



**ARCHITECTURE STUDENT CONTEST**  
**20<sup>th</sup> INTERNATIONAL EDITION, NORD ISÈRE 2025**

The background of the image is a collage of architectural drawings and sketches. On the left, there are blue ink sketches of a building's structural frame and a 3D perspective drawing of a multi-story building. In the center, a physical architectural model of a building is displayed on a white surface, with a spotlight effect highlighting it. To the right, there are more sketches, including a detailed elevation of a building facade and a site plan. The overall aesthetic is that of a professional architectural studio.

Building A Renovation

Building B New Construction

# Maison & Maison Société & Création

**National Polytechnic Institute ESIA Tecamachalco**  
Prof. Manuel Garcia Zayas | Team 31 Mexico

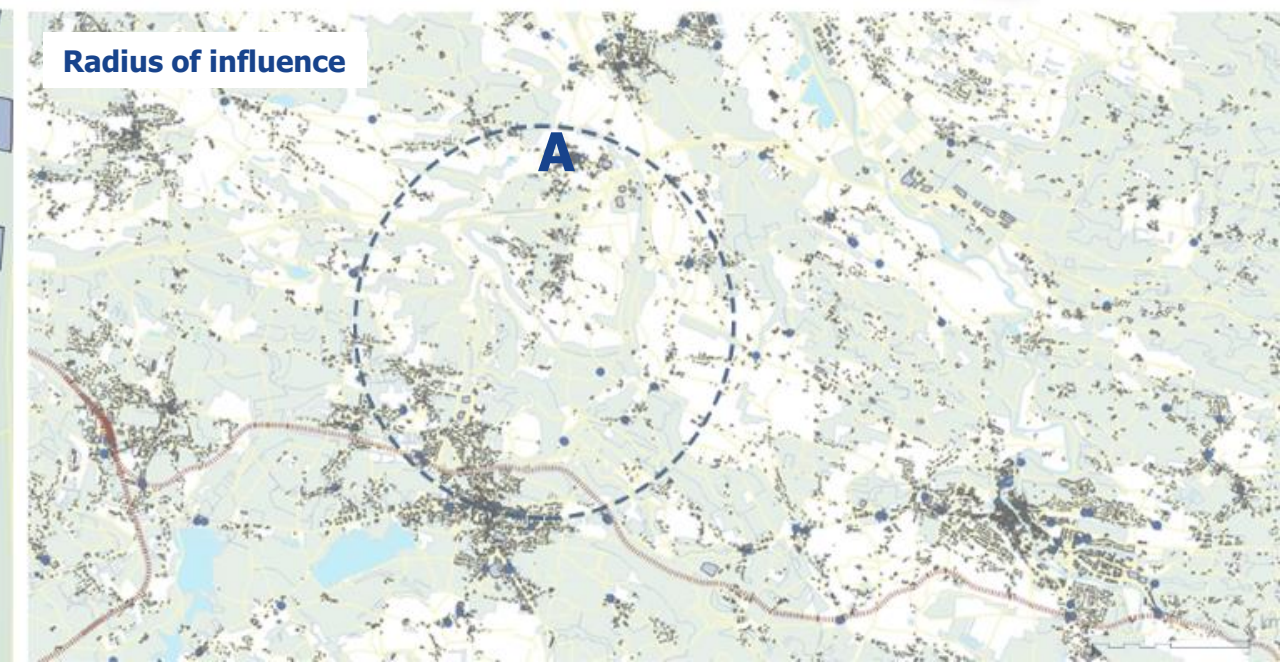
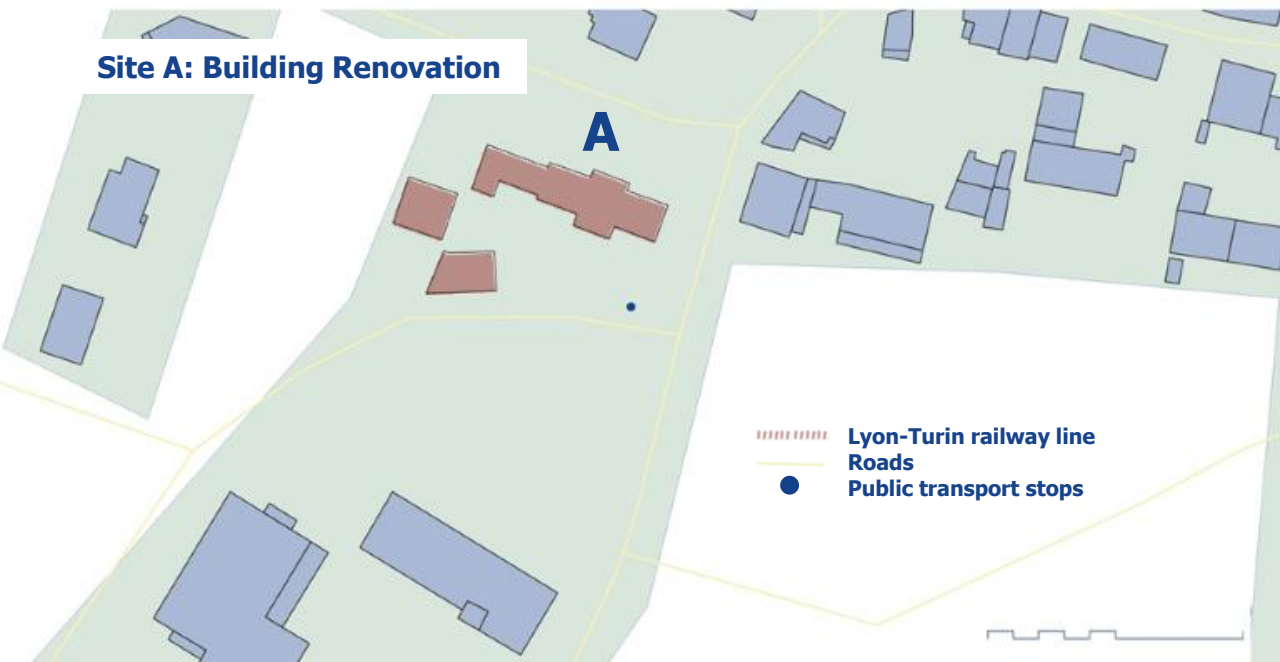
**Szanya Tamara Hernández Sánchez**  
Mexico City, Mexico

**Carolina Cortes Rivera**  
State of Mexico, Mexico

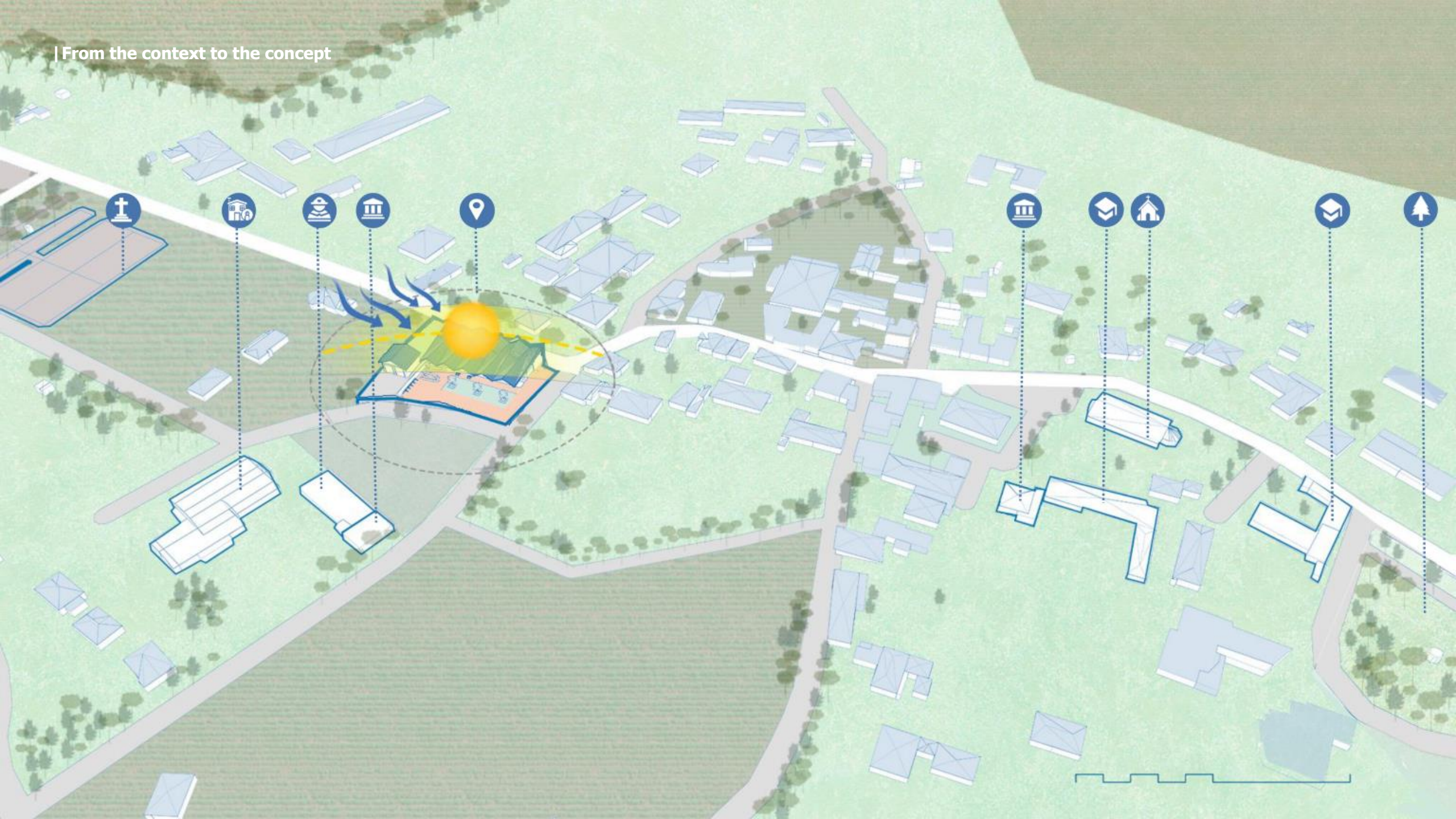
**Ana Laura Carbajal Mújica**  
Veracruz, Mexico

# Maison Société





| From the context to the concept



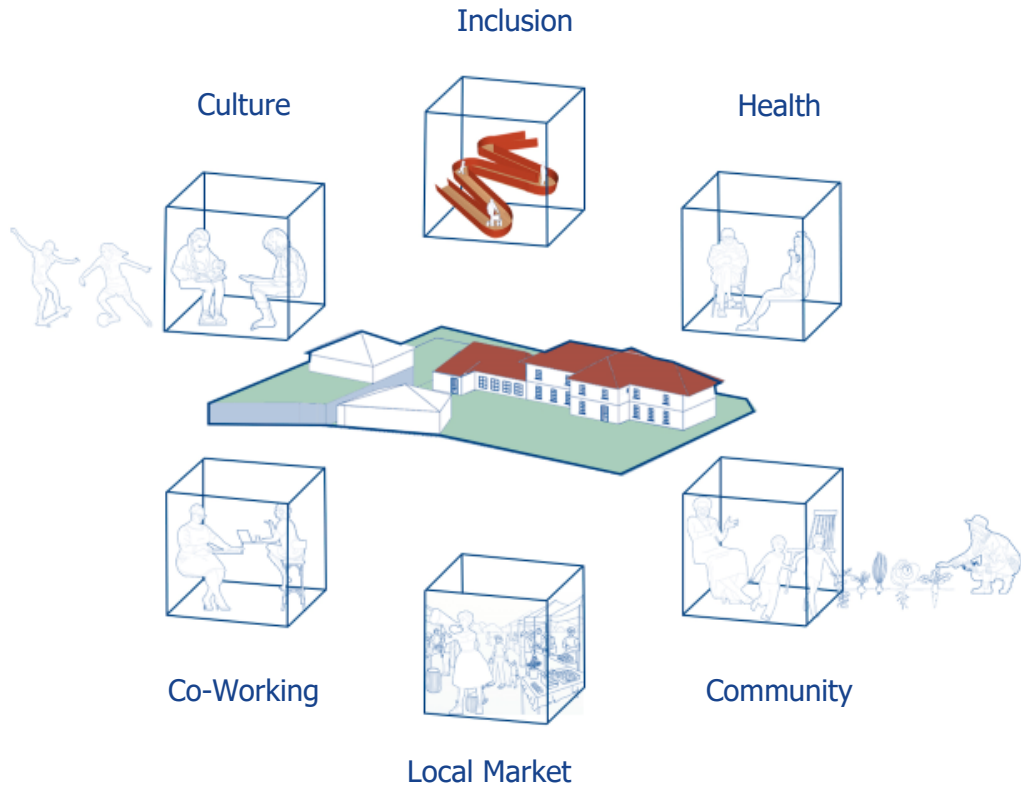
| From the context to the concept

Maison Société takes inspiration from the traditional architecture of Chimilin village, the nearby Rhône River, and the natural beauty of the surrounding Alps.

