

ZERO+ | HOUSE OF THE FEWs | Architectural Design Studio 2 | Spring 2017 | Critics: Simone Giostra, Hope Strode



ZERO+ | SOCIAL CONTRACT



Tribal Structure - Village in Congo

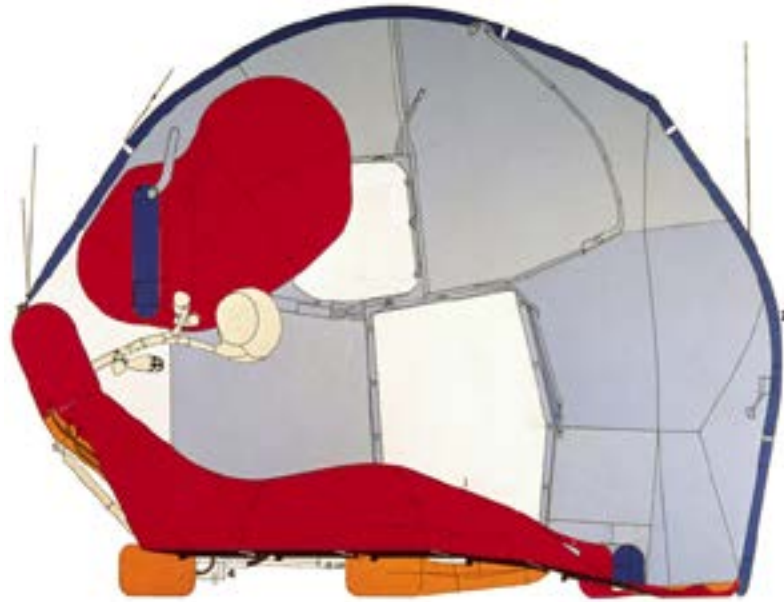


Social Cohesion - Arabic City



Individual Value - Suburbs in the US

ZERO+ | THE ROLE OF THE INDIVIDUAL



Michael Webb's Cushicle mobile environment, 1966



Yanomami Village in Brazil

ZERO+ | SPECIFIC VS. GENERIC



Pruitt-Igoe Housing Development



Dumbo Factory Buildings

ZERO+ | THE POLITICAL FACTOR



'Cities are our greatest invention'
Edward Glaeser, *The Triumph of the City*

ZERO+ | TRIUMPH OF THE CITY?



Urbino, Italy

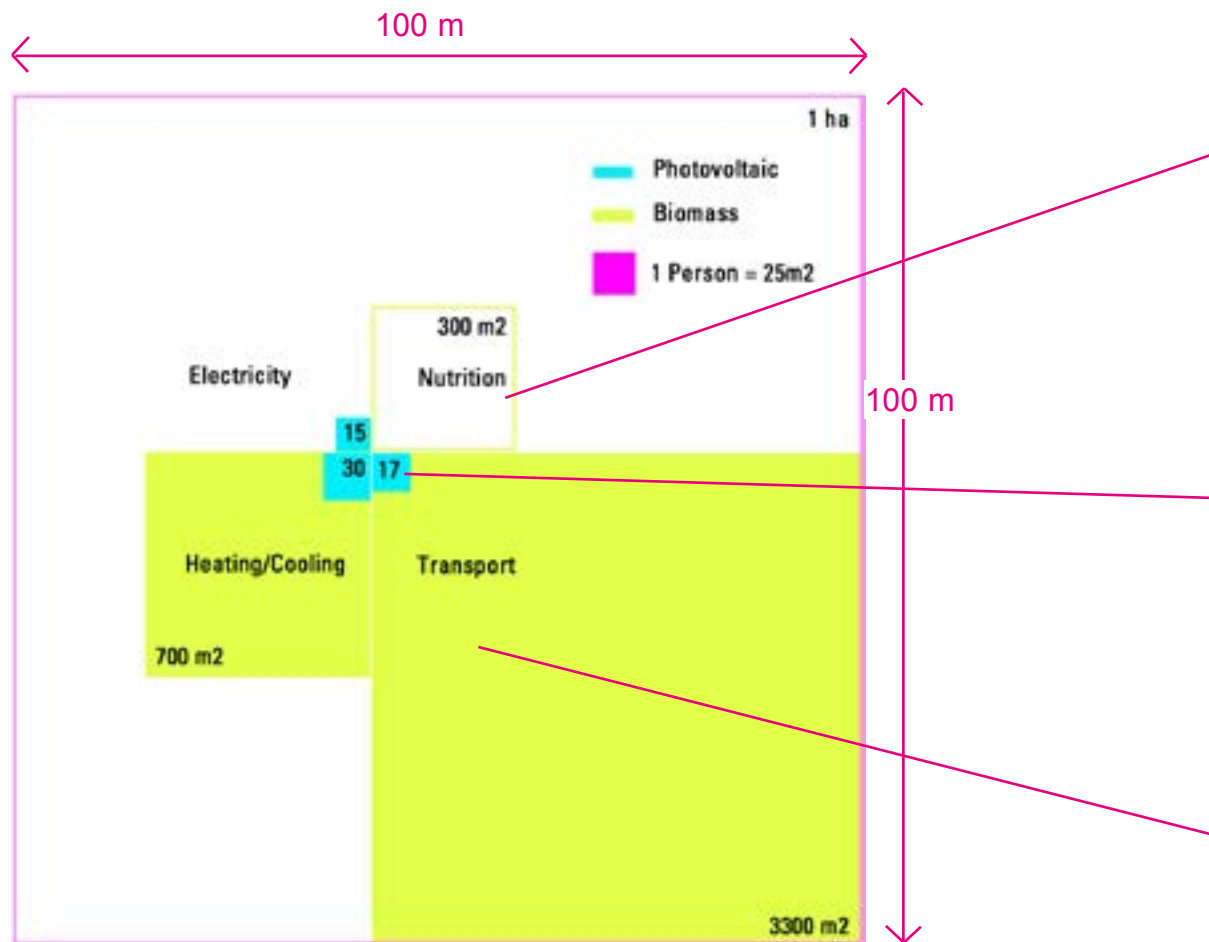


London, UK

Directive 2010/31/EU of the European Parliament

Article 9: 'Member states shall ensure that: (A) by 31 December 2020, *all new buildings are nearly zero-energy buildings [...]*'

