Gina Barcelona Architects
Merging Cities & Nature

IURC-China Thematic Webinar: Green and Sustainable Buildings

30.06.21

A **SUSTAINABILITY MATRIX** TO REVERSE THE **CLIMATE EMERGENCY**

SUSTAINABILITY MATRIX

	CITY & TERRITORY	LANDSCAPE Public Space & Infrastructure	BUILDINGS
BIODIVERSITY	**GREEN INFRASTRUCTURE** An environmental and social network that should be our cities' backbone.	**FARMING THE LIFE** It is possible to reclaim life everywhere, even where it is completely lost.	**BIOPHILIC BUILDINGS** Elevations, rooftops, courtyards, and green interiors improve people's health, air quality and our cities' biodiversity.
WATER	**PRIMEVAL GEOGRAPHY** Recovering water courses as environmental corridors and as structuring elements of urban habitat.	**SUDS - SUSTAINABLE DRAINAGE SYSTEMS** Strategies to maximize ground permeability, rainfall infiltration and retention in the public space.	**100% REUTILIZATION** Capturing and reutilization strategies for 100% of the buildings' own water.
SUSTAINABLE MOBILITY	**GREEN PATHS** The city needs to be structured around soft-traffic axes and collective transport nodes.	**DOOR-TO-DOOR** Establishing clear pedestrian and cyclable itineraries and solving the barriers blocking them.	**HEALTHY STAIRS** We can design stairs that encourage healthy routes inside our buildings.
PRODUCTIVITY	**FOOD GOVERNANCE** Recovering the historical agricultural structures and creating new buildings for urban development to produce local food.	**KM 0** Designing productive gardens at our public spaces that bring local production closer to citizens.	**PRODUCTIVE BUILDINGS** Each rooftop and urban terrace is an opportunity to achieve a productive city.
HEAT ISLAND	**-3ºC / FRESH AIR ARTERIES** Structuring urban habitats in the green infrastructure environment can reduce temperatures by up to 3ºC compared to similar environments with different management, countering global warming.	**BIOCLIMATIC SPACES** To maximize the green coverage and shade of the public spaces to absorb solar radiations is key to contribute to evapotranspiration.	**CLIMATE SHELTERS** The climate emergency demands a shift in the urban paradigm, both at a city scale and at the building scale.
URBAN RECYCLE	**URBAN REGENERATION** Improving urban centers, refurbishing declining fabric and reprogramming obsolete infrastructures.	**REAPPRAISSING THE SITE** Reassessing the site's preexistence to keep identity and streamline energy resources.	**RENOVATE** Renovating obsolete and inefficient buildings instead of tearing them down and building new ones.
C2C-CRADLE TO CRADLE	**CITY OF CITIES** Fostering the identity and vigor of compact urbanization and arranging their limits with green infrastructure.	**NBS - NATURAL BASED SOLUTIONS** Designing with nature based solutions, to accomplish a closed cycle free of waste.	**NEUTRAL CARBON BALANCE** Promoting proximity, recyclable materials with minimal CO_2 fabrication and emission consumption.
NZE-NEAR ZERO EMISSIONS	**A NATURALLY REGULATED ENVIRONMENT** Reducing the energetic demand through urban form, topography, orientation, ventilation and vegetation.	**LOGIC SUSTAINABILITY** Designing self-managing landscapes that do not need maintenance with an excessive carbon footprint.	**NZEB - NEARLY ZERO ENERGY BUILDINGS** Reducing demand is the initial goal for low consumption. The building's demands can be drastically cut by working with passive strategies.
SELF-SUFFICIENCY	**GENERATE IN THE NEIGHBORHOOD, ADD ENERGIES** Use all the elements of the city to generate energy in a clean way.	**PRODUCING ENERGY IN PUBLIC SPACE** Understanding landscape as a productive element.	**100% POSITIVE ENERGY BALANCE** Reaching energy self-sufficiency producing 100% of the needs within the building through renewable sources.
HEALTH & WELLNESS	**AN INCLUSIVE CITY** Conceiving the city for functional, gender, origin and age diversity.	**HEALTHY PUBLIC SPACES** Increase the number of trees inside our cities to improve people's health.	**WELL, THE USER, THE CENTER** Buildings must achieve spatial, physical and material comfort that promotes the health of their users.

GREEN INFRASTRUCTURE

An environmental and social network that should be our cities' backbone.

Environmental Recovery of the Llobregat River, Barcelona.

FARMING THE LIFE

It is possible to reclaim life everywhere, even where it is completely lost.

