Edge

IFC International Finance Corporation WORLD BANK GROUP

Creating Markets, Creating Opportunities

www.edgebuildings.com

EDGE USER GUIDE

Part 2

- Design Tab

Version 3

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Contents

Introduction

EDGE (Excellence in Design for Greater Efficiencies) is a standard, a green building certification and an online app of the International Finance Corporation (IFC). This document is part of a series of documents aimed at the global harmonization of EDGE buildings certification process for version 3.

The target group for this document are Project teams, EDGE experts, EDGE auditors, EDGE Certifiers and anyone interested in learning more about the certification.

The **Part 2 – User Guide Design Tab** offers detailed instructions for completing each subsection within the design tab of the EDGE V3 App. It also delivers information pertinent to all the different building classifications, sub-classifications, and fields that require user input when setting up the base case scenario. Moreover, the guide includes advice on how to submit documentation for each specific subsection.

The public may review and comment on this document until September 1st, 2024. Once officially published, it will invalidate and substitute the DESIGN PAGE GUIDANCE section EDGE Version 3.0.a. In the meantime, it may serve as an improved source of information for anyone pursuing the certification.

Table 1 shows the relative position of this document within the set of EDGE user guides.

Table 1: Position of this document within the EDGE V3 modules.

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

Glossary

ASHRAE	American Society of Heating Refrigerating and Air-conditioning Engineers
COP	Coefficient of Performance
EDGE	Excellence in Design for Greater Efficiencies
EPW	Energy Plus Weather File
GIA	Gross Internal Area
HVAC	Heating, Ventilation and Air-conditioning
ISO	International Organization for Standardization
TRY	Test Reference Year
WWR	Window-to-Wall Ratio

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.

Building Typology & Sub-typology

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 may be single unit sub-projects, or multiple units that are part of a development. Homes typology will have one EDGE certificate issued per unit.

Note: Refer to **Part 1 – Building Certification Guidance** for developer provision of installations.

Sub typology: Low, Middle & High Income

The income categories are determined according to the socio-economic classifications of each country. They shall 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. Apartment typology will have one EDGE certificate issued per unit in the building.

Note: Refer to **Part 1 – Building Certification Guidance** for developer provision of installations.

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 shall 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) may be considered under the 'Serviced Apartments' typology in this case.

Serviced apartment typology will have one EDGE certificate issued for the entire building.

Sub typology: Serviced Apartment

Same as the Serviced Apartment typology description.

D. Hotel

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

Sub typology: 1-5 Stars

Hotel Star rating shall be determined by the property. The hotel star rating selected will determine the assumptions made for the preparation of the baseline. This includes typical specifications, facilities provided, room sizes. When assessing a hostel under the hotel typology, 1 star shall be selected.

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. The resorts star rating selected will determine the assumptions made for the preparation of the baseline. This includes typical specifications, facilities provided, room sizes.

F. Retail

Typically refers to properties used to market and sell consumer goods and services. This may encompass a wide range of retail activities, such as stores, markets, shopping malls, and showrooms. Customer facing business, e.g., retail banks, shall be part of this typology. Retail projects in EDGE may be owner occupied and/or Core & Shell projects.

Note: Refer to **Part 1 – Building Certification Guidance** for Core and Shell guidance for Retail typology.

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 shall 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.

Note: Refer to **Part 1 – Building Certification Guidance** for Core and Shell guidance.

Sub typology: Light Industry

Light industry projects include processing function (e.g., textile processing plants) through small scale facilities requiring less intensive equipment energy usage.

Note: Refer to **Part 1 – Building Certification Guidance** for guidance on light industry project certification.

Sub typology: Warehouse

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

Note: Refer to **Part 1 – Building Certification Guidance** for guidance on warehouse project certification.

H. Office

The office typology is defined as a building or space within a building where business, clerical services, or professional services are conducted. This includes, but is not limited to, spaces where administrative, accounting, clerical, consulting, engineering, and similar activities are carried out. Office projects in EDGE may be owner occupied and/or Core & Shell projects.

Note: Refer to **Part 1 – Building Certification Guidance** for Core and Shell guidance for Office typology.

Sub typology: Office

Same as the Office typology description.