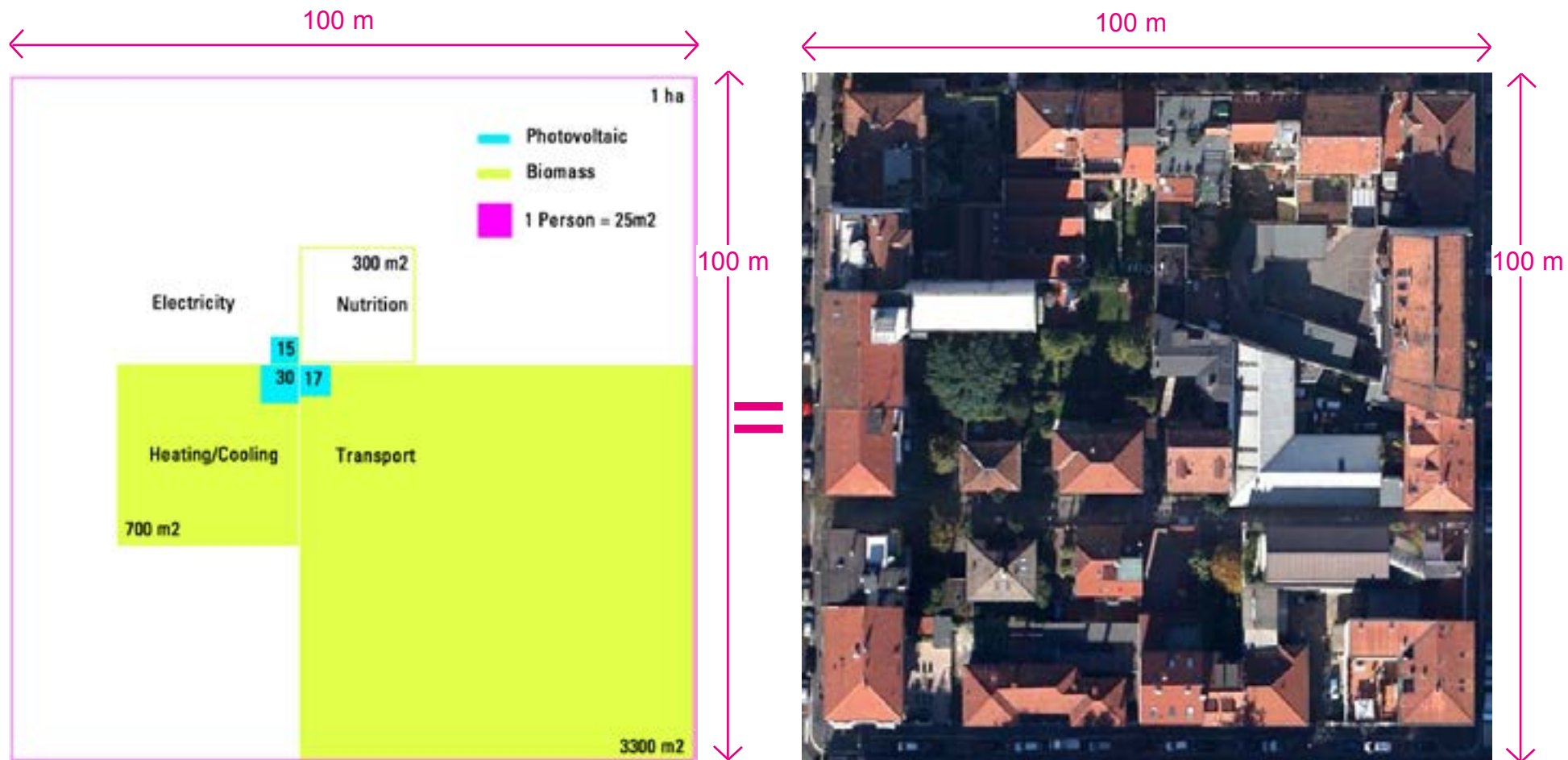
ZERO+ | TOWARD A NEARLY-ZEB CITY



Dimensional implications (Scognamiglio/Annunziato/Ossenbrink)

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ZERO+ | ENERGY FOOTPRINT



Dimensional implications (Scognamiglio/Annunziato/Ossenbrink)

Milan's typical city block

ZERO+ | THE URBAN/RURAL DIVIDE



Lorenzetti's "Effetti del Buon Governo" - 1339, Siena



Extravagant design in Wolfsburg, Germany



Brown coal mining in Lausitz, Germany (J. Henry Fair)

ZERO+ | THE URBAN/RURAL DIVIDE



Lorenzetti's "Effetti del Buon Governo" - 1339, Siena

ZERO+ | THE URBAN/RURAL DIVIDE



Extravagant design in Wolfsburg, Germany



Brown coal mining in Lausitz, Germany (J. Henry Fair)



Lorenzetti's "Effetti del Buon Governo" - 1339, Siena

How will the European city transform under the combined forces of:
1) **CLIMATE CHANGE** and
2) **NEW EUROPEAN ENERGY POLICY** ?

ZERO+ | THE URBAN/RURAL DIVIDE



Lorenzetti's "Effetti del Buon Governo" - 1339, Siena

What are the implications of introducing food, energy and waste in the **urban fabric**?

ZERO+ | THE CHALLENGE



+



= ?



Challenge: Offsetting environmental cost of cities

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ZERO+ | HAVE YOU GOT TOMATOES?



My Kingdom: Facebook game that involves virtual farming, time management and city building

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ZERO+ | WHAT ARE THE FEWs?

FOOD:

ENERGY:

WASTE:



Aquaculture



Hydroponics



Photovoltaic



Sewage treatment



Urban farming



Irrigated farming



Biomass



Natural water purification



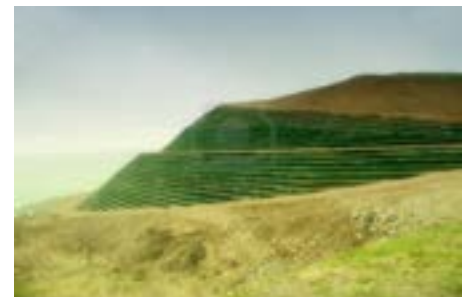
Greenhouse



Farmer market



Methane



Waste landfill

ZERO+ House of the FEWs

ZERO+ | WHAT ARE THE FEWs?