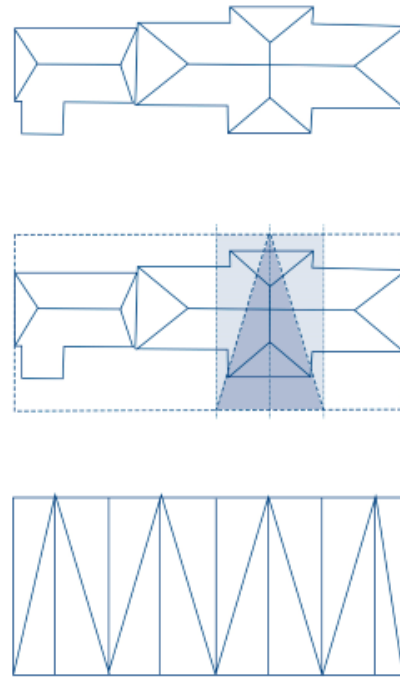


# | From the context to the concept

## 1. Design Foundations



## 2. Transformation



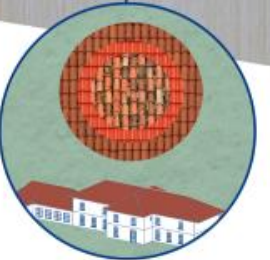
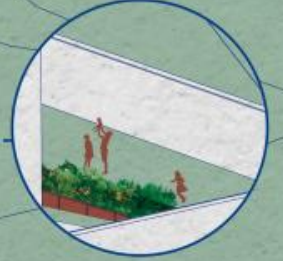
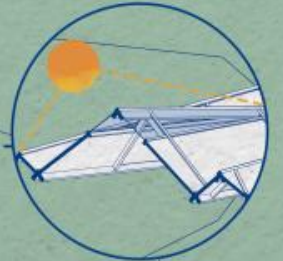
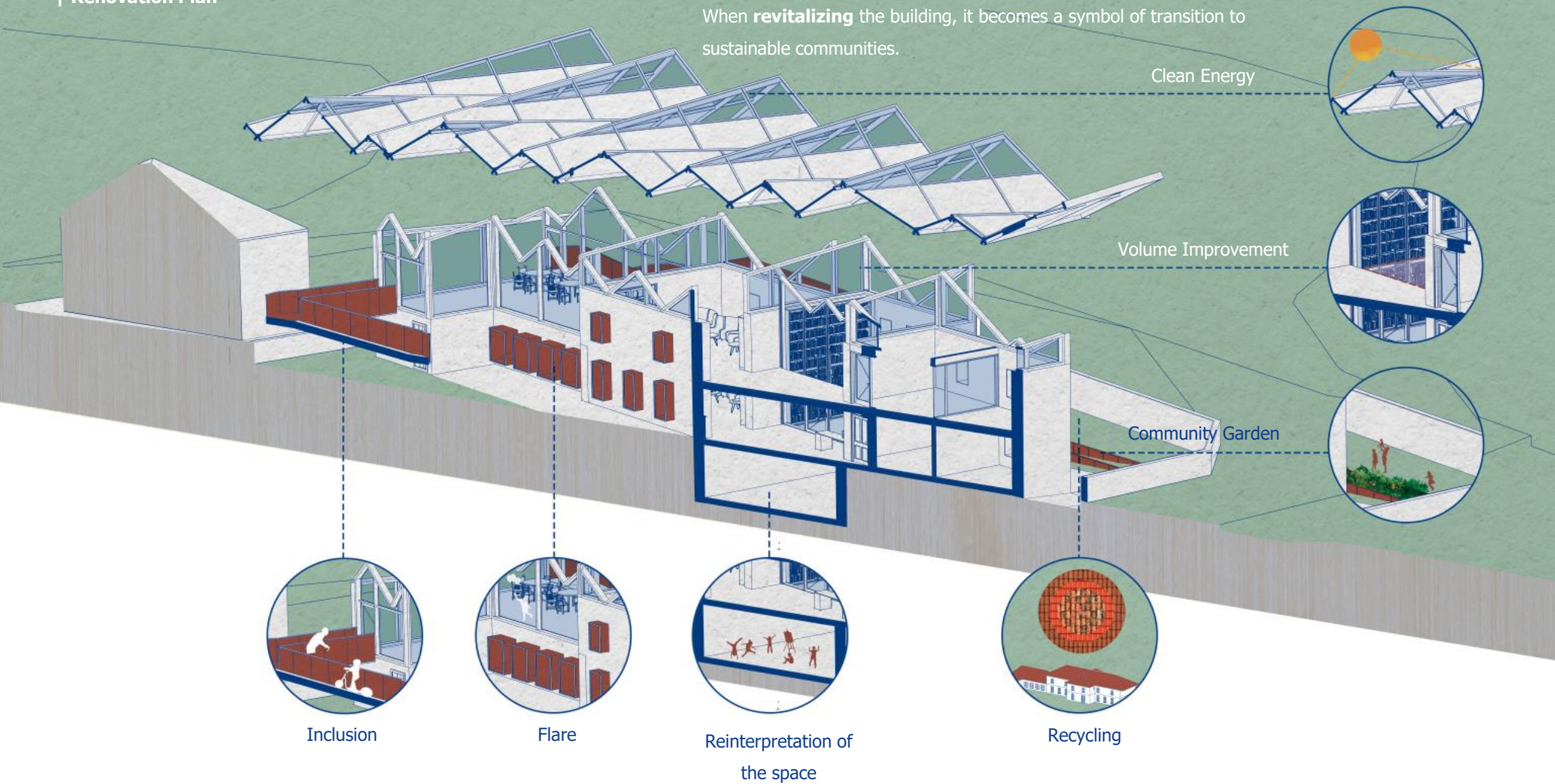
## 3. Inspiration Shapes + Final Shape





# | Renovation Plan

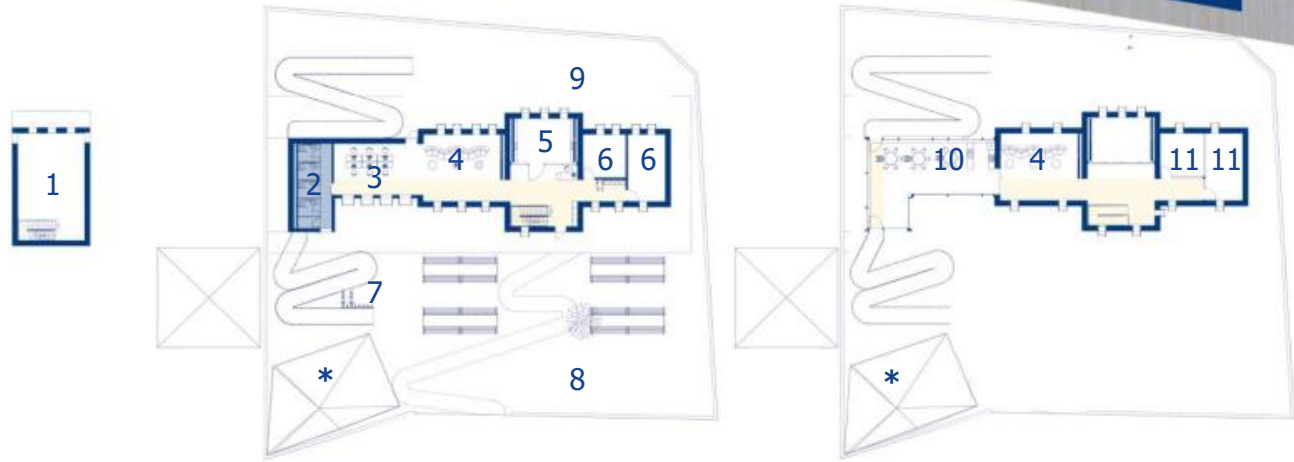
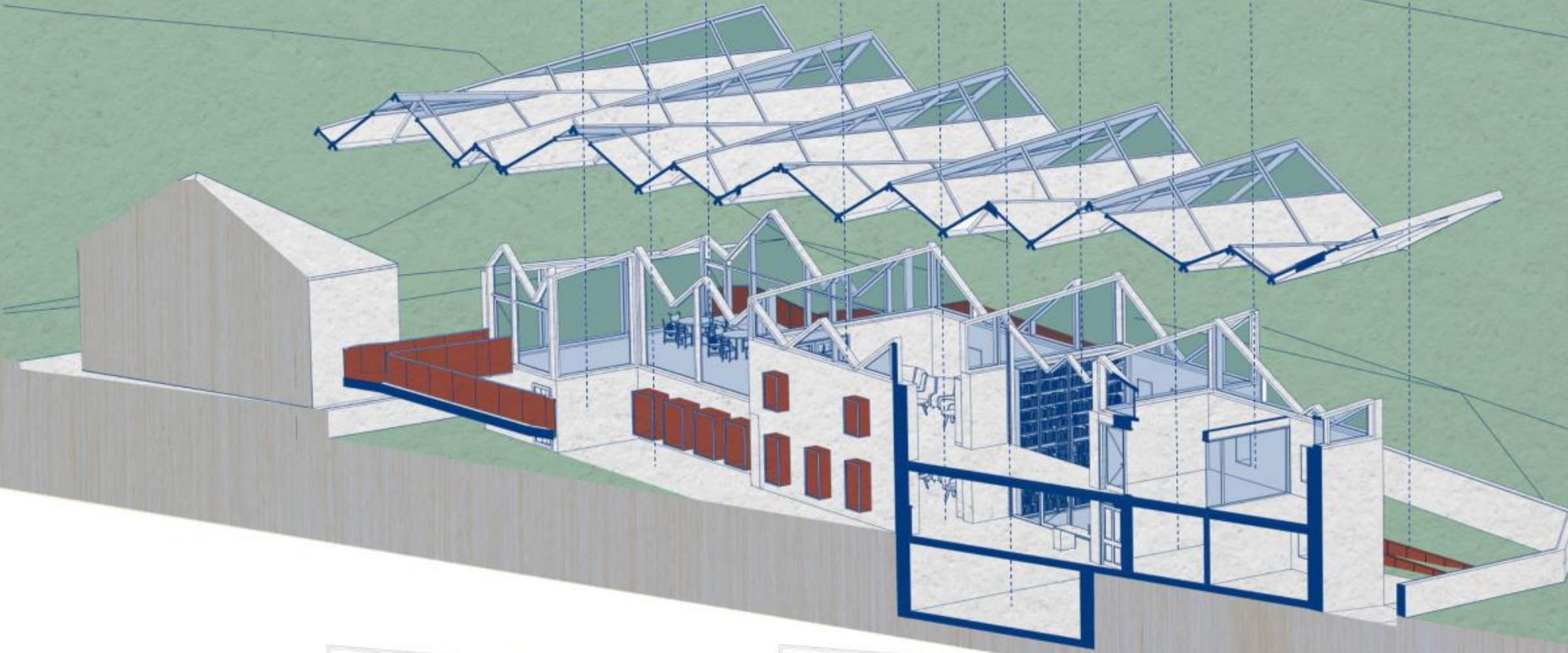
When **revitalizing** the building, it becomes a symbol of transition to sustainable communities.



