**: Room where by students are being taught.
- **Workshops**: Room with equipment meant for workshop activities.
- **Meeting Rooms**: Space for students / teams to discuss issues and collaborate on projects.
- **Office/Administration Rooms**: All enclosed space used for administrative purposes (non-teaching). This may include open plan or closed / private office area.
- **Auditoriums**: Large area for public gathering.
- **Library**: an area with the collection of books.
- **Worship Places**: Religious area.
- **Corridors**: Circulation area.
- **Restrooms**: Toilets or bathrooms with the educational facility. This may or may not include areas with showers.
- **Other Space Types**: These can be self-defined areas by modifying detailed loads input.
- **Cafeteria**: Areas such as staff break rooms that have food preparation areas.
- **Labs**: A room used for the teaching and demonstration of certain subject matter.
- **Computer Rooms**: Room for the teaching of computer related subjects. Such room is expected to have multiple screens / monitors and computers.
- **Sports Room**: Room for the gathering of athletes.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.

6.8.4. Description of Areas for Sub Typology: Sports Facilities

- **Classrooms**: Room where by students are being taught.
- **Meeting Rooms**: Space for students / teams to discuss issues and collaborate on projects.
- **Office/Administration Rooms**: All enclosed space used for administrative purposes (non-teaching). This may include open plan or closed / private office area.
- **Corridors**: Circulation area.
- **Labs**: A room used for the teaching and demonstration of certain subject matter.
- **Sports Room**: Room for the gathering of athletes.
- **Restrooms**: Toilets or bathrooms with the educational facility. This may or may not include areas with showers.
- **Changing Rooms**: Room for changing after a sports session. This does not include showers.
- **Cafeteria**: Areas such as staff break rooms that have food preparation areas
- **Other Space Types**: These can be self-defined areas by modifying detailed loads input.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.

6.8.5. Description of Areas for Sub Typology: Other Educational Facilities

- **Classrooms**: Room where by students are being taught.
- **Meeting Rooms**: Space for students / teams to discuss issues and collaborate on projects.

- **Office/Administration Rooms**: All enclosed space used for administrative purposes (non-teaching). This may include open plan or closed / private office area.
- **Corridors**: Circulation area.
- **Labs**: A room used for the teaching and demonstration of certain subject matter.
- **Sports Room**: Room for the gathering of athletes.
- **Restrooms**: Toilets or bathrooms with the educational facility. This may or may not include areas with showers.
- **Changing Rooms**: Room for changing after a sports session. This does not include showers.
- **Cafeteria**: Areas such as staff break rooms that have food preparation areas.
- **Other Space Types**: These can be self-defined areas by modifying detailed loads input.
- **Indoor Car Parking**: Enclosed parking. This is not the same as covered parking.

6.9. Description of Areas for Typology: Mixed Use

The areas listed in Mixed Use (Self Defined) typology reflects a combination of the different areas in above typologies from the above section.

6.10. Detailed Load Inputs

To enter detailed space conditions and loads for each space in a building, click on the Options menu and access 'Detailed Loads Input'. This option, newly available in EDGE version 3, allows users to input unique internal conditions for each space type in a building. These inputs are not required; but they are available in case a project team wants to model unique conditions in a space.

TIP: As with all EDGE values, if these details are not edited by a user, the system will assume the default values. So, it is best practice to review and verify them.

Some of the options available are described below.
- **Space Conditioning Type: No Conditioning Provided**: This indicates that a space that has indoor occupancy requirements, and where no heating or cooling is provided within the project. The EDGE App calculates the space conditioning requirements for the space as usual, but any associated energy required is shown as Virtual Energy in the Energy Chart.
- **Space Conditioning Type: No Conditioning Required**: This indicates a space that does not have occupancy requirements, and where no heating or cooling is provided within the project. Area that are, within the GIA, but outdoors (e.g., balconies) also may select this space conditioning type. For this space conditioning type, it is expected that the space is not required to be maintained at comfort temperatures. This only applies to certain types of spaces such as utility rooms, balconies. The EDGE App does not calculate any associated energy use for space conditioning for these spaces.
- **Default Heating and Cooling Set Point temperature**: These values are visible for information only; the values are not editable in the EDGE App.
- **Plug Loads** (W/m2): This value captures the electrical equipment present within a space. It is assumed that 100% of the heat from laptops and computers is added to the space. Schedules are assumed to be a product of occupied hours and usage factor.
- **Process Loads** (W/m2): This value only applies to continuous processes such as may be seen in an Industrial building type for example. It is assumed that 5-10% of the heat from medical equipment and 20-30% of the heat from industrial machinery is added to the space. Schedules are assumed to be a product of occupied hours and usage factor.