FOOD:

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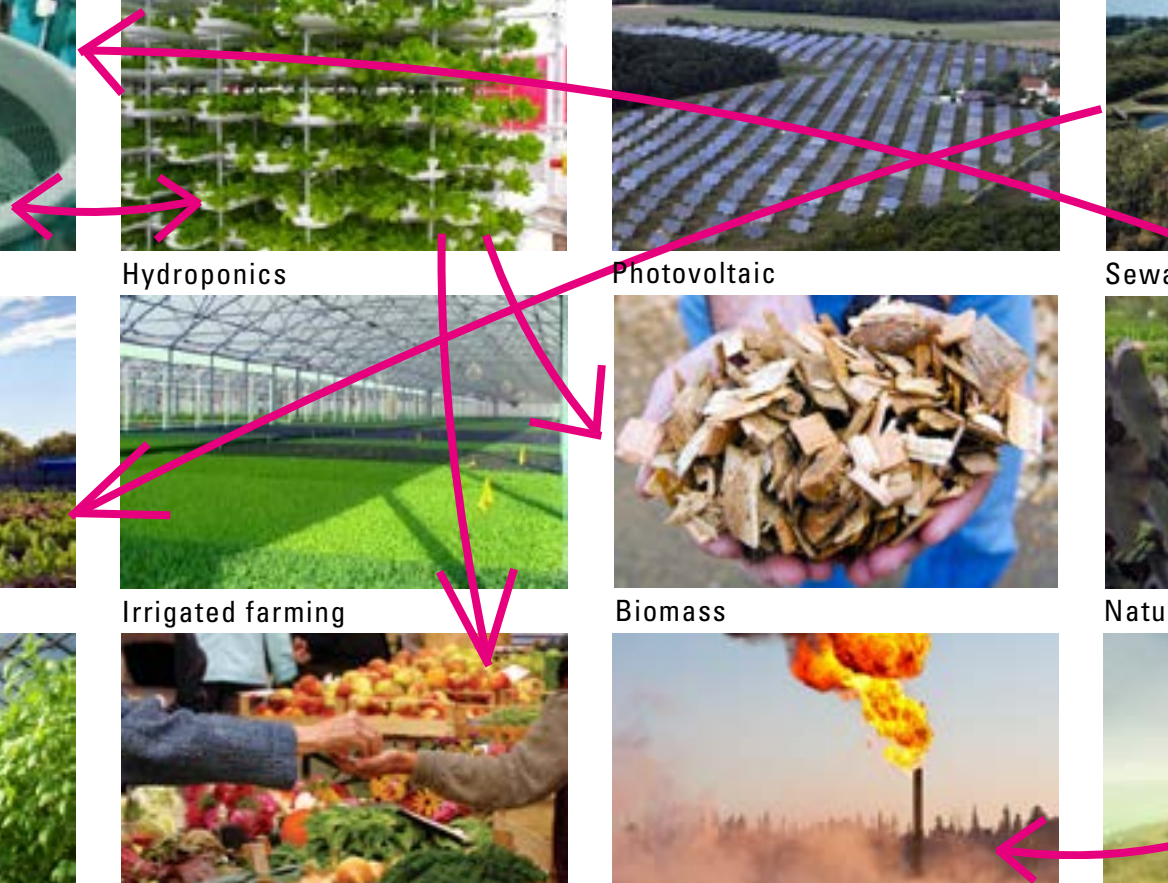
Farmer market



Methane



Waste landfill





“Forms are inherently visible and no longer can ‘form follow function’, because the **significant functions are invisible.**”
Buckminster Fuller

ZERO+ | INVISIBLE FORCES

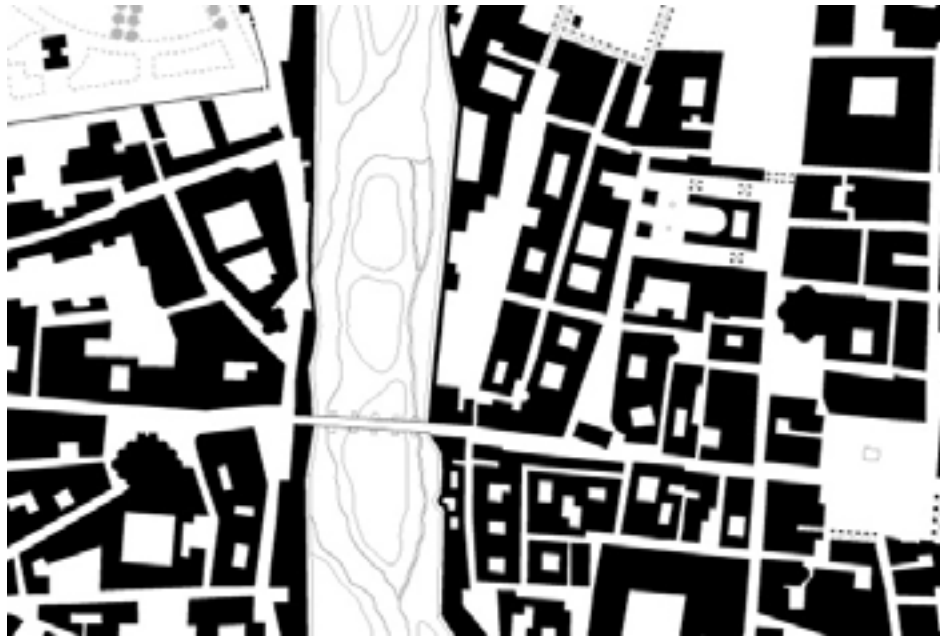
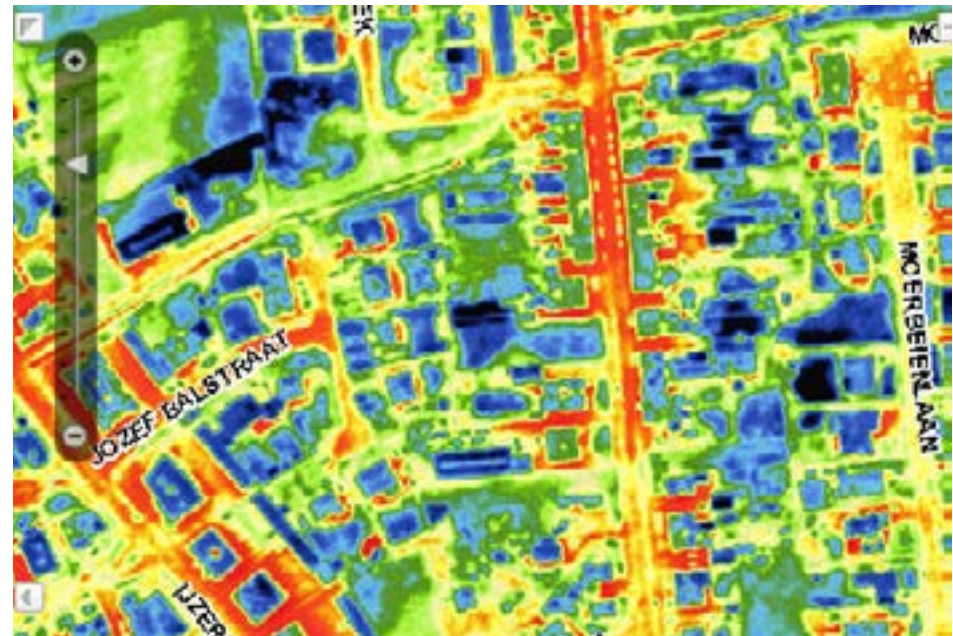