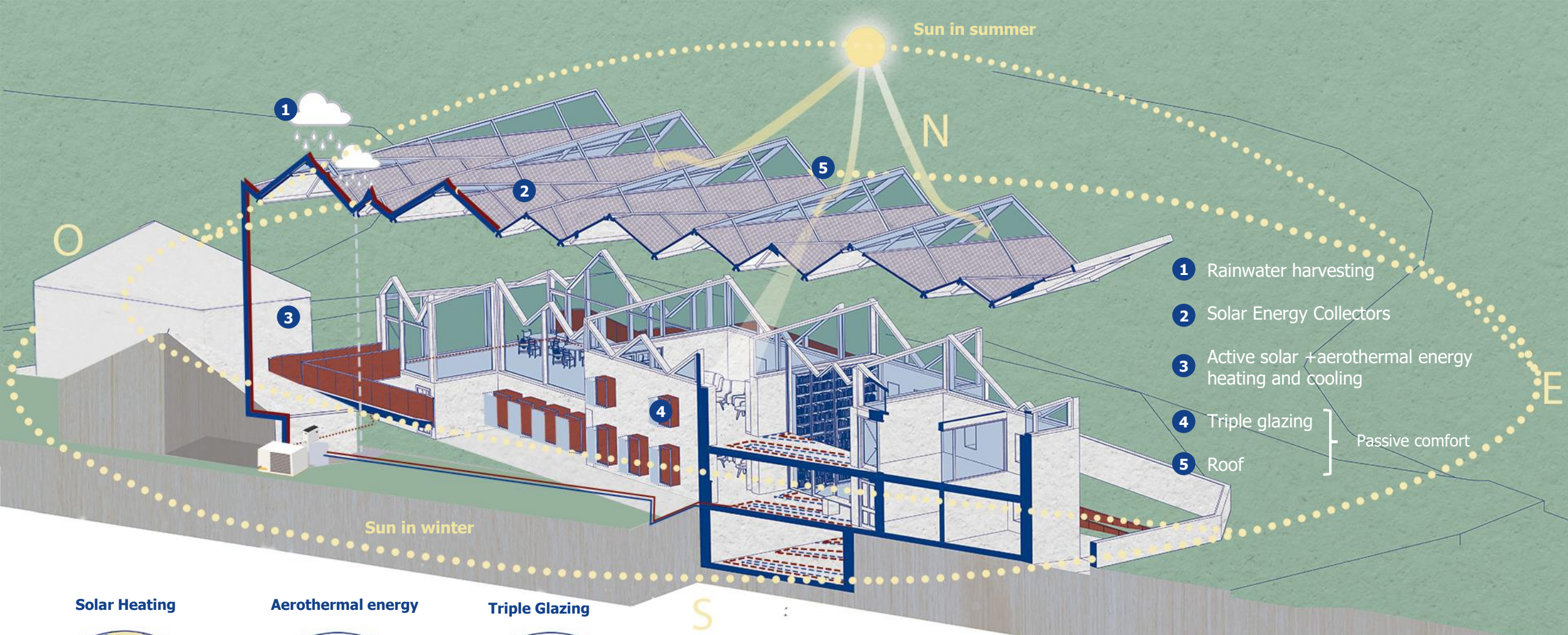
| Distribution



-  1. Multifunctional Space
-  2. Universal Restrooms
-  3. Co-Working
-  4. Association Spaces
-  5. Library
-  6. Clinics
-  7. Parking
-  8. Local Market
-  9. Vegetable Garden
-  10. Community Dining Room
-  11. Meeting Rooms
-  Sanitary Core
-  Circulation

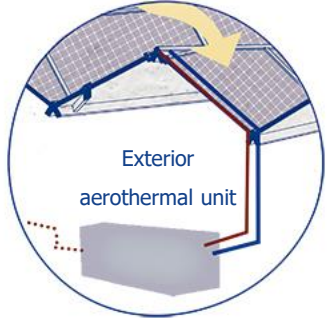


\*The future removal of the building is planned for extending green areas and local market area, implementing impact mitigation strategies.

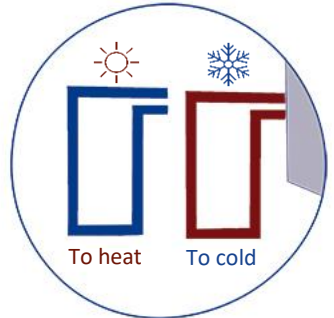


- 1 Rainwater harvesting
  - 2 Solar Energy Collectors
  - 3 Active solar + aerothermal energy heating and cooling
  - 4 Triple glazing
  - 5 Roof
- } Passive comfort

**Solar Heating**



**Aerothermal energy**



**Triple Glazing**



Chimilin has low temperatures year-round, with peaks around 26°C in summer. To ensure comfort, the design uses solar energy collectors, aerothermal energy, underfloor heating, and passive strategies like roof insulation and triple glazing.

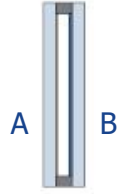
| Community Dining Room



| Structure



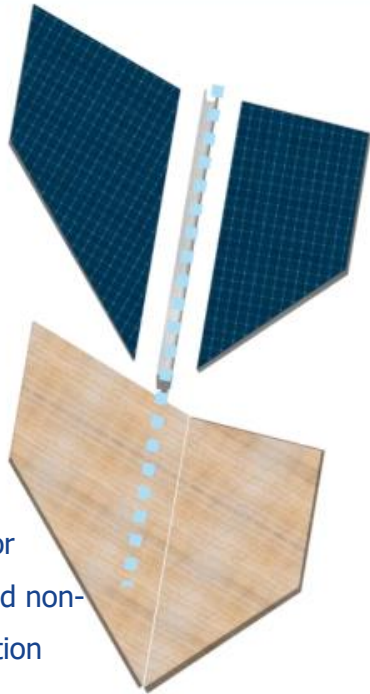
Cool Lite SKN 183 II



- A. Opaque enamel pattern
- B. Solar control layer

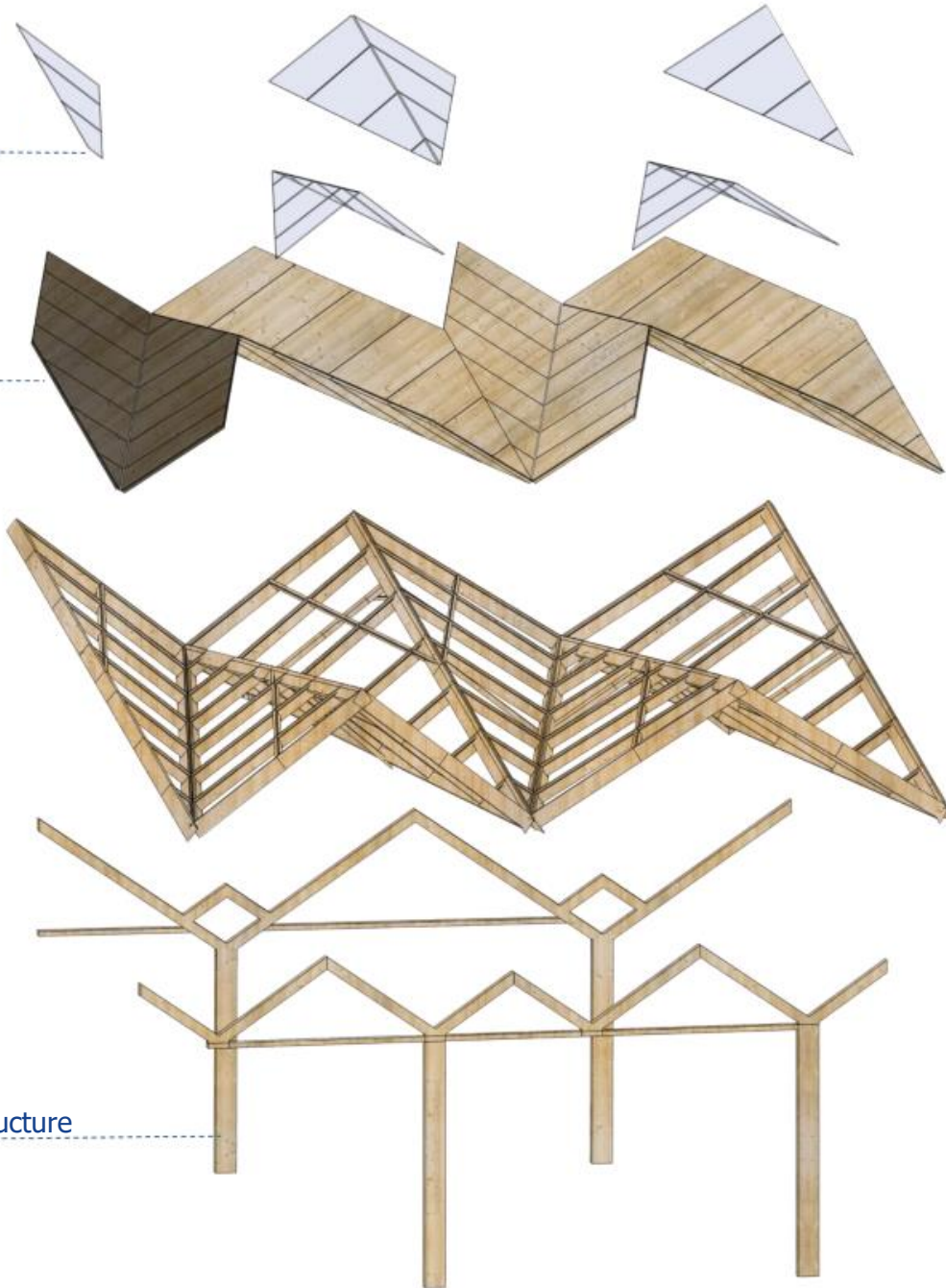
CLT Panel

Photovoltaic cells  
(188 kWh per year)



Rainwater harvesting for  
irrigation of gardens and non-  
human water consumption

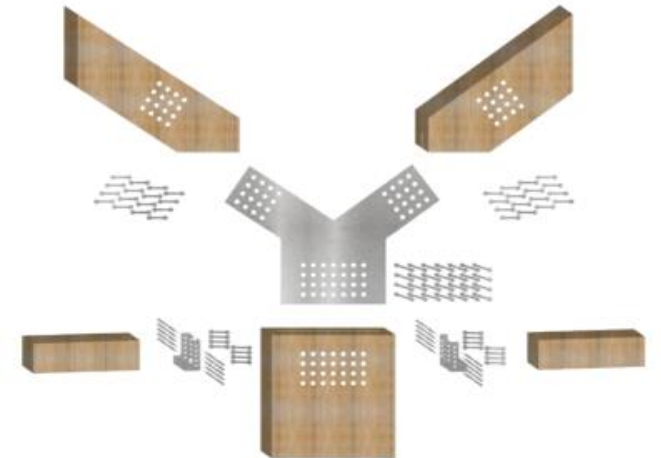
Glulam Load-Bearing Structure



Roof weft union: CSA screws  $\varnothing$  5.0x 35mm  
and CNA ring tips  $\varnothing$  4.0x35mm