- **People Sensible Heat** (W/person): The sensible heat emitted by the people per hour in a space.
- **People Latent Heat** (W/person): The latent heat emitted by the people per hour in a space.

6.11. Kitchen & Food Prep Loads Inputs

- **Kitchen**: This should be checked if there is a kitchen (of any size) within the project.
- **Pantry**: This should be checked if there is minimal food preparation (kitchen with no cooking equipment) within area serving food and drinks
- **Coffeehouse/Café**: This should be checked if there is a coffeehouse or restaurant, where a kitchen with cooking equipment is present.

Description of:

- **No. of Meals / day**: The expected number of meals per day for each person. A narrative is required to support any default value changes.
- **Total people having on site meal**: The proportion of people having meals on site. A narrative is required to support any default value changes.
- **Food Prepared on Site**: The proportion of food being prepared (cooked) on site vs ready-to-eat meals that do not require much preparation. A narrative is required to support any default value changes.
- **People Using Pantry**: The proportion of occupants using the pantry. This percentage will not be applicable if "Pantry" in the header is not checked. A narrative is required to support any default value changes.
- **People Using Coffeehouse**: The proportion of occupants using the coffeehouse. This percentage will not be applicable if "Coffeehouse" in the header is not checked. A narrative is required to support any default value changes.
- **Energy per meal**: This accounts for energy required to prepare a meal. If a more efficient cooking method is utilized (eg. Induction cooking), the energy per meal may be reduced. A narrative and calculation is required to support any default value changes, and additional savings cannot be claimed for technologies that save energy.

7. Building Dimensions

7.1. Default Building Length

- ***Orientation (North, North East, East, South East, South, South West, West, North West):*** EDGE assigns an octagonal shape to a new building by default, with equal wall lengths in each of the eight main orientations. Using the closest orientations, a user must input the building lengths that reflect the actual building. When multiple buildings are being combined into a single subproject, add up the total length per orientation.
  Note: Users must input zero for any orientations that do not represent the building, otherwise EDGE will model the building with the default inputs.

- ***Façade Area Exposed to Outside Air (%) (North, North East, East, South East, South, South West, West, North West):*** This percentage represents the portion of the enclosing wall that is in contact with the external environment. By default, this value assumes 100% exposure. However,

if a façade is not exposed because it is shared with an adjacent property or a similar reason, it can be updated with the appropriate percentage. If a facade is fully shared, this value should be 0%, for a shared wall in a townhome for example.

When calculating building length for buildings with varying length for each floor, the length of both above and below-grade walls should be included, and a weighted average building length should be used to account for the difference in lengths between above-grade and below-grade walls. Additionally, when determining the "Façade Area Exposed to Outside Air (%)," the calculation should be weighted.

For projects with varying length below grade, this means that the percentage of the area exposed is calculated by subtracting the earth-berm wall area from the total façade area and then dividing by the total façade area. This approach ensures that the façade area calculation accurately reflects the reduced exposure due to the presence of earth-berm or underground walls.

8. Building HVAC System

8.1. Simplified Inputs

- ***Does the Building Design Include an AC system?*** Options are Yes, No. Specify if the building design include an AC system for cooling. It will use electricity as fuel. If the building design does not have an AC system, the cooling load will be reflected as virtual energy.
- **Does the Building Design Include a Space Heating System?** Options are Yes, No. Specify if the building design include space heating system. It will use the fuel indicated in the section 'Fuel Usage' for space heating. If the building design does not have an heating system, the heating load will be reflected as virtual energy.

8.2. Detailed Inputs

- **Heating period.** This option should be always yes regardless of whether heating is provided. In future versions detailed inputs will not be visible to the user.
- **Cooling period.** This option should be always yes regardless of whether cooling is provided. In future versions detailed inputs will not be visible to the user.

8.3. Applicable Baseline

- **EDGE:** Assumptions typically found in developing economies. Baseline assumptions have been adjusted where necessary to improve the match to local conditions.
- **ASHRAE 90.1-2016** Assumes typical systems efficiencies for heating, ventilation and air conditioning
- systems from ASHARE 90.1-2016 (which applies to advanced economies). Baseline assumptions have been adjusted where necessary to improve the match to local conditions.