Figure-ground of Parma, IT



Infrared imagery, Belgium

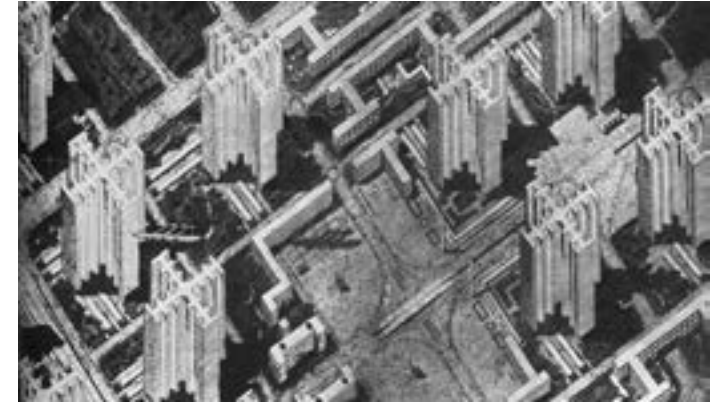
ZERO+ | ENERGY LANDSCAPES



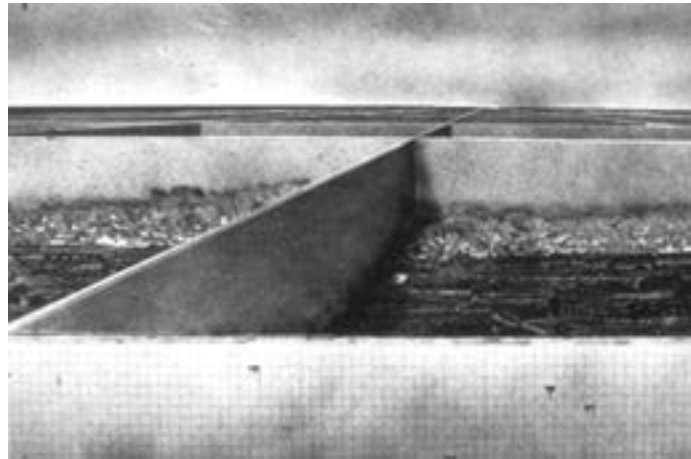
ZERO+ | THE EXTENDED CITY



Frank Lloyd Wright's Broadacre City



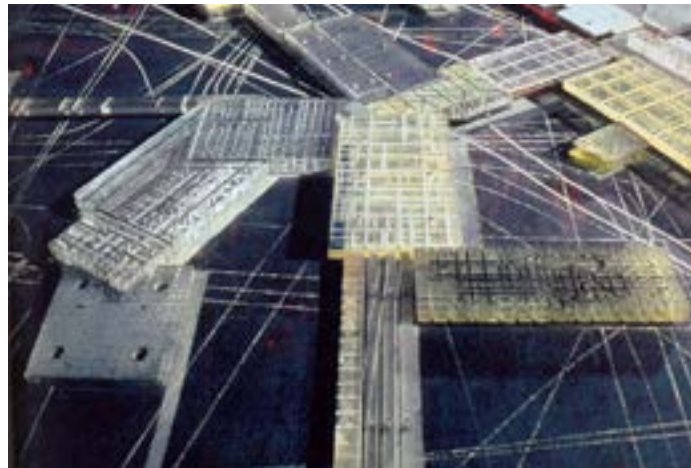
Le Corbusier's Plan Voisin



Superstudio's 2,000 Ton City



Site's Highrise of homes

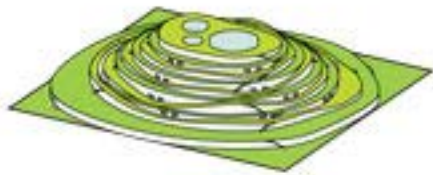


Constant's Babylon



MVRDV's Pig City

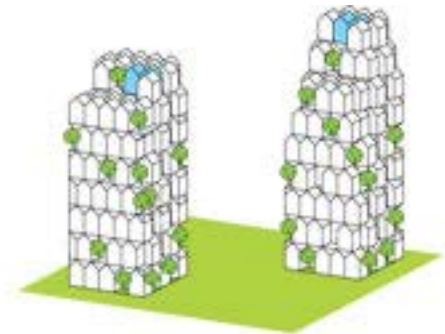
ZERO+ | HYBRID URBAN MODELS



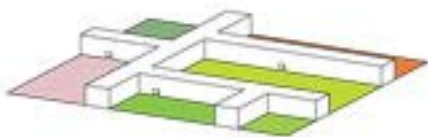
COMPOST HILL
TERRACED HOUSING
+
METHANE DOME
+
SPIRAL PARK



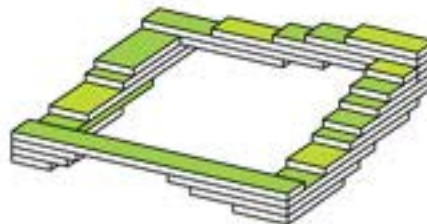