Connection of locks by a plate



Column connection with main and  
secondary links

| Sustainable Strategies



1. Remove old tiles and cut them to form a pattern to be placed on the exterior floor.

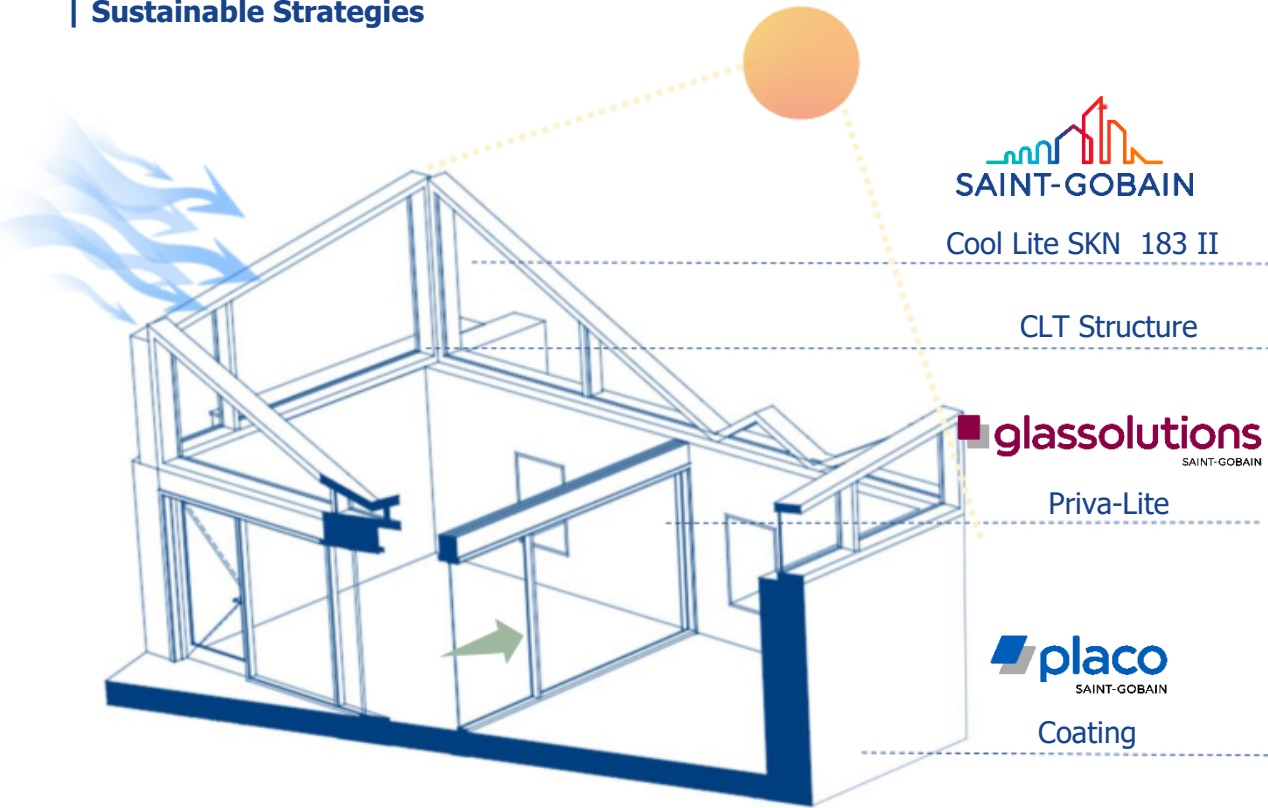


2. Add self-leveling layer of Leca® Expanded Clay Insulation Fill, then a 5 cm layer of Leca® Uno



3. Place the clay tiles on Leca® Uno layer while it is still fresh.

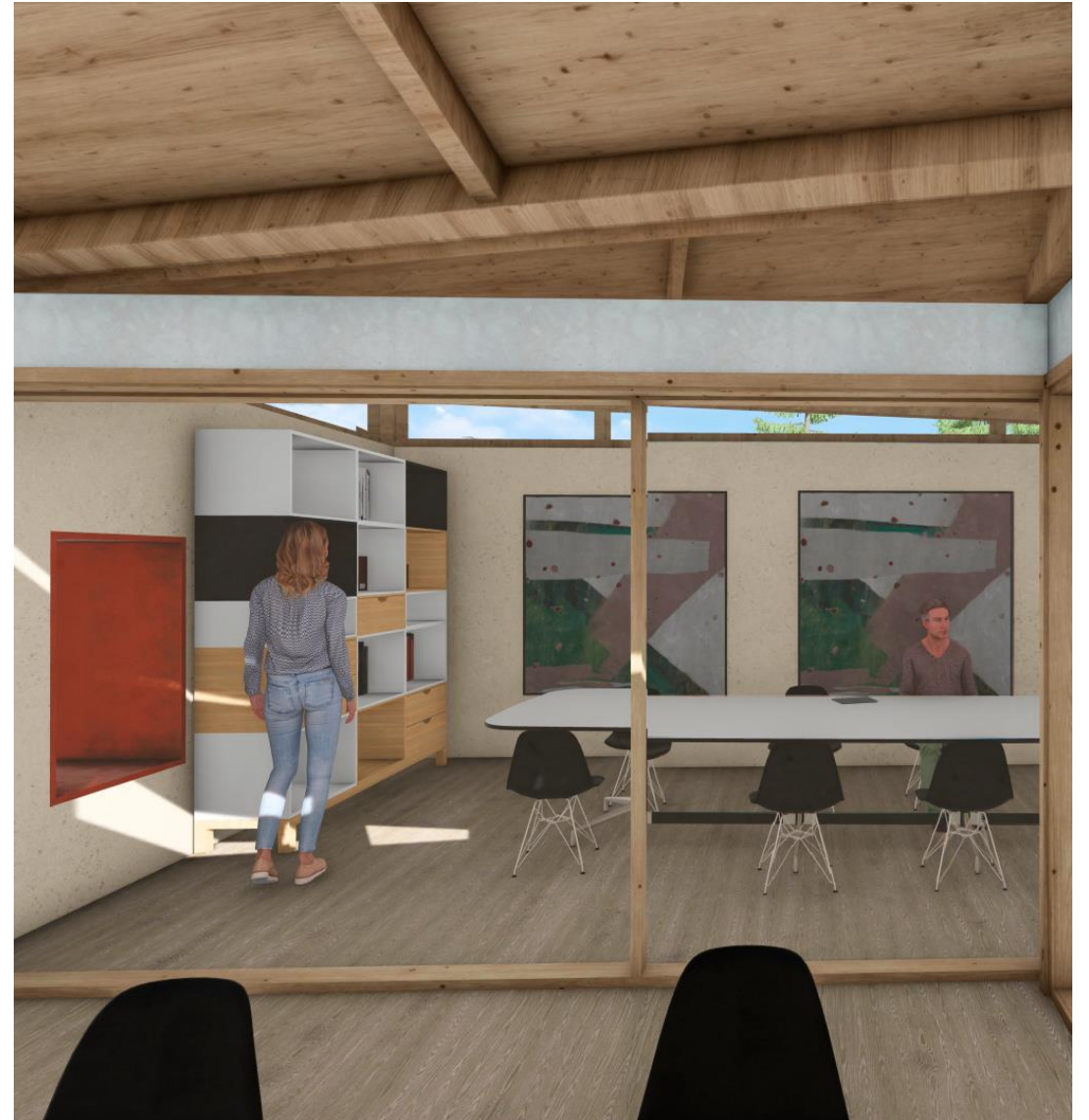
| Sustainable Strategies



-  Acoustic Comfort: 93 Rw (dB)
-  CO2 per m2: 6.64 kg
-  Heating Needs: 17.7 kWh/m2
-  Lightning Autonomy 300 Lux: 81.3%
-  Summer Comfort (Overheating % of season): 5%

Cradle to grave (A1-A4, B4-B5, C1-C4)		kg CO <sub>2</sub> e/m <sup>2</sup>
< 350	A	210
350-530	B	
530-710	C	
710-890	D	
890-1070	E	
1070-1250	F	
> 1250	G	

**One Click LCA**



Meeting Room

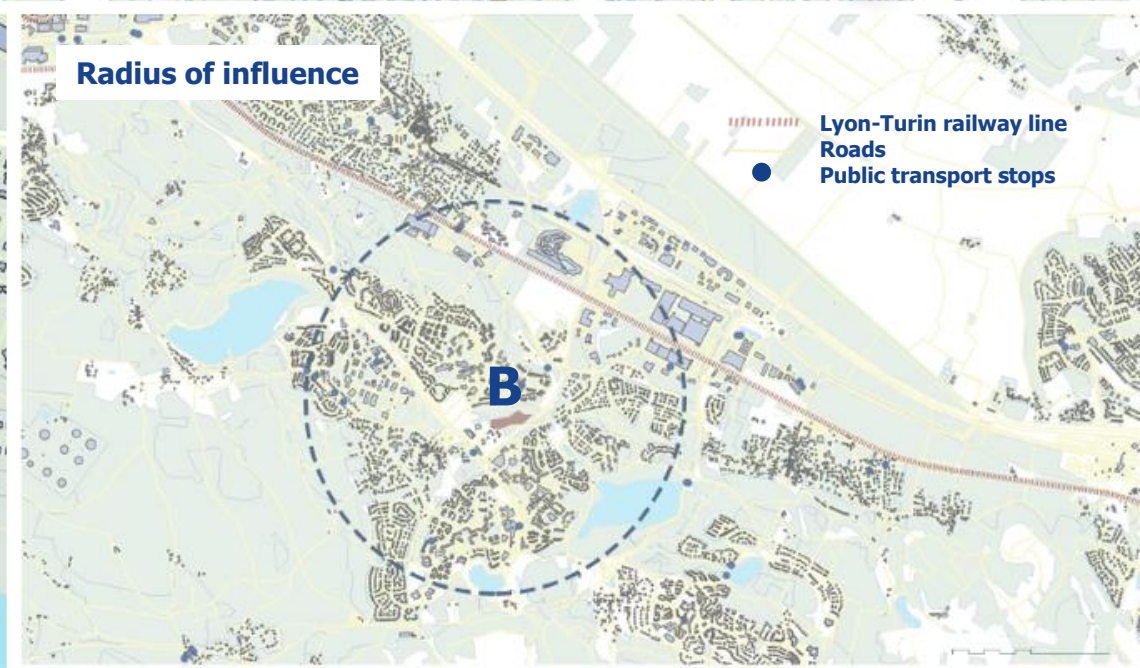
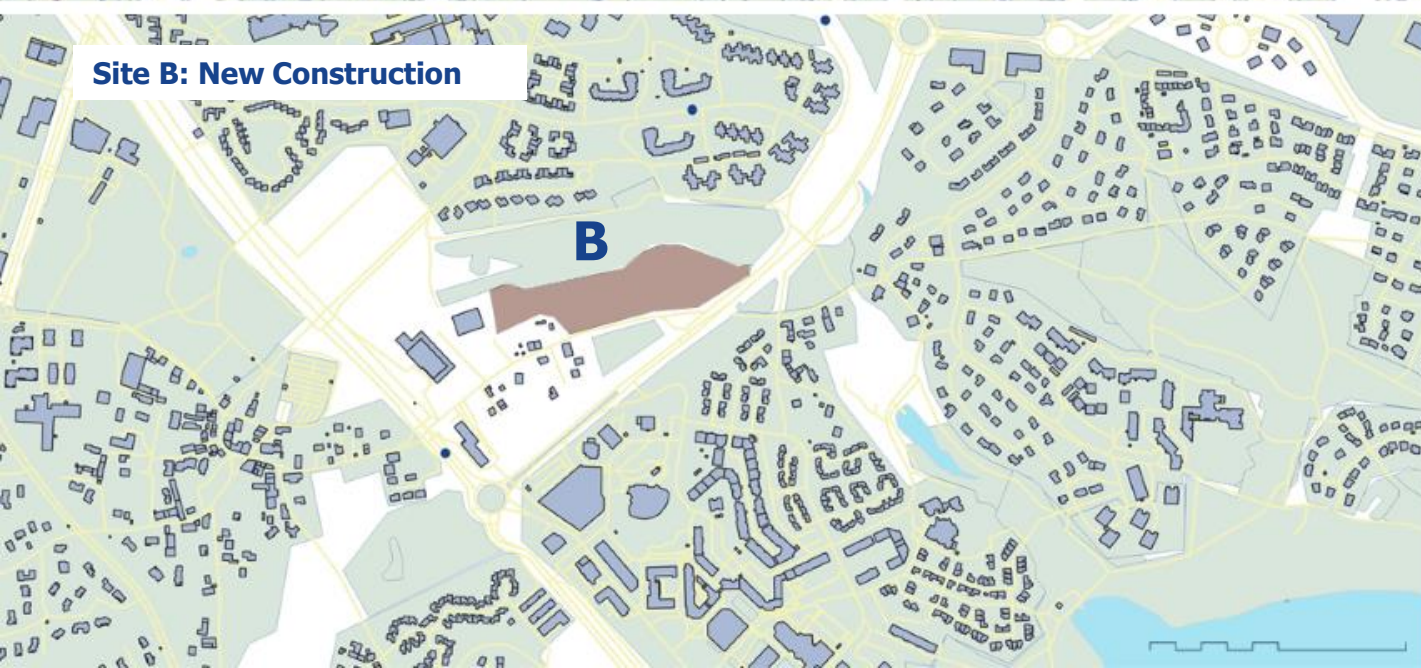