Landscape Restoration of Garraf Waste Landfill, Parc Natural del Garraf, Barcelona.

BIOPHILIC BUILDINGS

Facades, rooftops, courtyards, and green interiors improve people’s health, air quality and our cities’ biodiversity.

Parc Glories Office Building, Barcelona.

PRIMEVAL GEOGRAPHY

Recovering water courses as environmental corridors and as structuring elements of urban habitat.

Sant Climent river basin Viladecans System Park, Barcelona.

SUDS

SUSTAINABLE URBAN DRAINAGE SYSTEMS

Strategies to maximize ground
permeability, rainfall infiltration
and retention in the public space.

MEETT - Parc des Expositions et Centre de Conventions, Toulouse.

100%
REUTILIZATION

Capturing and reutilization strategies
for 100% of the buildings’ own water.

The Style Outlets, Viladecans.

GREEN PATHS

The city needs to be structured around soft-traffic axes and collective transport nodes.

Urban integration of the B-23, Barcelona.

DOOR - TO - DOOR

Establishing pedestrian and cyclable clear itineraries and solving the barriers blocking them.

Connection for pedestrians between Barcelona and Montcada i Reixac.

HEALTHY STAIRS

We can design stairs that encourage healthy routes inside our buildings.

Stradivarius Headquarters, Cerdanyola del Vallés.

FOOD GOVERNANCE

Recovering the historical agricultural structures and creating new buildings for urban development to produce local food.

Finestrelles Park, Esplugues de Llobregat, Barcelona.

PRODUCTIVITY / LANDSCAPE

KM 0

Designing productive gardens at our public spaces that bring local production closer to citizens.

Green Riyadh Program.

PRODUCTIVE BUILDINGS

Each rooftop and urban terrace is an opportunity to achieve a productive city.

The “farmhouse” of GINA, Tarragona.

-3ºC / FRESH AIR ARTERIES

Structuring urban habitats in the green infrastructure environment can reduce temperatures by up to 3ºC compared to similar environments with different management, countering global warming.

Sant Cugat del Vallès System Park, Barcelona.