THRU-DE-SAC
CUL-DE-SAC COURTYARDS
+
GEOTHERMAL
+
FORAGING GARDENS



TOWER OF HOUSES
STACKED LIVE-WORK "HOUSES"
+
WATER PRESSURE WATERFALL
+
FARMER'S MARKET



FIELD HOUSES
BROWNSTONES
+
GEOTHERMAL
+
COMMUNITY GARDENS



ANGLE
STEPPED SLABS
+
WILDLIFE PASS-THROUGH
+
ROOFTOP LANDSCAPES



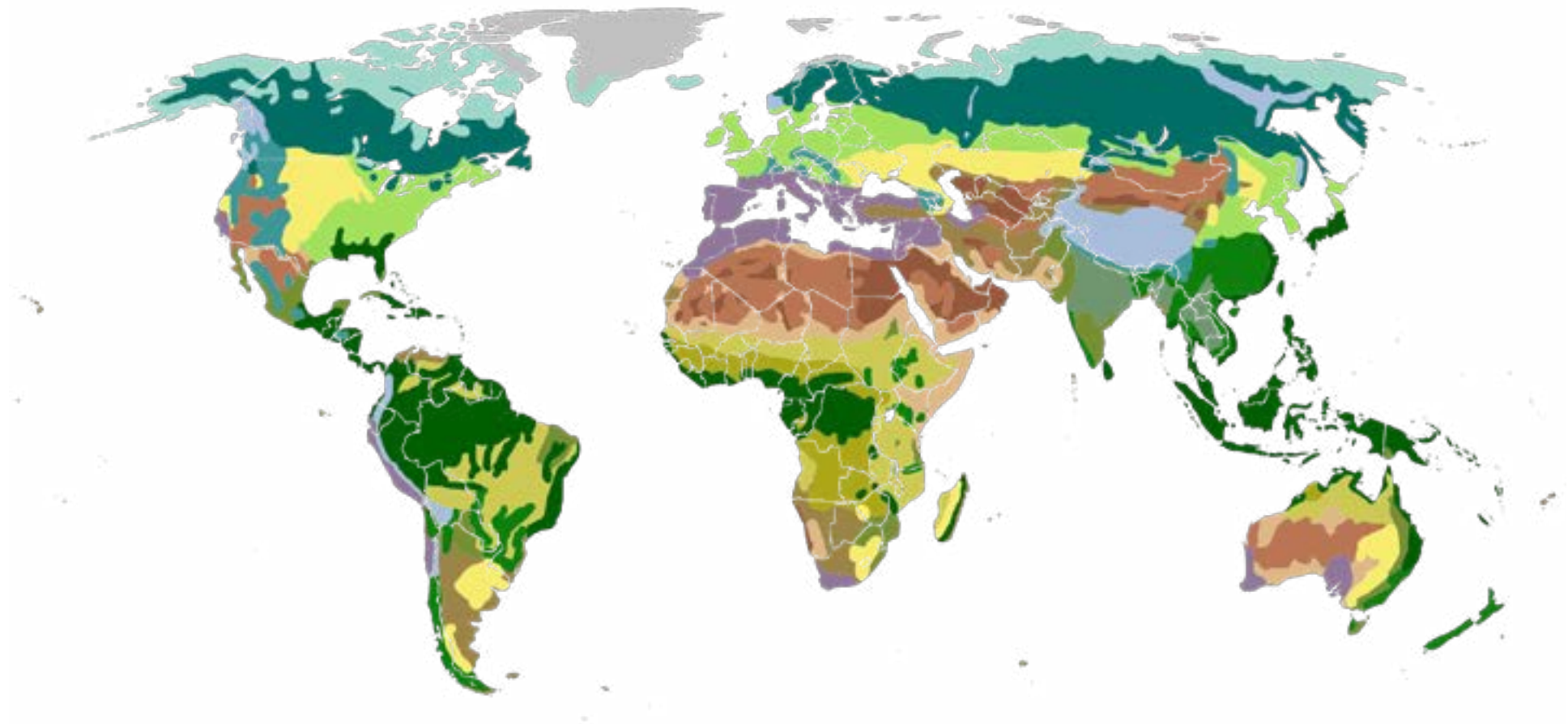
HOUSING BRIDGE
PARTY-WALL, MULTI-FAMILY HOUSES
+
LANDSCAPE BRIDGE
+
CARVED COURTYARDS

New hybrid typologies by Work AC

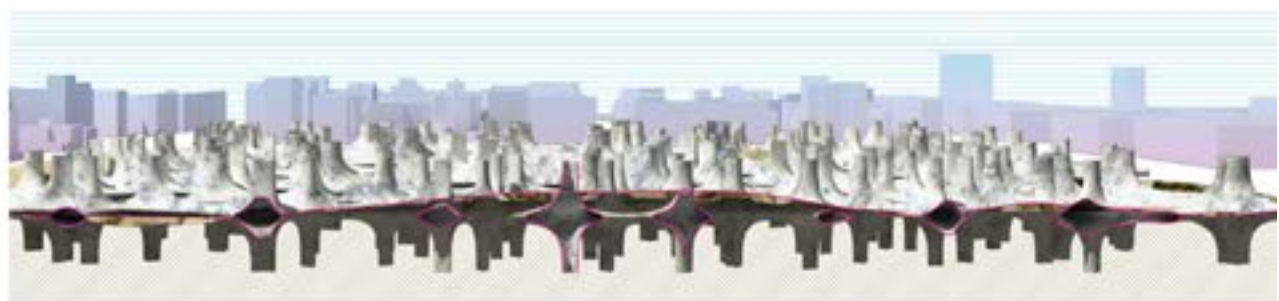
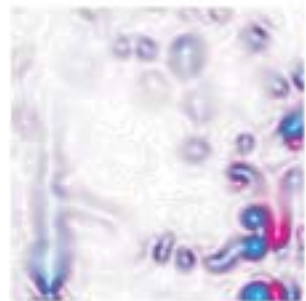
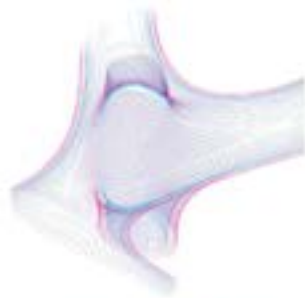
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ZERO+ | SITE: WORLD'S BIOMES