# Maison Société

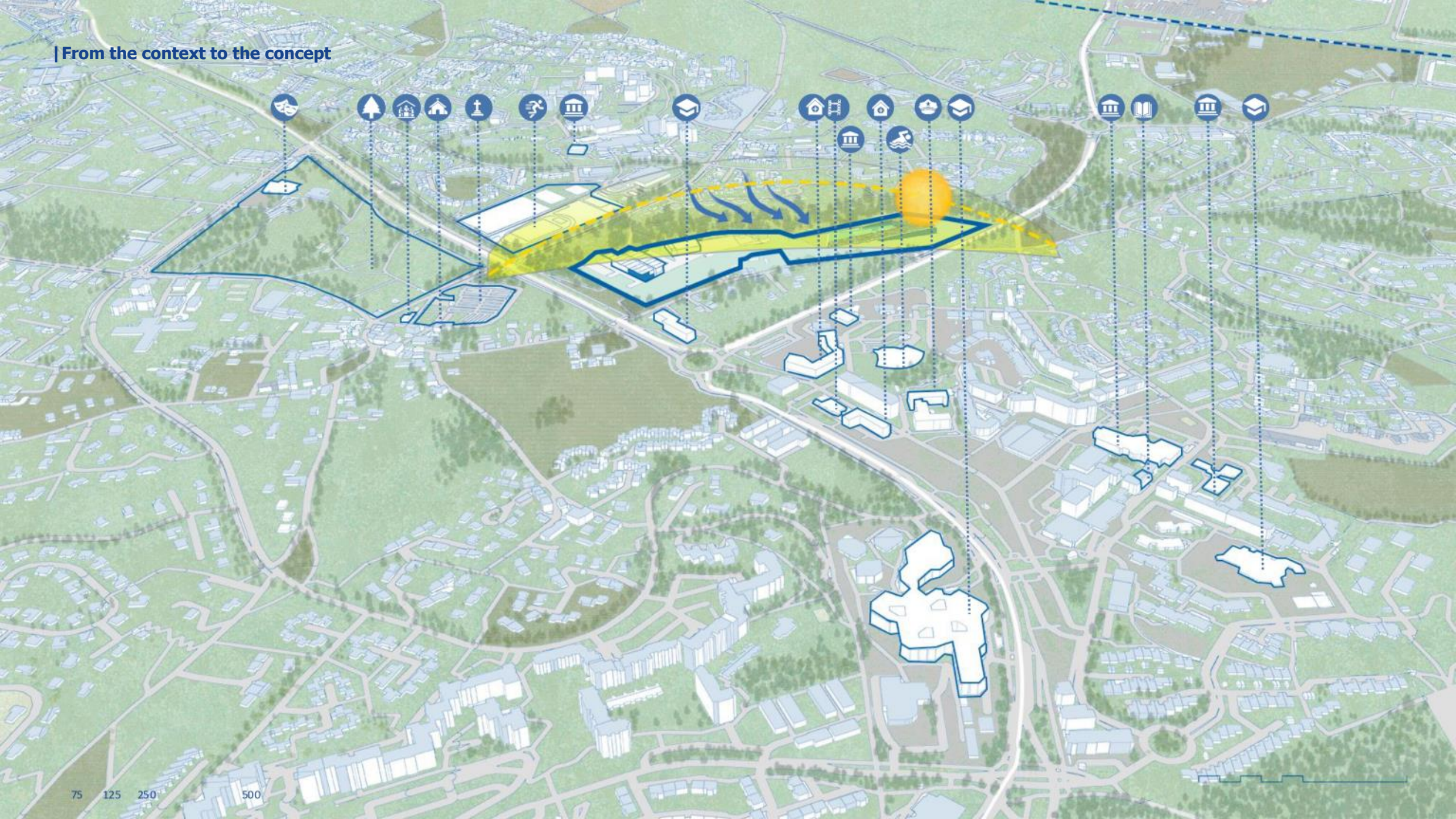


# Maison Création





| From the context to the concept

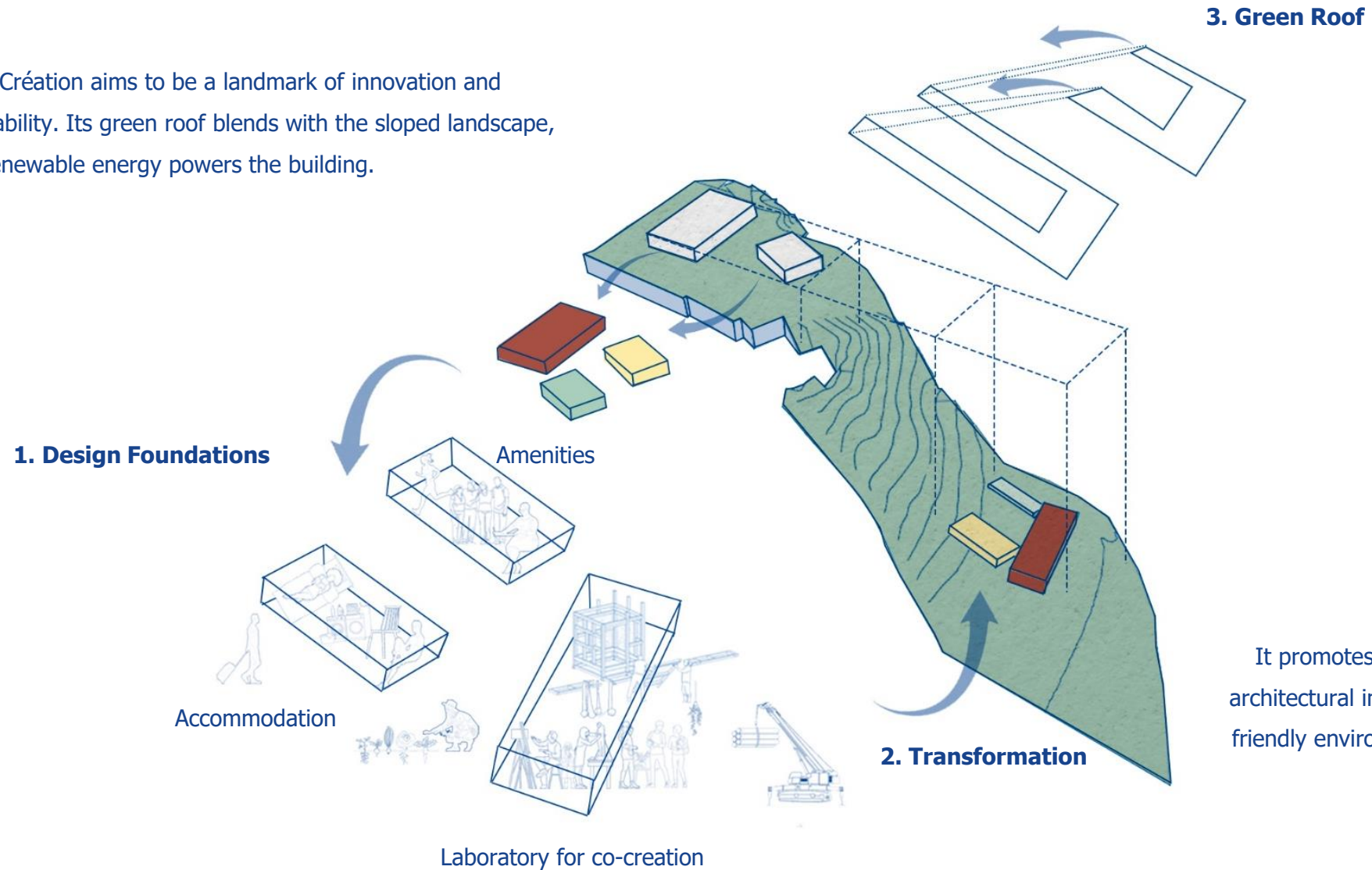


| From the context to the concept



## | From the context to the concept

Maison Création aims to be a landmark of innovation and sustainability. Its green roof blends with the sloped landscape, while renewable energy powers the building.