I. Healthcare

Typically refers to building types in the healthcare community. Healthcare facilities may be subject to specific provisions due to their unique requirements for indoor environmental quality, including temperature and humidity control, ventilation, and filtration to ensure patient comfort, safety, and infection control.

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

Note: Refer to **Part 1 – Building Certification Guidance** for Core and Shell guidance for Healthcare typology.

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 largely 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 typology may be used in projects that include more than one of the typologies defined above when they fall within the same category as defined in Table 2.

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.

Table 2: Category for Mixed Use (Self Defined) typologies.

Category	Typologies covered
Guest Accommodation	Serviced Apartment, Hotel, Resort
Commercial	Retail, Office, Healthcare, Education

Note: Industrial buildings, e.g., warehouse or light industry, cannot be part of Mixed Use.

Sub typology: Self Defined

Same as the Mixed Use typology description.

Documentation Submission

- Projects shall provide a brief description of the building typology and sub typology.
- For projects modeling under mixed use typology, the project shall provide clear details on around particular typology / sub-typology was selected.

Location

Country

The country in which the project is located. EDGE uses the list of countries from the World Bank[1].

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. Alternatively, the Project team shall justify the selection by providing climate data for the selected location and the missing location to validate / verify the selection.

[1] World Bank Country and Lending Groups: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

NOTE: Location information cannot be changed by the Project Team once the project has been registered. Please, contact your Certification Provider in case of a correction is needed.

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 shall be completed to submit the project for audit and certification.

The fields with asterisk * are mandatory.

- ***Project Name**** – The name of the development. Note that this is a required field that serves as the project identifier. To change the project name once it has been saved, navigate to the Design tab and select File > Rename. Whenever the project is in the Project team's possession, the option to rename is available.
- ***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.
- **Is this project created for training purpose?*** - Select Yes, or No. Selecting Yes will disable the assessment from applying for certification.

- ***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.

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. This field is only needed for organizational purposes. 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 may 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.
    - Apartments: To indicate the number of units in a residential apartment building, use the single or multiple typologies option under Building Data. Do not use the Multiplier option.

- Homes: To indicate the number of homes in a residential development, use the field “No. of Homes” under Building Data. Do not use the Multiplier option.

Note: To find the worst-case orientation, the Project team shall change the building dimensions to represent the main building orientation rotated by 90 degrees for four orientations and select the one with the worst improved case %.

- ***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” shall be selected for existing buildings applying for EDGE Certification with no renovation works involved. “Retrofit” shall be selected for existing building applying for EDGE Certification with renovations. For projects that are existing buildings with a new built extension, “New Building” shall be selected.
- ***Year of Construction*** – This field only applies to Existing Buildings and Retrofits. 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.

Documentation Submission

- Subprojects shall provide government-issued documentation that proves the building location.

- Existing buildings shall provide proof of the age of the building or a letter from the building owner stating the completion date of the building.

Building Data

Typology: Homes & Apartments

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 of the individual units.

- ***No. of Bedrooms.*** Note: Studio Apartments should indicate '0' for "number of bedrooms".
- ***Total No. of Homes or Apartments***
- ***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:*** The vertical distance between two consecutive floors or levels within the building, measured from the finished floor level of one floor to the finished floor level of the floor above or below it. In some cases, if projects have different floor heights, the project shall calculate a weighted average (based on floor area) and enter this into the EDGE App***.***
- ***Average Roof Area / House:*** The roof area in m2 used to calculate the heat transfer through the roof. This value is also to quantify the roof embodied carbon in the materials section***.***
- ***Single Typology***.

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 shall 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.

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***. Integer value representing the number of floors. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) shall 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.*** The vertical distance between two consecutive floors or levels within the building, measured from the finished floor level of one floor to the finished floor level of the floor above or below it. In some cases, if projects have different floor heights, the Project team shall 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). This value is used to calculate the heat transfer through the roof. This value is also to quantify the roof embodied carbon in the materials section.

Operational Details:

- ***Working Days***. The number of days per week where the facility is operating. For the current typology the number of working days is 7.
- ***Hours of Operation***. For hotels &Resorts, this is defined as the number of hours where the front desk is fully staffed and expecting regular guest check-ins. For serviced apartments, is the period when non-essential staff is available.
- ***Occupancy Density***. This data point applies only to Serviced Apartment typology. 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.