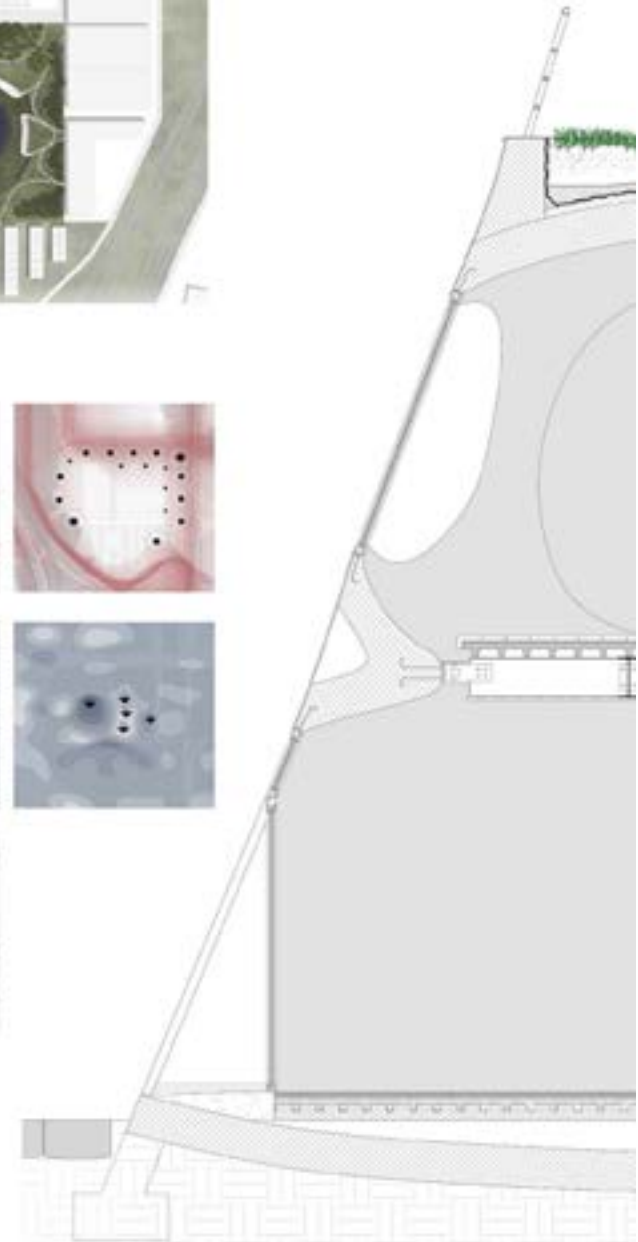
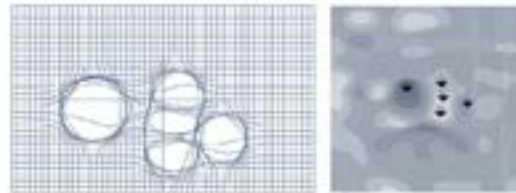
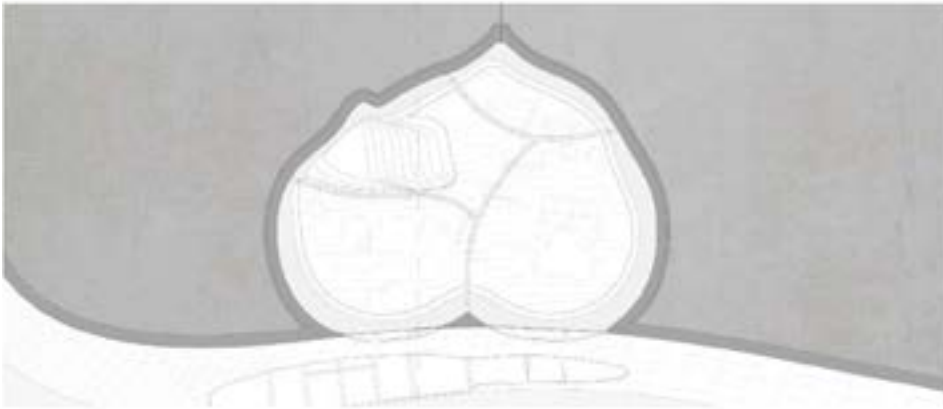
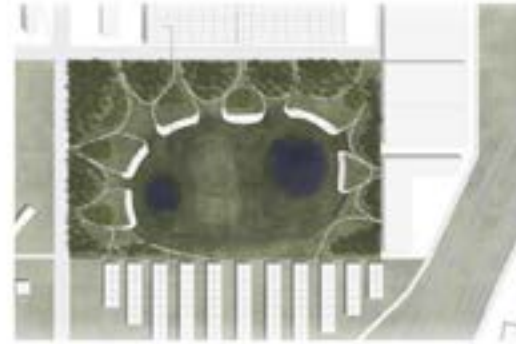
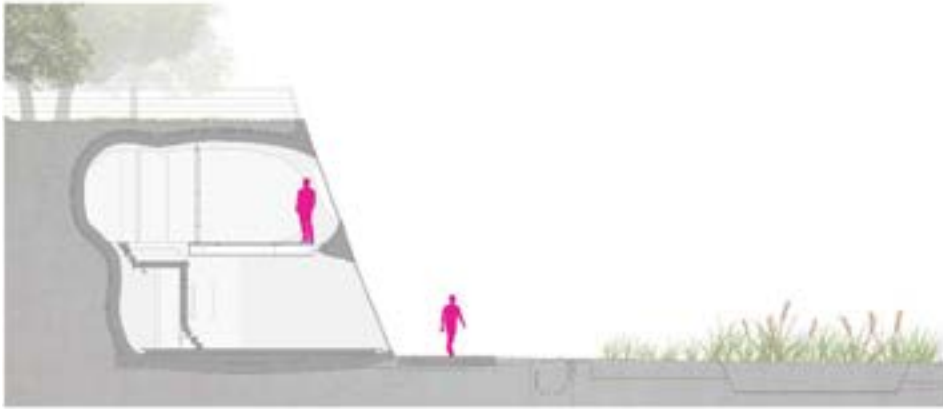


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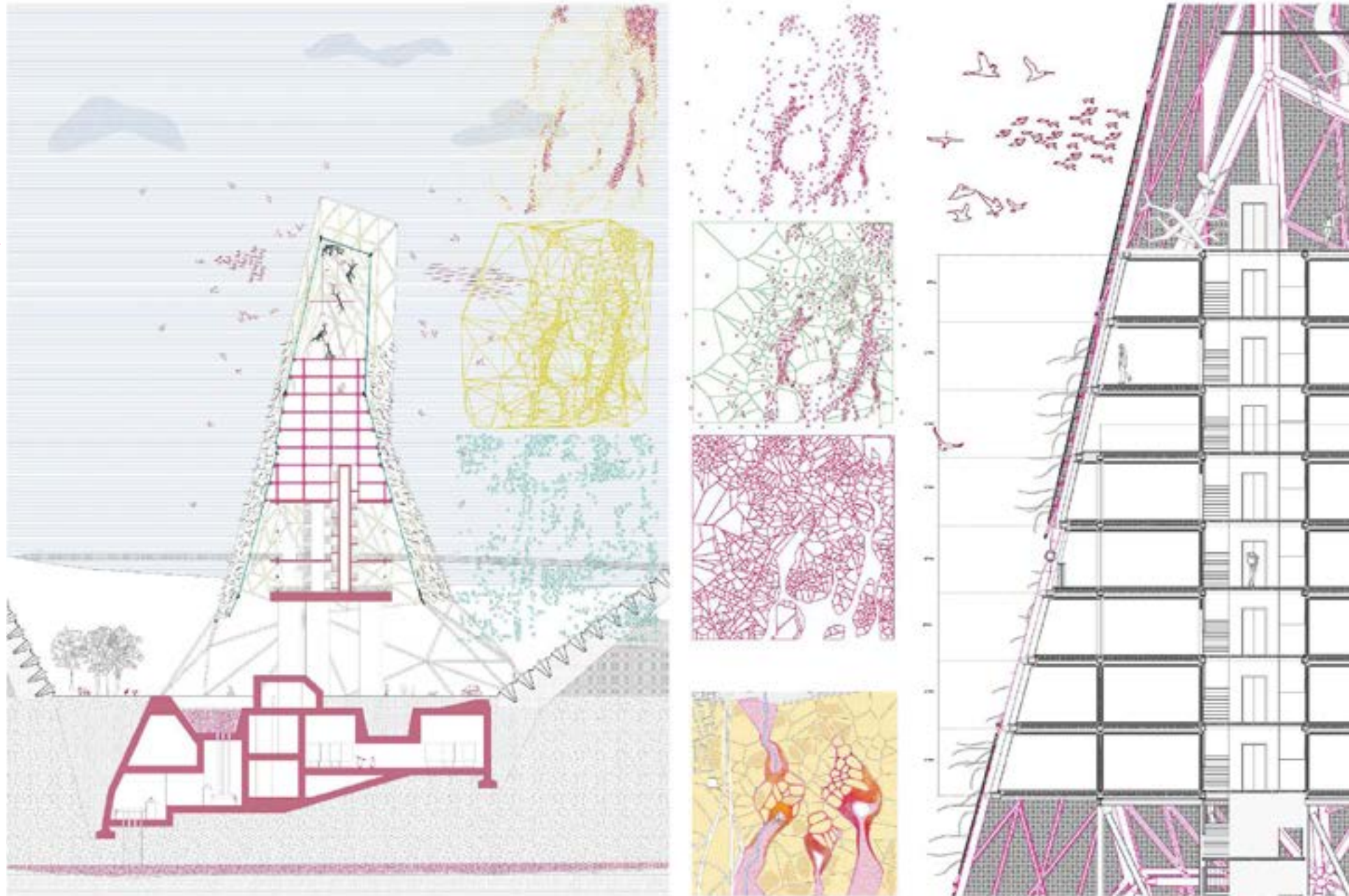
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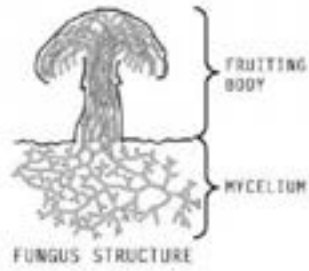
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#Living-the-Ground #student-Campans