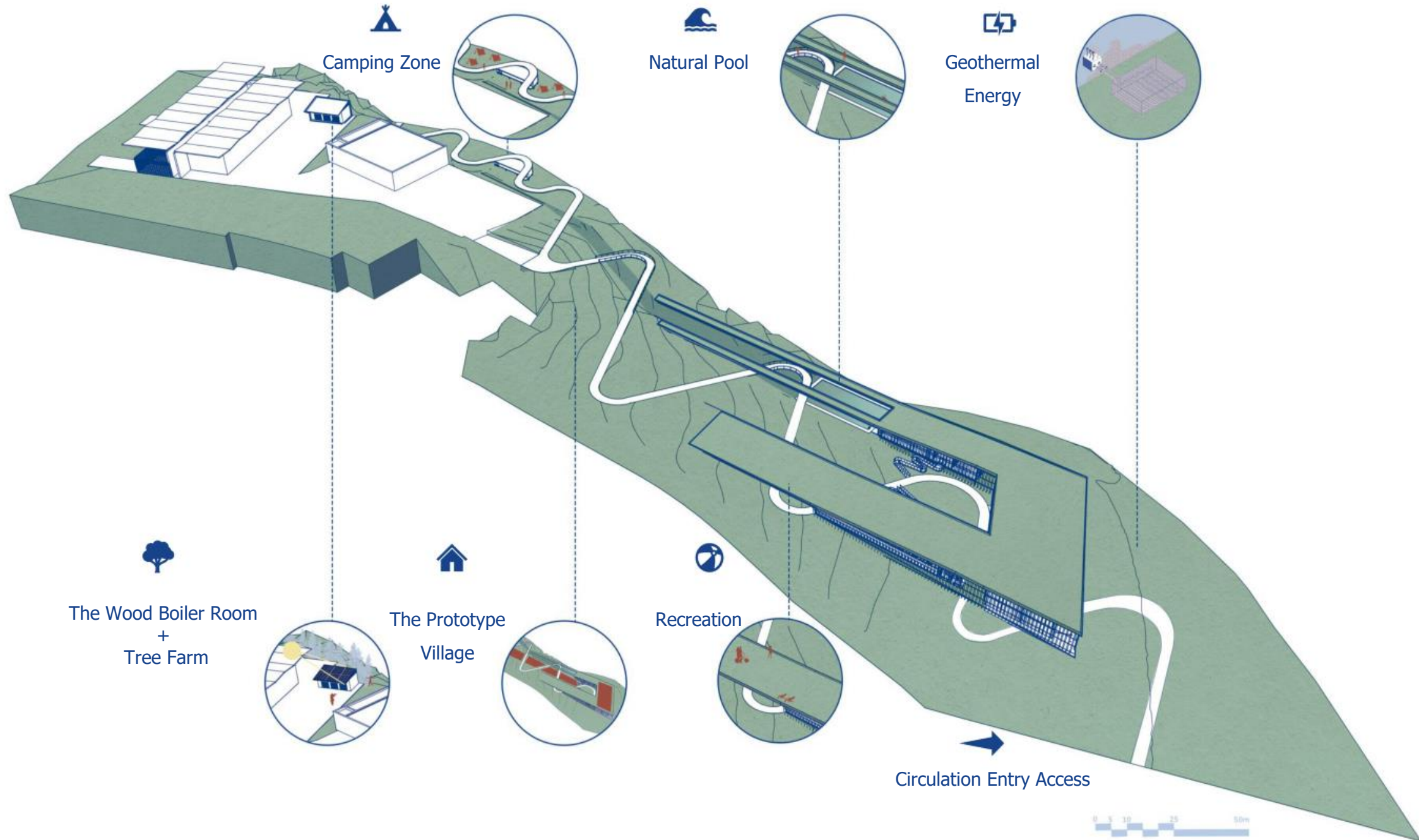


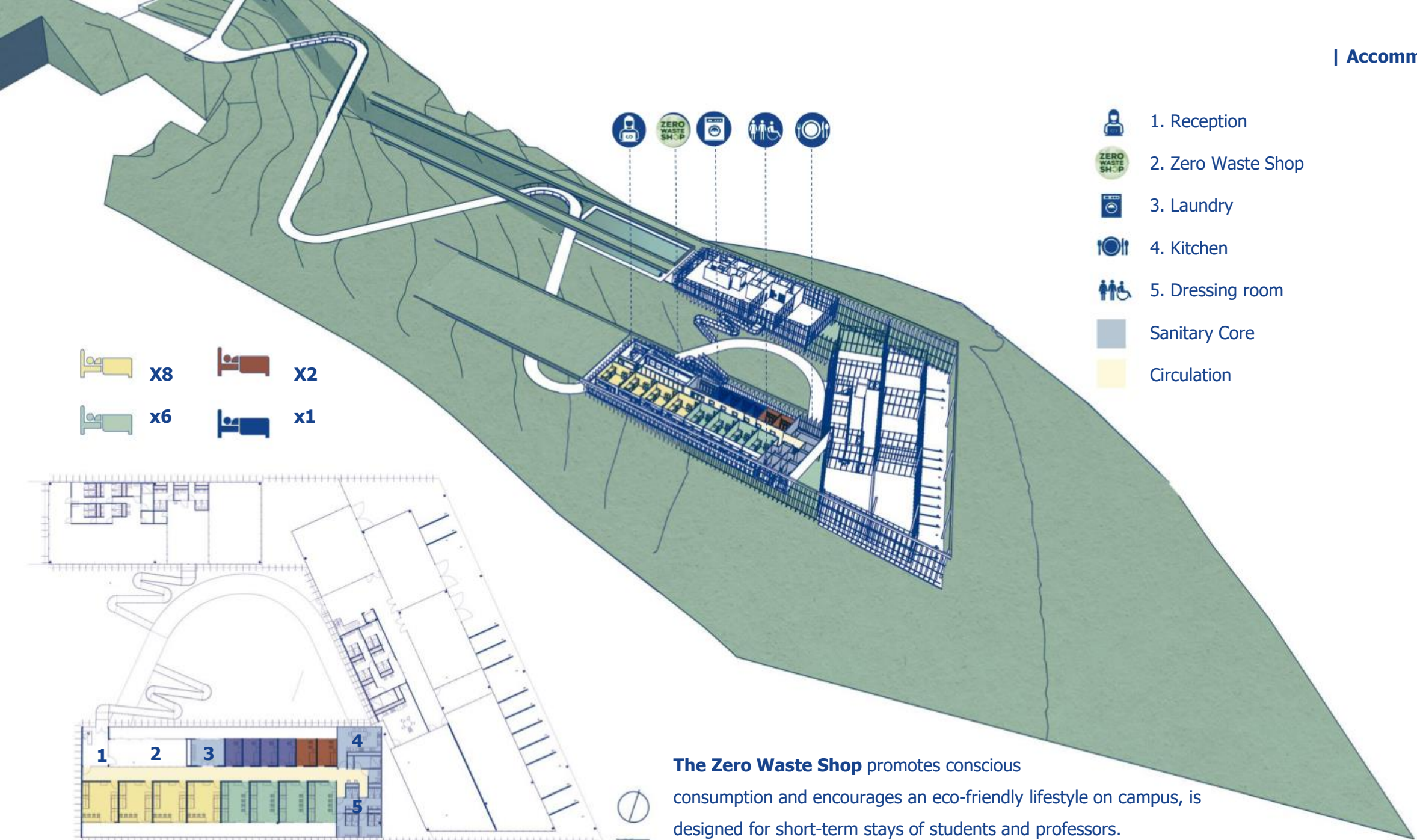
It promotes physical activity, social interaction, and architectural innovation, fostering a dynamic and eco-friendly environment for Les Grands Ateliers complex.

| Maison Création Main Entrance



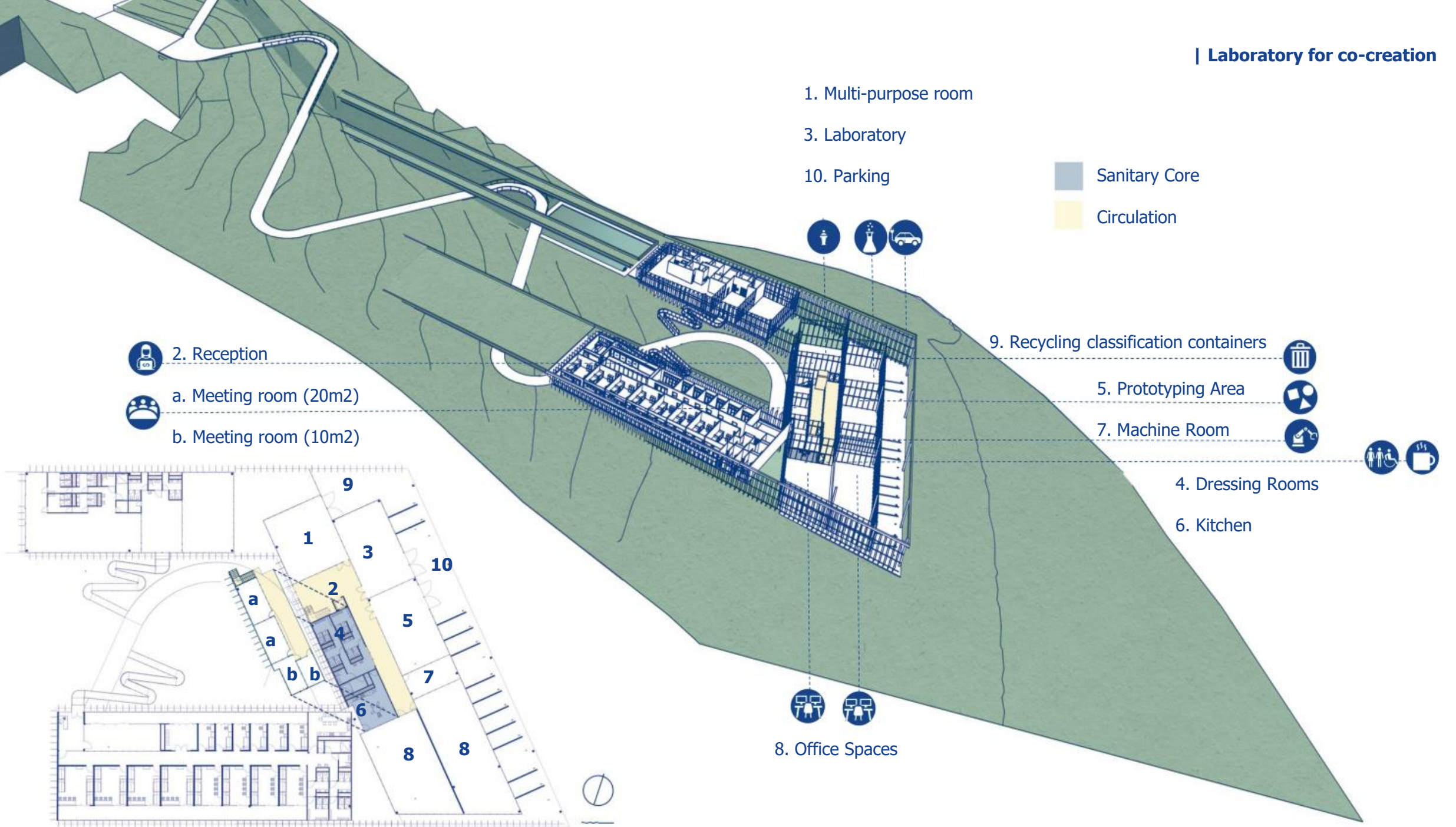
| Master Plan

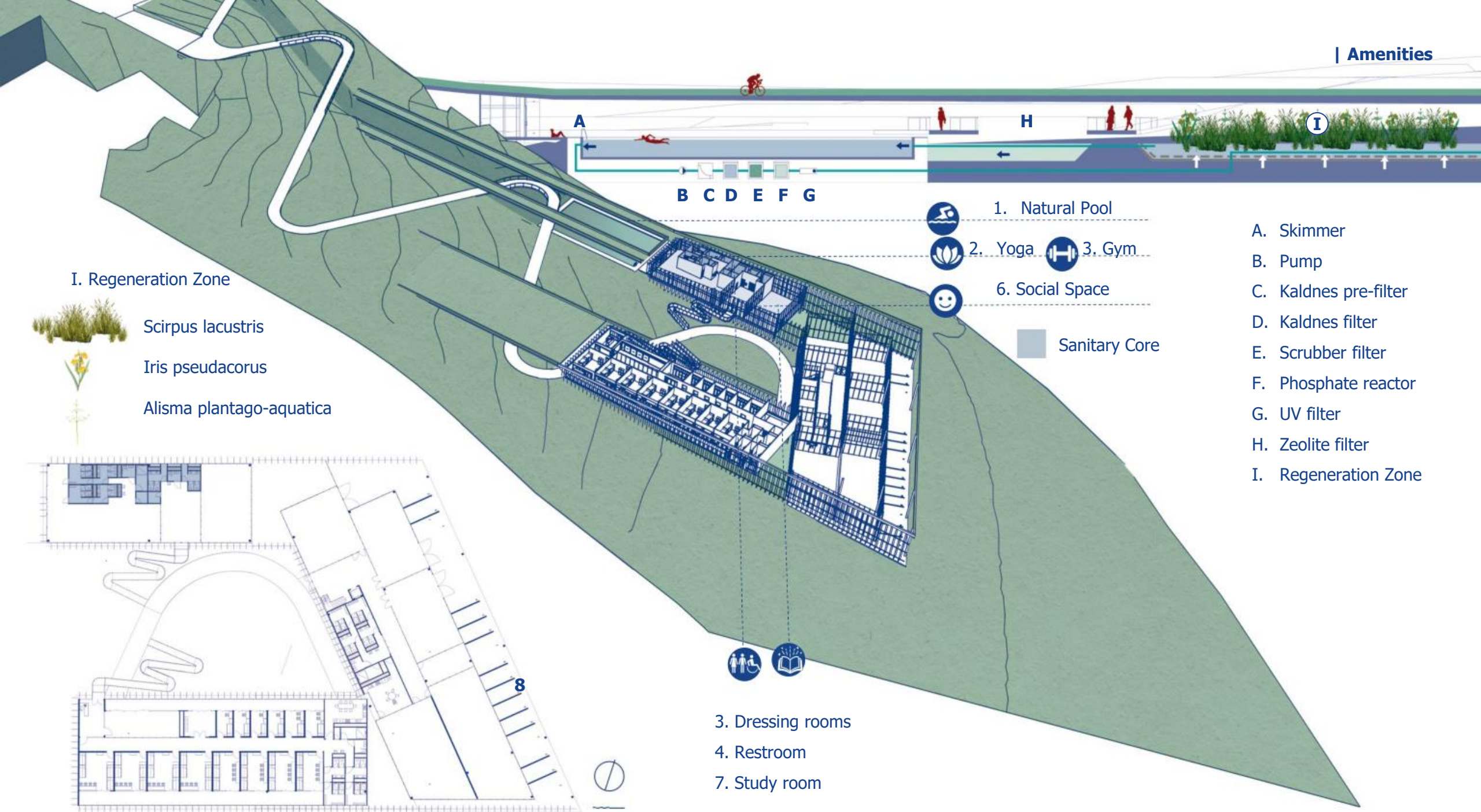







**The Zero Waste Shop** promotes conscious consumption and encourages an eco-friendly lifestyle on campus, is designed for short-term stays of students and professors.





| Laboratory for co-creation








I. Regeneration Zone

-  Scirpus lacustris
-  Iris pseudacorus
-  Alisma plantago-aquatica

-  1. Natural Pool
-  2. Yoga
-  3. Gym
-  6. Social Space

 Sanitary Core

- A. Skimmer
- B. Pump
- C. Kaldnes pre-filter
- D. Kaldnes filter
- E. Scrubber filter
- F. Phosphate reactor
- G. UV filter
- H. Zeolite filter
- I. Regeneration Zone

-  3. Dressing rooms
-  4. Restroom
-  7. Study room

8

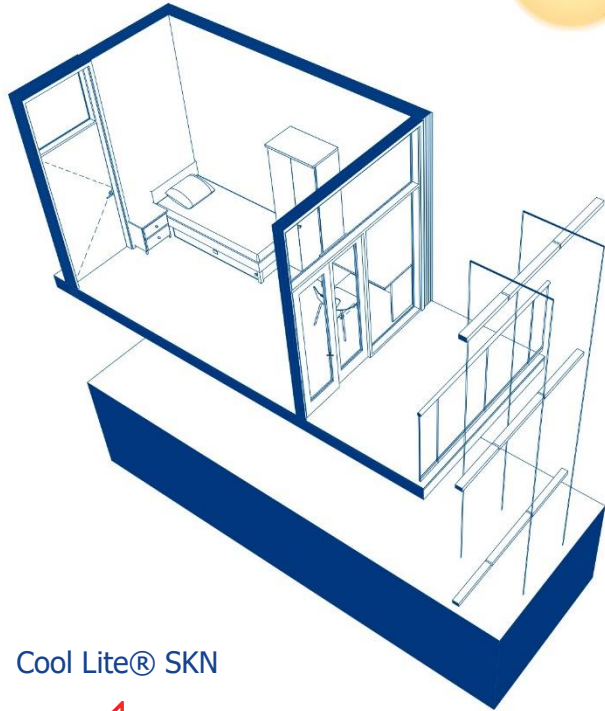


| Natural Pool



## | Sustainable Strategies

Partition Wall



Cool Lite® SKN



Priva-Lite



Saint-Gobain Silent Floor



Acoustic Comfort: 124 Rw (dB)