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***. Integer value representing the number of floors. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) shall 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.*** The vertical distance between two consecutive floors or levels within the building, measured from the finished floor level of one floor to the finished floor level of the floor above or below it. In some cases, if projects have different floor heights, the Project team shall 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). This value is used to calculate the heat transfer through the roof. This value is also to quantify the roof embodied carbon in the materials section.

Operational Details:

- ***Working Days***. This is the number of operational days. For retail this number is typically 7 days per week.
- ***Hours of Operation***. This is the number of hours where the retail mall is open to the public for business, 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.

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***. Integer value representing the number of floors. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) shall 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.*** The vertical distance between two consecutive floors or levels within the building, measured from the finished floor level of one floor to the finished floor level of the floor above or below it. In some cases, if projects have different floor heights, the Project team shall 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). This value is used to calculate the heat transfer through the roof. This value is also to quantify the roof embodied carbon in the materials section.

Operational Details:

- ***Working Days***. This is the number of days that the building will be operating. Please do not include days where the building is opened for cleaning, maintenance, etc.
- ***Number of Holidays***. This is the number of days where occupant is not expected to be working.
- ***Hours of Operation***. The specific time periods during which the facility is actively functioning, and staff are present, conducting manufacturing, processing, maintenance, or related work activities. Hours whereby there will be security staff, cleaning and maintenance staff in the building does not fulfil the definition and should not be included in the building's hours of operation.
- ***Occupancy Density***. Area (GIA) in m2, per person. 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.

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***. Integer value representing the number of floors. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) shall 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.*** The vertical distance between two consecutive floors or levels within the building, measured from the finished floor level of one floor to the finished floor level of the floor above or below it. In some cases, if projects have different floor heights, the Project team shall 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). This value is used to calculate the heat transfer through the roof. This value is also to quantify the roof embodied carbon in the materials section.

Operational Details:

- ***Working Days***. This is the number of operational days. For offices, it is generally 5 days a week.
- ***Number of Holidays***. This only includes bank holidays or public holidays.
- ***Hours of Operation***. Hours of operation is the specific period when a business or organization is open and available to serve customers or conduct business or educational activities. Hours whereby there will be security staff, cleaning and maintenance staff in the building does not fulfil the definition and should not be included in the building's hours of operation.
- ***Occupancy Density***. The occupancy density is the number of people per unit of floor area.

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***. Integer value representing the number of floors. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based

on floor area) shall 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.*** The vertical distance between two consecutive floors or levels within the building, measured from the finished floor level of one floor to the finished floor level of the floor above or below it. In some cases, if projects have different floor heights, the Project team shall 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). This value is used to calculate the heat transfer through the roof. This value is also to quantify the roof embodied carbon in the materials section.

Operational Details:

- ***Working Days***. This is the number of operational days. For healthcare, it is generally 7 days a week.
- ***Hours of Operation***. Hours of operation is the period available for providing patient care. Hours whereby there will be security staff, cleaning and maintenance staff in the building does not fulfil the definition and should not be included in the building's hours of operation.
- ***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.

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***. Integer value representing the number of floors. In some cases, if the project has multiple buildings with different number of floors, a weighted average (based on floor area) shall 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.*** The vertical distance between two consecutive floors or levels within the building, measured from the finished floor level of one floor to the finished floor level of the floor above or below it. In some cases, if projects have different floor heights, the Project team shall 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). This value is used to calculate the heat transfer through the roof. This value is also to quantify the roof embodied carbon in the materials section.

Operational Details:

- ***Working Days***. This is the number of operational days. Mixed projects shall have the same working days.
- ***Hours of Operation***. This is the number of hours where the normal business activities occur or as per defined in the hour operations of the typologies being combined. Mixed used projects that differ more than three operational hours[2], shall be submitted as separate subprojects.

[2] In accordance with ISO 52016-1:2017(E) – Section 6.4.2.6

- ***Occupancy Density***. The occupancy density is the number of people per unit of floor area (GIA) given in m2 per person.

Documentation Submission

- Architectural drawings / documentation indicating total Gross Internal Area
- Architectural drawings highlighting the roof area in m^2.
- Statement from the building owner stating the building's intended operational usage.