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#Vortex #student-Tropu

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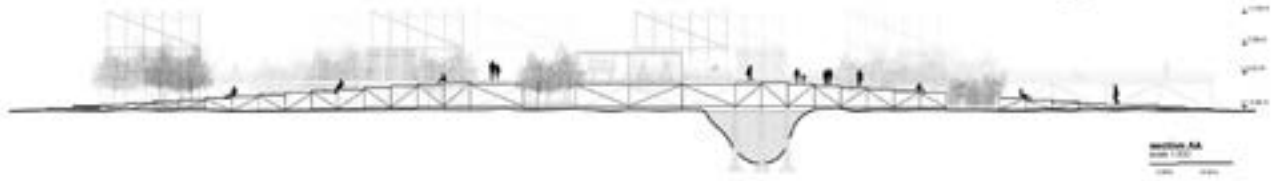
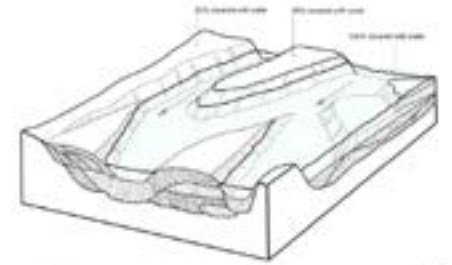


- ① Low slabs
- ② Mycelium support
- ③ Filter Panels
- ④ Biomass Layer
- ⑤ Filter Panels
- ⑥ Pre-Insulation Layer
- ⑦ Soil Barrier
- ⑧ Substrate Soil