CO2 per m2: 50 kg



Heating Needs: 7.5 kWh/m2



Lighting Autonomy 300 Lux: 62.5%



Summer Comfort (Overheating % of season): 0%



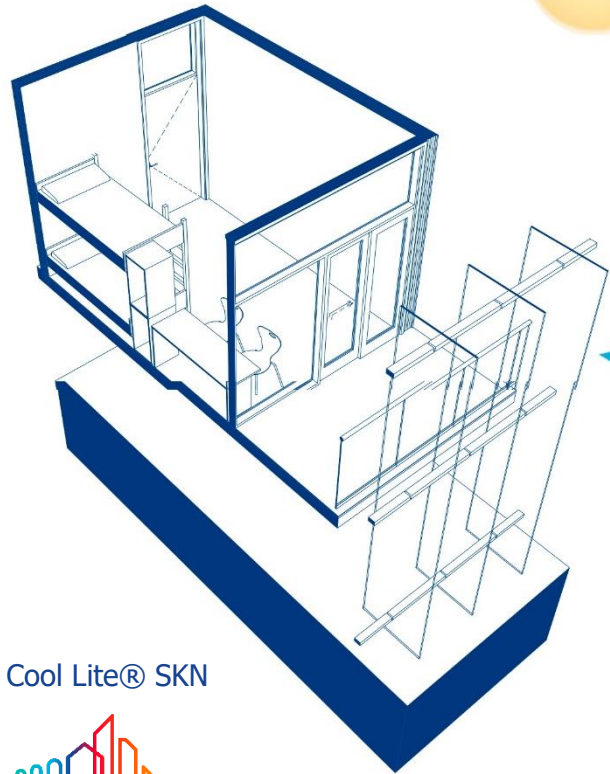
Single Room (10 m2)

By using the **SG SAVE-I Plug-In** during the design process, the building successfully meets the targets for heating needs, lighting autonomy, and summer comfort, ensuring energy efficiency and a comfortable indoor environment.

## | Sustainable Strategies



Partition Wall



Priva-Lite



Saint-Gobain Silent Floor



Cool Lite® SKN



Acoustic Comfort: 124 Rw (dB)



CO2 per m2: 50 kg



Heating Needs: 7.5 kWh/m2



Lighting Autonomy 300 Lux: 63%



Summer Comfort (Overheating % of season): 0%








Double Room (12 m2)

By using the **SG SAVE-I Plug-In** during the design process, the building successfully meets the targets for heating needs, lighting autonomy, and summer comfort, ensuring energy efficiency and a comfortable indoor environment.

## | Sustainable Strategies



-  Acoustic Comfort: 124 Rw (dB)
-  CO2 per m2: 50 kg
-  Heating Needs: 7.5 kWh/m2
-  Lightning Autonomy 300 Lux: 64%
-  Summer Comfort (Overheating % of season): 5%

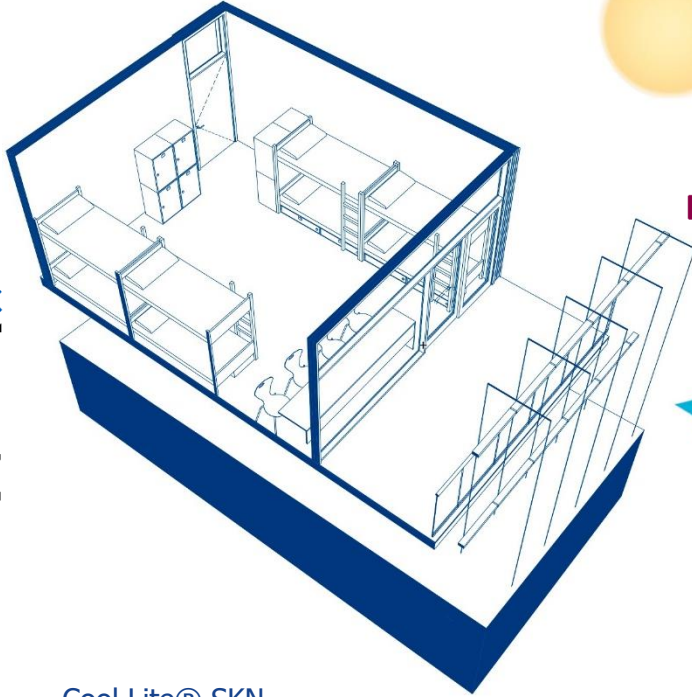


Dormitory 6 beds (25m2)

By using the **SG SAVE-I Plug-In** during the design process, the building successfully meets the targets for heating needs, lighting autonomy, and summer comfort, ensuring energy efficiency and a comfortable indoor environment.

## | Sustainable Strategies

Partition Wall  
**gyproc**  
SAINT-GOBAIN  
**isover**  
SAINT-GOBAIN  
**weber**  
SAINT-GOBAIN



**glassolutions**  
SAINT-GOBAIN

Priva-Lite



Saint-Gobain Silent Floor

**gyproc**  
SAINT-GOBAIN

**isover**  
SAINT-GOBAIN

**ecophon**  
SAINT-GOBAIN

Cool Lite® SKN



Acoustic Comfort: 124 Rw (dB)



CO2 per m2: 50 kg



Heating Needs: 7.0 kWh/m2



Lighting Autonomy 300 Lux: 65%



Summer Comfort (Overheating % of season): 5%



Dormitory 8 beds (30m2)

By using the **SG SAVE-I Plug-In** during the design process, the building successfully meets the targets for heating needs, lighting autonomy, and summer comfort, ensuring energy efficiency and a comfortable indoor environment.

| Laboratory for co-creation



# | Structure

## Glulam Load-Bearing Structure

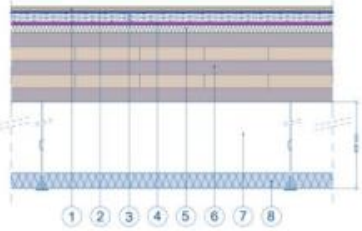
## Deltabeam Green

## Saint-Gobain Silent Floor



REI  
CLT180 (5 layers)

REI 90  
Load 6 kN/m<sup>2</sup> at a span width of 5 meters

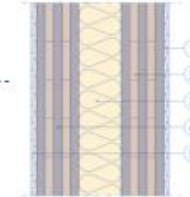


1. 14mm Parquet
2. 2mm Foam
3. 2x12.5mm Gyproc GG13 Floor plasterboard
4. 12mm Aprobo Decibel 4
5. 2mm Glava footstep impact sound board
6. 180mm CLT element
7. 30mm Air Gap suspended ceiling
8. 40mm Ecophonmaster A

## Deltabeam Green



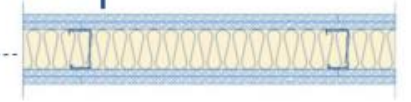
REI 60  
µfi 10%



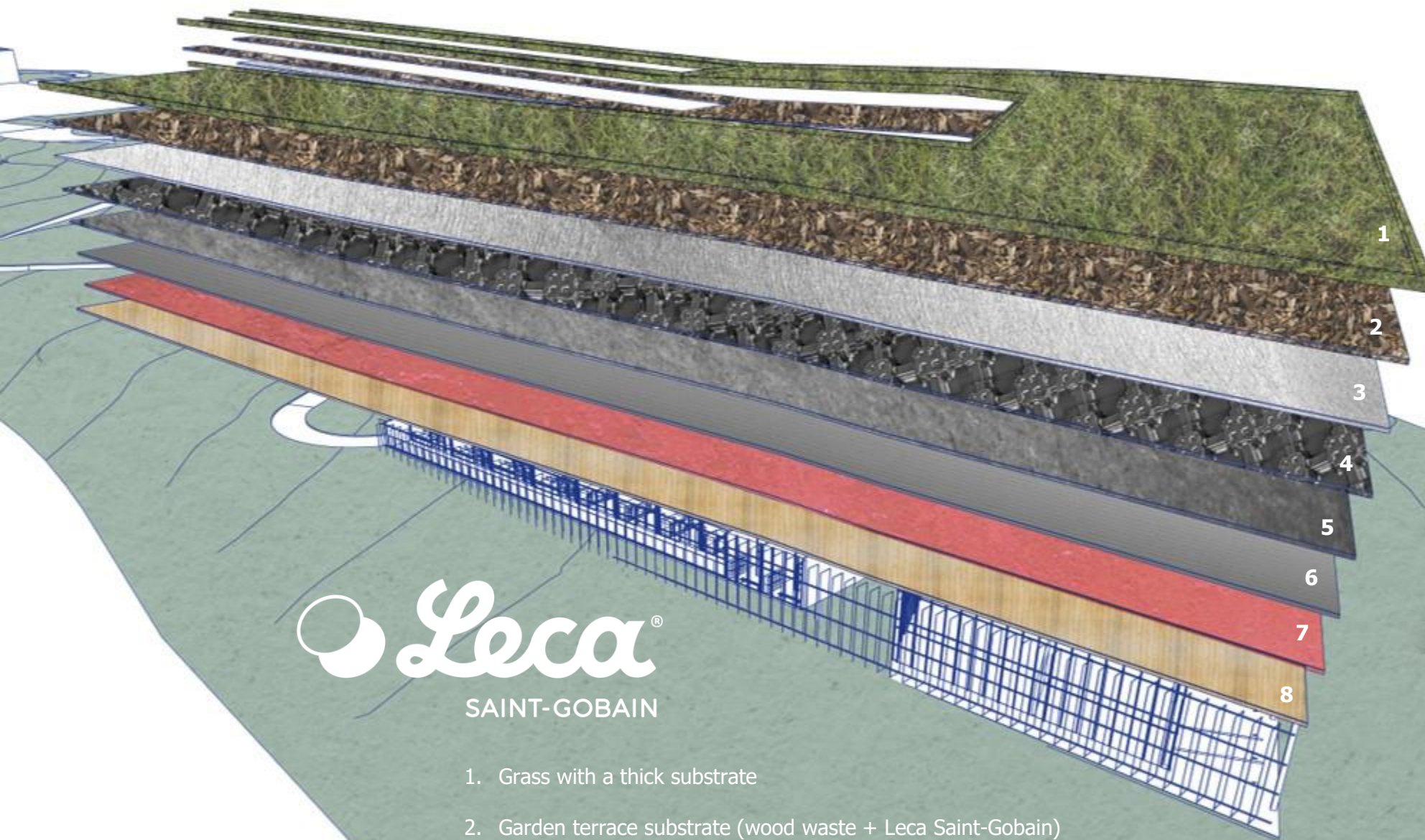
1. 12.5mm Gyproc GNE 13 Normal
2. 80mm CLT element
3. 50mm ISOVER Cavity Wall Board 32
4. 80mm CLT element
5. 12.5mm Gyproc GNE 13 Normal



EI 60



1. 12.5mm Glasroc H GH013 Ocean
2. 12.5mm Glasroc H GH013 Ocean
3. 70mm Gyproc ER 450 with
4. 70mm ISOVER Piano Sound Board
5. 12.5mm Glasroc H GH0 13 Ocean
6. 12.5mm Glasroc H GH0 13 Ocean



 **Leca**<sup>®</sup>  
SAINT-GOBAIN

1. Grass with a thick substrate

2. Garden terrace substrate (wood waste + Leca Saint-Gobain)

3. SF Filter

4. FD 60 Neo floor drain with Zincolit Plus, integrated water collection for green space maintenance

5. FISM 50 protective mat

6. WSB 100-PO anti-root vent

7. Waterproofing

8. CLT roof

## | Sustainable Strategies





Villefontaine experiences low temperatures most of the year, with a comfort range of 20–24°C and peaks of 26°C in July and August.