8.4. Purchased Chilled Water and Heating Supply

- ***District Cooling Only.*** The base case assumes that cooling demand is fulfilled via district cooling.
- **District Heating Only:** The base case assumes that heating demand is fulfilled via district heating.
- **Both Heating and Cooling:** The base case assumes that cooling and heating demand are fulfilled by a cooling/heating district.
- **None:** No demand is fulfilled by district cooling/heating.

9. Fuel Usage

9.1. Fuel Usage

- ***Hot water***: Options are Electricity, Natural Gas, Diesel, LPG, and None. If the source is not known, select the most common fuel in the region. The selection should be consistent with EEM18: Domestic Hot Water (DHW) System. None is selected when the project is not expected to provide DHW in the future. When infrastructure is provided but the equipment is not, the relevant fuel type should be selected.

  For residential projects whereby developers do not provide a hot water unit, but there is an expectation that owners may install a hot water unit, projects must select the fuel of the expected hot water system. Savings may not be claimed in this scenario, and base case values must be entered.

  If there is more than one type of fuel source used in the project, the fuel for the base case system shall be entered for the majority. For example, if 30% of hot water uses gas, and 70% uses electricity, the electricity entered in Fuel Usage shall be entered as 'Electricity'. For the improved case, users may select more than one fuel source within the calculator in EEM18.

- **Space heating**: Options are Electricity, Natural Gas, Diesel, LPG, Coal and Fuel Oil. The selection should be consistent with EEM16: Space Heating System.

- **Generator:** Options are Diesel, Natural Gas, and LPG.

- **Electricity Generation Using Generator**: Percentage of electricity provided by the generator. Should the project not have any generator, 0% may be entered.

9.2. CO2 Emissions Factor

- **Electricity and other fuels (kg of CO2/kWh)**: Emissions factor for the current location. This value can be replaced by a value from a trusted source. Examples include: UNFCCC Harmonized IFI Grid Factors, International Energy Agency (IEA), national and state government websites, among others.

9.3. Cost Input

- **Electricity and other fuels (cost/kWh)**: Unitary cost of fuel for the current location and currency. This value can be replaced by a value from a trusted source. Examples include utility providers, national and state government websites.

10. Climate Data

10.1. General climate information

- ***Elevation.*** [meters] The elevation of the selected city.
- ***Rainfall.*** [mm/year] The average annual rainfall for the selected city. May impact calculations related to rainwater calculations.
- ***Latitude.*** [degrees] The latitude for the selected city. Relevant for calculations that need sun angles. A positive number is required in this field. If the project is in the southern hemisphere, drop the minus sign.

- **ASHRAE Climate Zone.** Determines the base case heating and cooling systems. For more information, refer to ASHRAE 90.1-2016 Appendix G – Baseline HVAC System Types.
For projects that are located in a city that is not in EDGE, the closest location with a similar climate zone should be selected. This should be confirmed with the EDGE Global Technical Team by emailing edge@ifc.org.

10.2. Temperature

- **Monthly max temperature and Monthly min temperature.** [degrees] The max and min dry bulb temperature for the selected city. If a project is based on a city that is not in EDGE, and weather data has to be updated, weather data may be updated from a reliable source.
  - A Test Reference Year (TRY) if the building location is within 50km of a TRY location;
  - In the absence of local TRY weather data, an actual year of recorded weather data from a location within 50km of the building location;
  - In the absence of TRY or actual weather data within 50km, interpolated data based on three points within 250km of the building location.
  - Weather data can be obtained using sources such as Meteonorm(https://meteonorm.meteotest.ch/en/typical-meteorological-years) or EPW Map (https://www.ladybug.tools/epwmap/).

10.3. Relative humidity

- **Monthly average relative humidity.** [%] The average relative humidity for the selected city. If a project is based on a city that is not in EDGE, and weather data has to be updated, weather data may be updated from a reliable sources.
  - Weather data can be obtained using sources such as Meteonorm (https://meteonorm.meteotest.ch/en/typical-meteorological-years) or EPW Map (https://www.ladybug.tools/epwmap/).

10.4. Wind

- **Monthly average wind speed.** [m/s] The average wind speed for the selected city. If a project is based on a city that is not in EDGE, and weather data has to be updated, weather data may be updated from a reliable sources.
  - Weather data can be obtained using sources such as Meteonorm(https://meteonorm.meteotest.ch/en/typical-meteorological-years) or EPW Map (https://www.ladybug.tools/epwmap/).