Area & Loads Breakdown

Common Data Points Across All Typologies

Default (Areas)

- ***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. Façade lighting is excluded.
- ***External Car Parking Area***. Projects with external car park requiring lighting should report the areas in this field. Street lighting is excluded.

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.

  Note: Auditor may determine that dedicated whether irrigation systems qualify as such based on the requirements stated in **Part 4 – User Guide – Water Measures**.

- ***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 may 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.

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, laundry, linen, staff area.
- **Indoor Car Parking**: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- **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.** Same as external car parking**.** Only available to the serviced apartments typology.

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. For example, food preparation for conference / banquet, or kitchen area for staff.
- **Corridors**: Circulation zone.
- **Conference / Banquet**: Large event hall.

Description of Areas for Typology: Retail

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***: Circulation zone.
- ***Kitchen & Food Preparation***: Refers to the following areas type:
  a. Food Court and sitting area; and/or
  b. Areas such as staff break rooms that have food preparation areas.
- ***Indoor Car Parking***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***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.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***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.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***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.

Description of Areas for Typology: Industrial

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- **Cold Storage Area:** Storage area for supplies that requires refrigeration at -4 °C.

  Note: In V 3.0 cold storage is calculated as cooling load. In V 3.1 it will be calculated as refrigeration loads.

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)***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***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.

Description of Areas for Typology: Healthcare

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***Laundry***: An area designated for a washer and/or a dryer.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***Waiting Area***: Area for visitors.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***Data Center***: A physical location that stores computing IT equipment.
- ***Waiting Area***: Area for visitors.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***Waiting Area***: Area for visitors.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***Data Center***: A physical location that stores computing IT equipment.
- ***Laundry***: An area designated for a washer and/or a dryer.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***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.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***Data Center***: A physical location that stores computing IT equipment.
- ***Waiting Area***: Area for visitors.
- ***Education, Auditorium***: Large area for public gathering.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***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.

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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***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.

Description of Areas for Typology: Education

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 may be self-defined areas by modifying detailed loads input.

- ***Indoor Car Parking***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.
- ***Worship Places***: Religious area.

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 may be self-defined areas by modifying detailed loads input.
- ***Cafeteria***: Areas such as staff break rooms that have food preparation areas.
- ***Indoor Car Parking***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.

Description of Areas for Sub Typology: University

- ***Classrooms***: Room whereby 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 may 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***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.

Description of Areas for Sub Typology: Sports Facilities

- ***Classrooms***: Room whereby 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 may be self-defined areas by modifying detailed loads input.
- ***Indoor Car Parking***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.

Description of Areas for Sub Typology: Other Educational Facilities

- ***Classrooms***: Room whereby 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 may be self-defined areas by modifying detailed loads input.
- ***Indoor Car Parking***: Parking that is situated within the Gross Internal Area (GIA) of the building. Parking may or may not require mechanical ventilation and should be designed in accordance with relevant building code requirements.

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.

Note: Mixed use combinations are restricted to typologies of the same category as defined in Table 2.

Detailed Load Inputs

Projects may choose to update the default values in the Detailed Load Inputs page to suit their needs, or if there are known values (such as equipment loads) for each parameter. These inputs are not required; but they are available in case a project team wants to model unique conditions in a space.
Note: Industrial projects shall provide detailed information about equipment and plug loads.

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 allows users to input unique internal conditions for each space type in a building.

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 at any point in the future. 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.
  The following spaces allow having the "Not conditioning required" option without providing detailed evidence:
    - Residential: Utility & Balcony
    - Commercial and industrial: Corridor areas (Corridors, Corridors & Lobby, Mall Area (Communal Corridors), etc.)
    - Storage Areas (Dry storage, Storage, Mechanical & Electrical, Store, Lockers, Linen & Store), except refrigerators and freezers.

  Additionally, spaces that meet any of the conditions below may be considered thermally unconditioned if evidence is presented[3]:
    - Highly ventilated spaces. Defined as spaces with a continuous ventilation capacity of at least 3 liters per second for every square meter of the space's floor area.
    - Spaces with large openings, characterized as having one or more *permanent* openings that are equal to or exceed an area of 0.003 square meters per square meter of the space's floor area.

- **Default Heating and Cooling Set Point temperature**: These values are visible for information only; the values are not editable in the EDGE App.