The design uses biomass, a green roof, and geothermal energy to maintain indoor warmth.

### A. Biomass heating

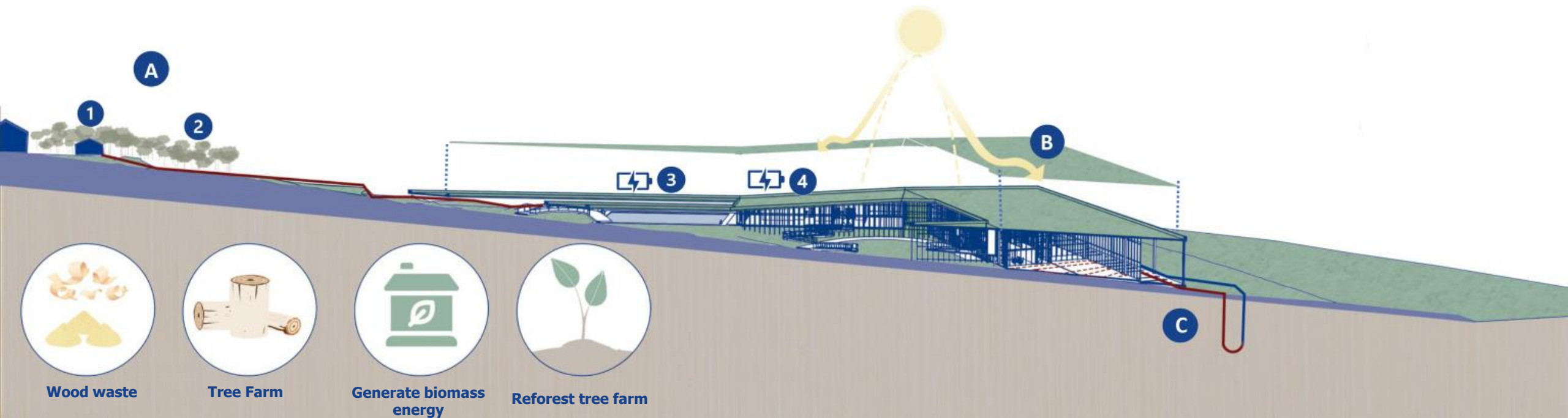
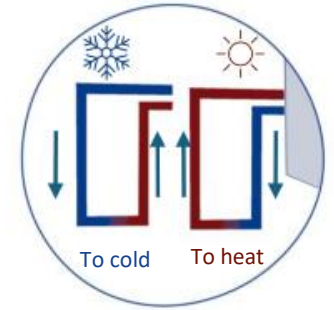
1. The wood boiler room
2. Tree farm
3. Heating supply for natural pool
4. Heating for amenities building.

### B. Green Roof

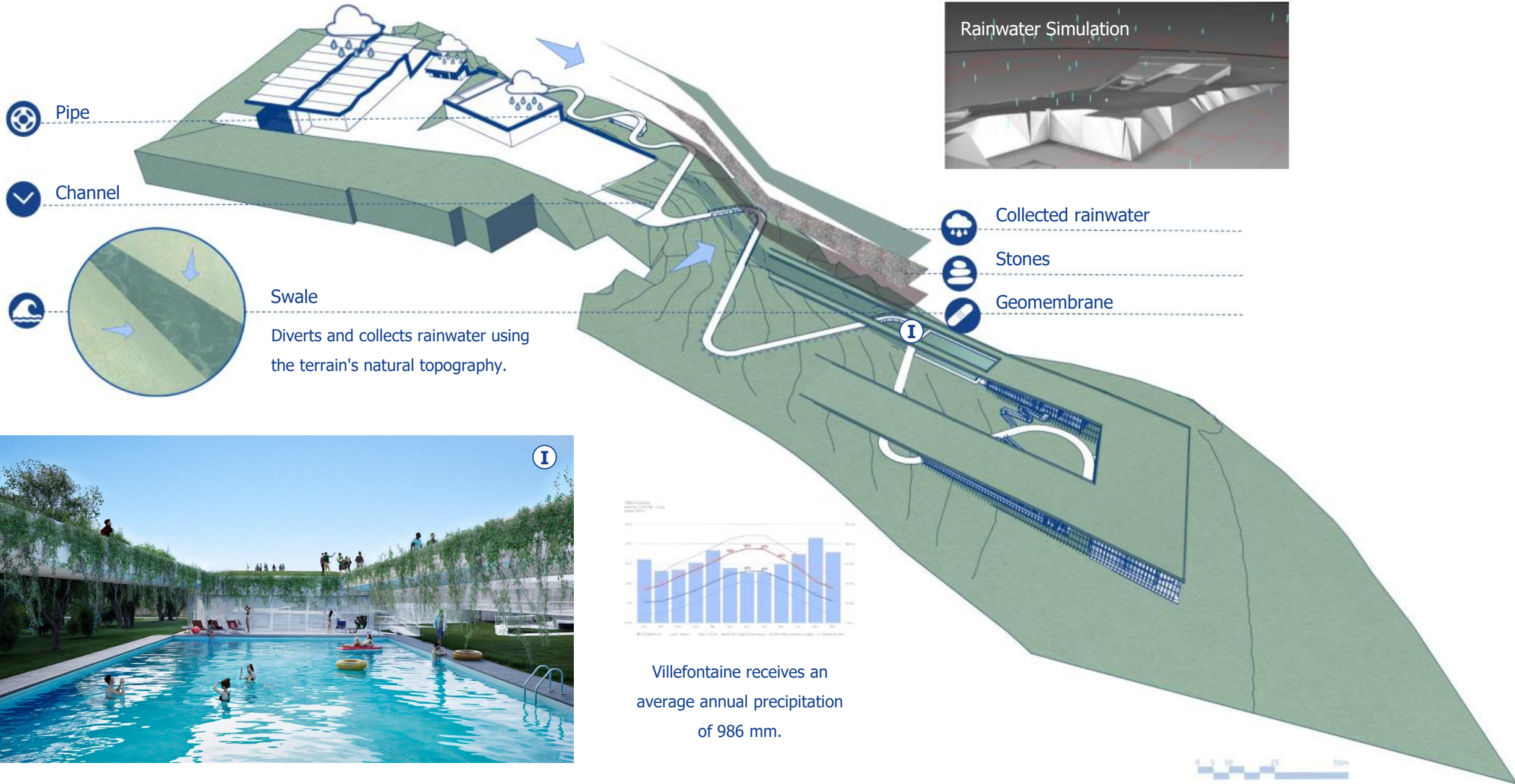
-  Retains rainwater
-  Promotes biodiversity
-  Ensures efficient use of consumed energy
-  Regulates building temperature.

### C. Geothermal heating

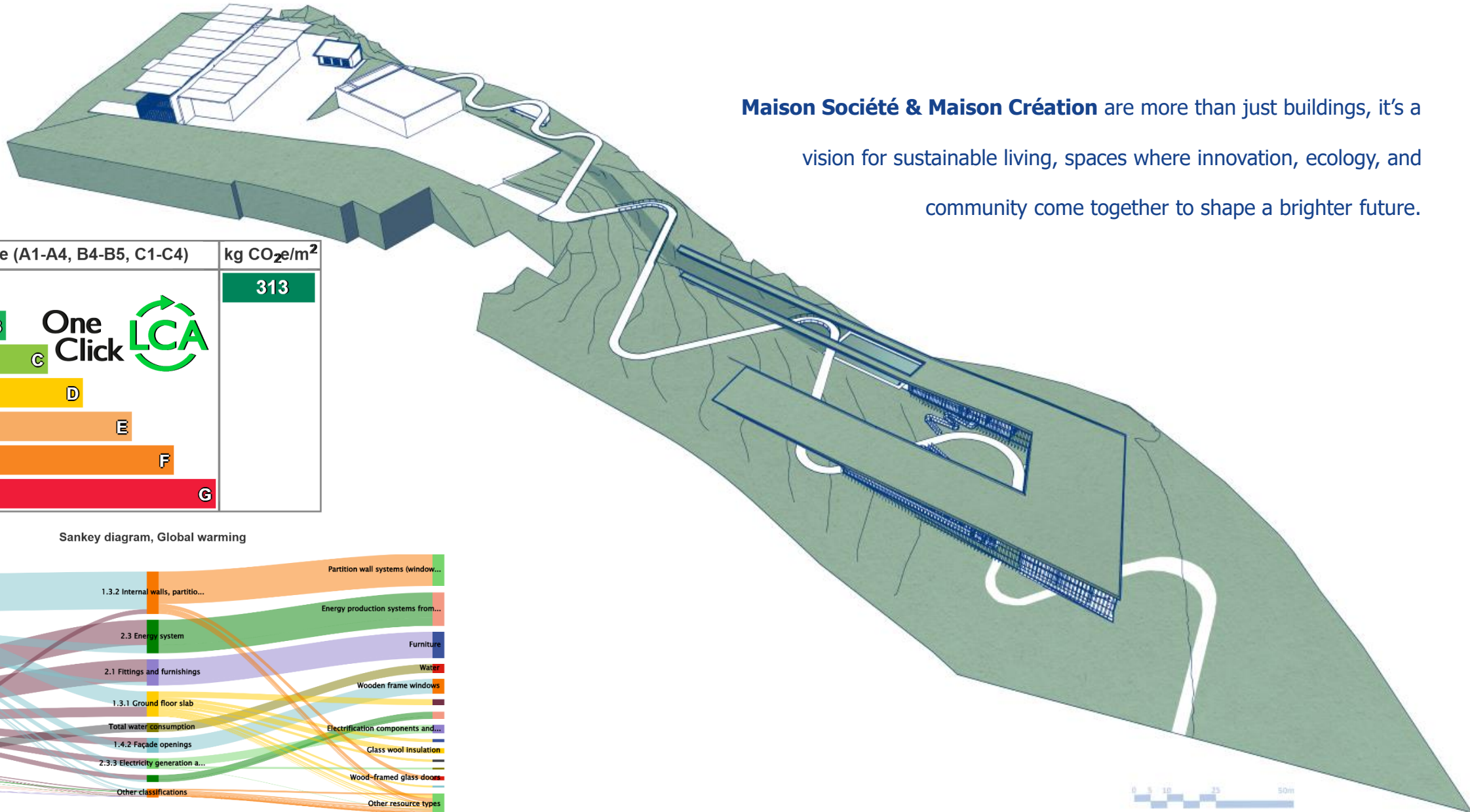
Underfloor heating and energy generation for the complex



# | Sustainable Strategies



## | Sustainable Strategies

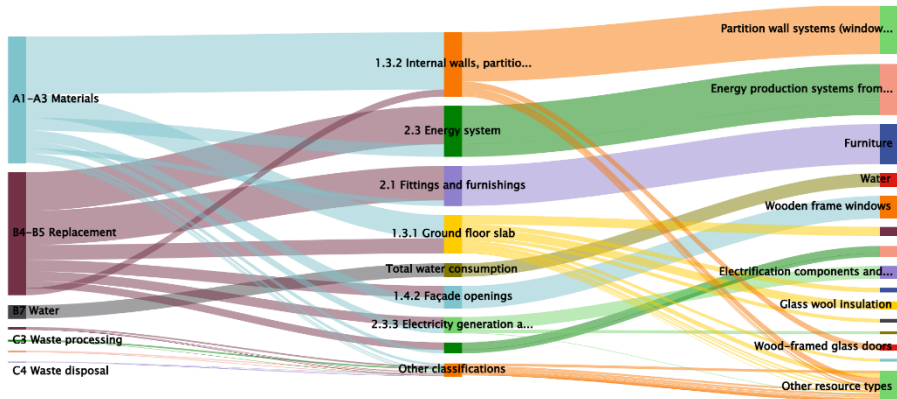


**Maison Société & Maison Création** are more than just buildings, it's a vision for sustainable living, spaces where innovation, ecology, and community come together to shape a brighter future.

Cradle to grave (A1-A4, B4-B5, C1-C4)	kg CO <sub>2</sub> e/m <sup>2</sup>
(< 350) <b>A</b>	<b>313</b>
(350-530) <b>B</b>	
(530-710) <b>C</b>	
(710-890) <b>D</b>	
(890-1070) <b>E</b>	
(1070-1250) <b>F</b>	
(> 1250) <b>G</b>	



Sankey diagram, Global warming



# Maison Création