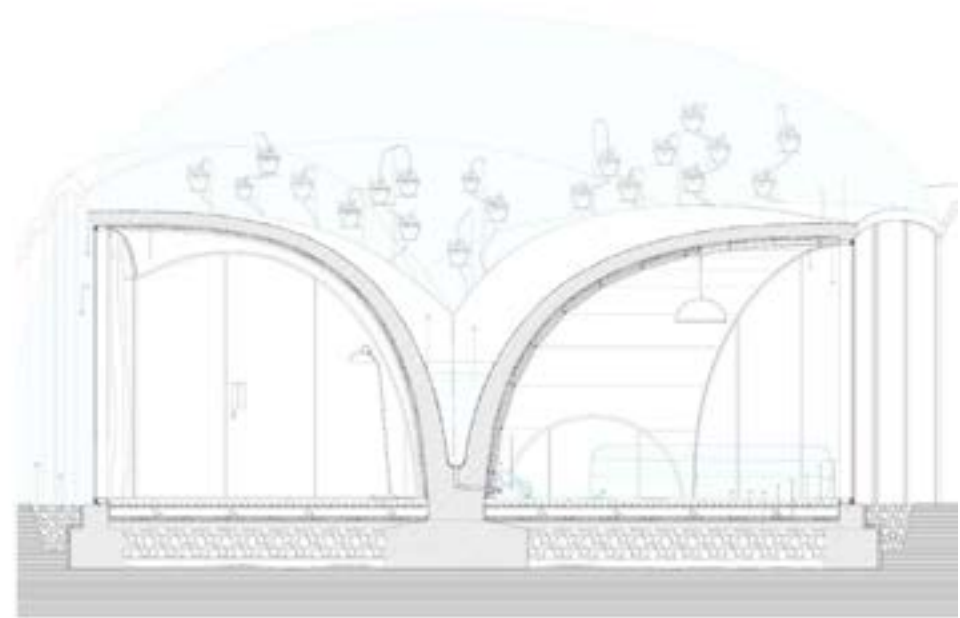
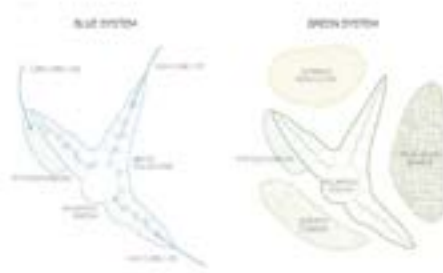
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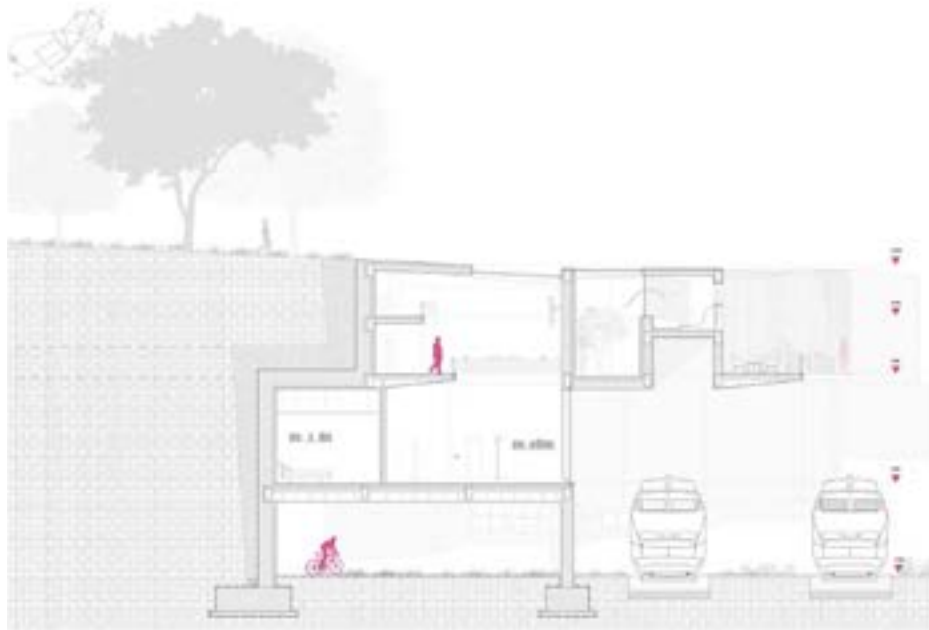
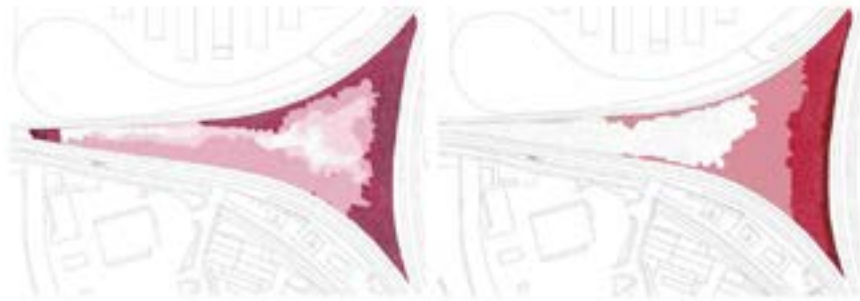
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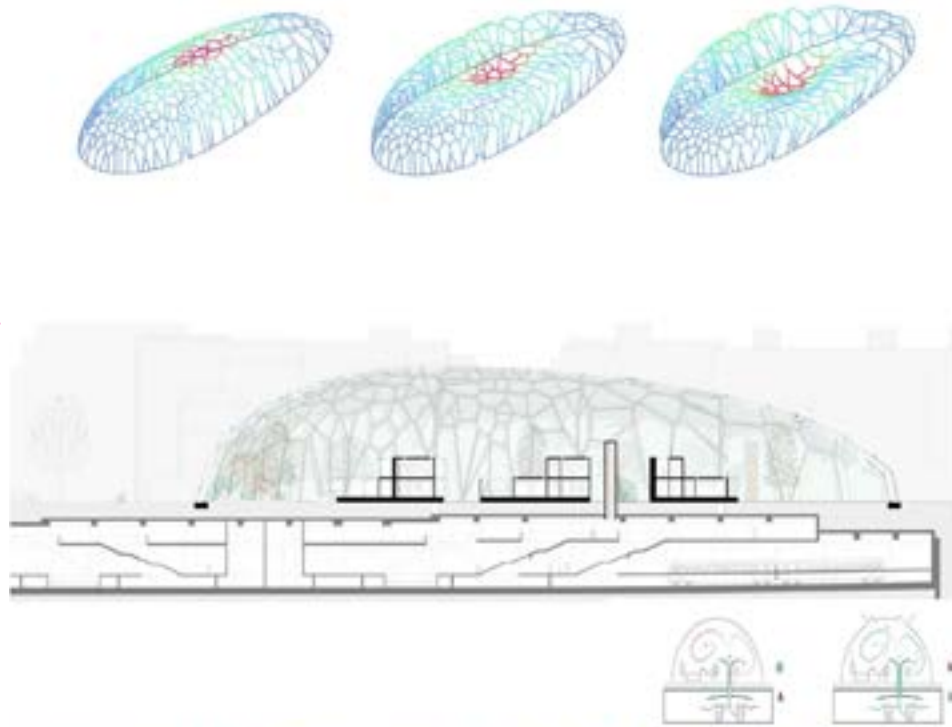
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#W-Tank-House #student-Breseghello

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#Zero-Energy-Wall #student-D'Alessio

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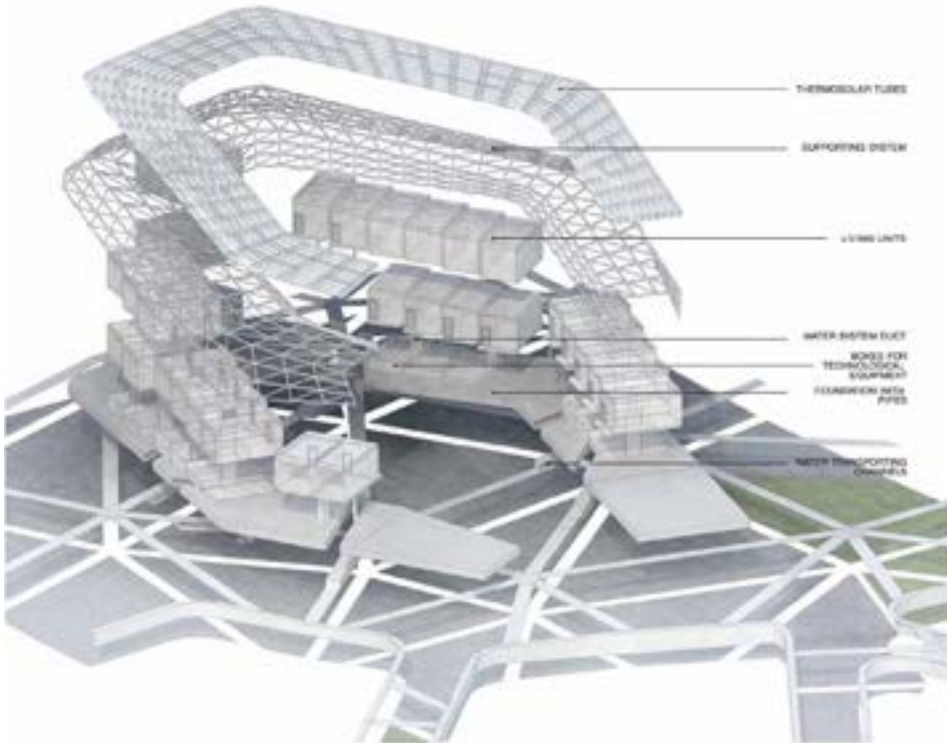
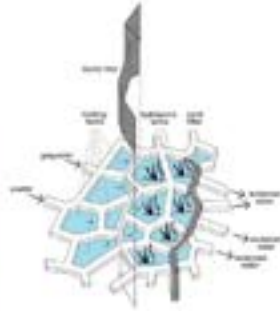
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#Solar-Patio-House #student-Vissani

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ZERO+ | THANK YOU!

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ZERO+ | TEACHING TEAM