[3] Thermally unconditioned spaces as defined in ISO 52016-1:2017

- **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 (diversity) 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 (diversity) 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.

Kitchen & Food Prep Loads Inputs

A project may have one or more of the following kitchen & food prep areas. These areas are defined as follows:

- **Kitchen**: This should be checked if there is a kitchen for food preparation (of any type and 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. A food court is considered as a coffeehouse in EDGE.

By selecting the above, the selection would estimate the amount of energy required for cooking requirements.

Description for:

- **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 (e.g., induction cooking), the energy per meal may be reduced. A narrative and calculation are required to support any default value changes, and additional savings cannot be claimed for technologies that save energy.

Documentation Submission

If the project does not use the default Detailed Loads Inputs, the project shall provide the following documentation:

- A narrative on the different areas and conditioning requirement;
- HVAC calculations corresponding to entry data in the Detailed Loads Input;

- Occupancy details where relevant;
- Calculations assumptions of equipment load, including diversity factor used.

Documentation for Kitchen & Food Prep Inputs include:

- A statement of intent on occupancy and meals prepared on site.

Building Dimensions

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 shall 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 1: Users shall input zero for any orientations that do not represent the building, otherwise EDGE will model the building with the default inputs.
  Note 2: Wall lengths, floor-to-floor heights and number of floors is used to calculate the area of façade per orientation.
- ***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 may 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.

Documentation Submission

Project Teams shall provide, where relevant:

- Architectural drawings showing the dimensions of the building or development;
- Measurements of building lengths (for existing building);
- Date-stamped photographic evidence (For existing buildings);
- For multiple buildings, calculations to demonstrate the final building dimensions;
- A narrative if the building is **not** 100% exposed to the outside air.

Building HVAC System

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.

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.

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.

Does the Building Design Include Purchased Chilled Water and Heating supply (District Cooling or Heating)?

- ***District Cooling Only.*** The base case assumes that cooling demand is fulfilled via district cooling. A project that is connected to district cooling will have a different base case system per modeling methodology.
- **District Heating Only:** The base case assumes that heating demand is fulfilled via district heating. A project that is connected to district heating will have a different base case system per modeling methodology.
- **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.

Documentation Submission

Documentation required to demonstrate Building HVAC Systems include:

- HVAC Calculations
- A narrative describing the heating and/or cooling system
- Electrical and mechanical drawings
- For existing buildings: Date-stamped photos showing the installed HVAC equipment.

Fuel Usage

Fuel Usage

- ***Hot water***: Options are Electricity, Natural Gas, Diesel, LPG, and None. If there is no infrastructure for hot water use, the project should select "None". The selection should be consistent with EEM18: Domestic Hot Water (DHW) System. 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 shall select the fuel of the expected hot water system. Savings may not be claimed in this scenario, and base case values shall 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. If the fuel selection is not available from the dropdown list, please contact edge@ifc.org to confirm correct selection.
- **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.
- **Cooking fuel:** Options are Electricity, Natural Gas, Diesel, LPG, Coal and Fuel Oil.

CO2 Emissions Factor

- **Electricity and other fuels (kg of CO2/kWh)**: Emissions factor for the current location. This value may 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.

Cost Input

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

Documentation Submission

The following documentation is required for submission for fuel usage:

- Narrative confirming each fuel source. For projects with multiple fuel sources used on site, the highest proportion shall be considered. E.g., if 75% of hot water is delivered using electricity, and 25% of hot water is delivered using natural gas, the Fuel Source shall indicate "Electricity". A narrative shall be provided explaining the reasoning for multiple fuel sources.

Climate Data

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.

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 may be obtained using sources such as Meteonorm(https://meteonorm.meteotest.ch/en/typical-meteorological-years) or EPW Map (https://www.ladybug.tools/epwmap/).

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 may be obtained using sources such as Meteonorm (https://meteonorm.meteotest.ch/en/typical-meteorological-years) or EPW Map (https://www.ladybug.tools/epwmap/).

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 may be obtained using sources such as Meteonorm(https://meteonorm.meteotest.ch/en/typical-meteorological-years) or EPW Map (https://www.ladybug.tools/epwmap/).

Documentation Submission

For projects that provides an updated weather file/data, the source of the weather data shall be submitted. For government weather data, a URL is enough.