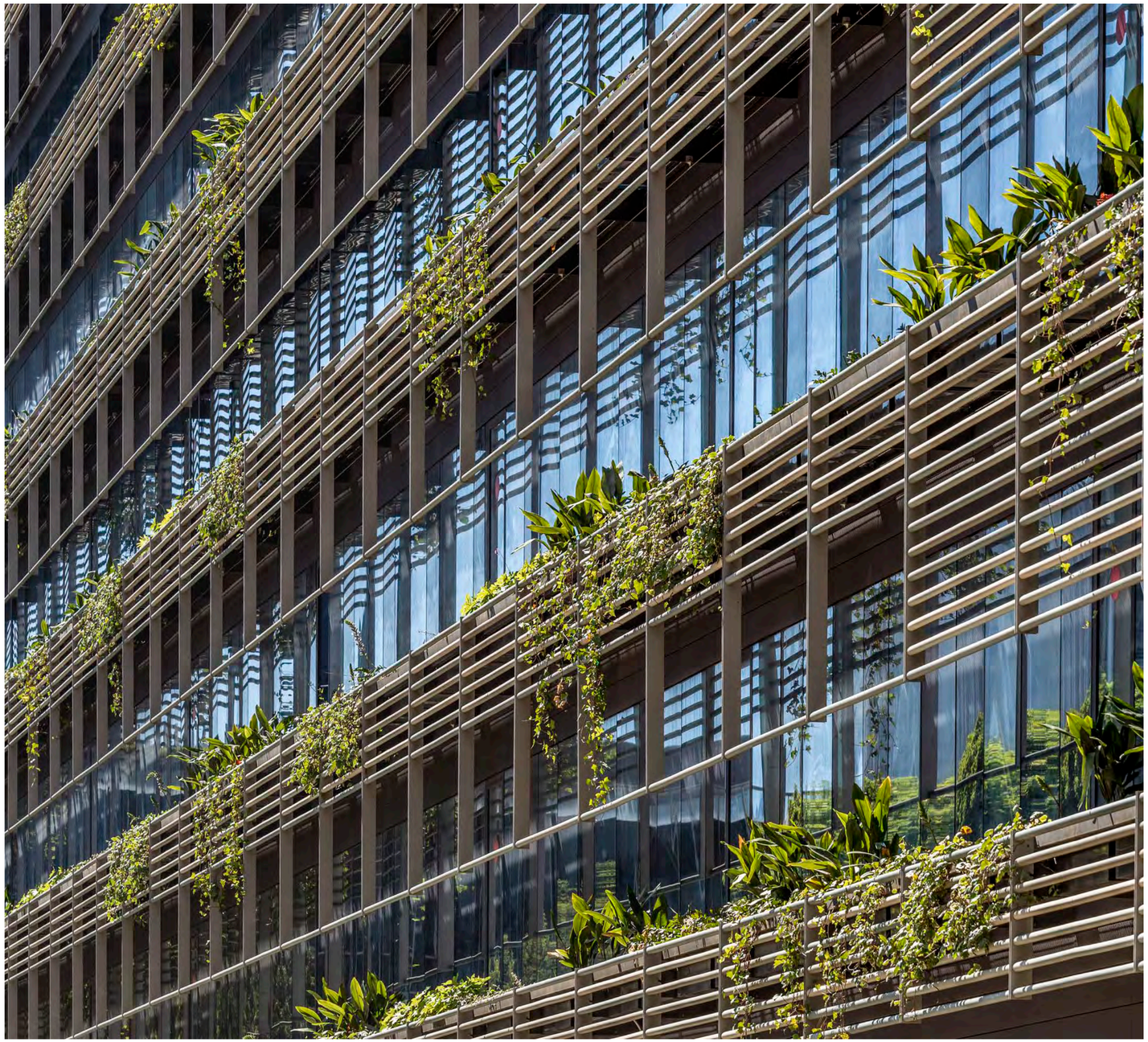
BIOCLIMATIC SPACES

To maximize the green coverage and shade of the public spaces to absorb solar radiations is key to contribute to evapotranspiration.

Axis of the Railroad, Vilafranca del Penedes.

CLIMATE SHELTERS

The climate emergency demands a shift in the urban paradigm, both at a city scale and at the building scale.



Parc Glòries Office Building, Barcelona.

URBAN REGENERATION

Improving urban centers, refurbishing declining fabric and reprogramming obsolete infrastructures.

Provisional Urbanization Of Can Batlló, Barcelona.

URBAN RECYCLE / LANDSCAPE

REAPPRAISSING THE SITE

Reassessing the site’s preexistence to keep identity and streamline energy resources.

Redevelopment of Plaça Alabric, Sant Feliu de Guixols.

RENOVATE

Renovating obsolete and inefficient buildings instead of tearing them down and building new ones.

CMT Offices, Barcelona.

CITY OF CITIES

Fostering the identity and vigor of compact urbanization and arranging their limits with green infrastructure.

Infanta's Canal, Cornellá de Llobregat.

NATURE BASED SOLUTIONS

Designing with nature based solutions, to accomplish a closed cycle free of waste.

The Forest Path, Roques Blanques Cemetery, Barcelona.

NEUTRAL CARBON BALANCE

Promoting proximity, recyclable materials with minimal CO_2 fabrication and emission consumption.

Residencial Infinitum, Mediterranian Coast.

A NATURALLY REGULATED ENVIRONMENT

Reducing the energetic demand
through urban form, topography,
orientation, ventilation and vegetation.

Gava Llevant Mar Sector, Barcelona.

LOGICAL SUSTAINABILITY

Designing self-managing landscapes that do not need maintenance with an excessive carbon footprint.

Igualada's Central Park, Barcelona.

nZEB

NEARLY ZERO ENERGY BUILDINGS

Reducing demand is the initial goal for low consumption. The building's demands can be drastically cut by working with passive strategies.

Tanger 73 Office Building, Barcelona.

GENERATE IN THE NEIGHBORHOOD, ADD ENERGIES

Use all the elements of the city to generate energy in a clean way.

22@ District, Barcelona.

PRODUCING ENERGY IN PUBLIC SPACE

Understanding landscape
as a productive element.

Coverage of the Ronda de Dalt urbanization, Barcelona.

SELF-SUFFICIENCY / BUILDING

100 % POSITIVE ENERGY BALANCE

Reaching energy self-sufficiency producing 100% of the needs within the building through renewable sources.

Central Headquarters for Zara.com, Arteixo, La Coruña.

AN INCLUSIVE CITY

Conceiving the city for functional,
gender, origin and age diversity.

Former Mercedes Factory Sector, Barcelona.

HEALTHY PUBLIC SPACES

Increase the number of trees inside our cities to improve people’s health.

Competition proposal for Sant Feliu de Llobregat, Barcelona.

WELL
THE USER, THE CENTER

Buildings must achieve spatial, physical and material comfort that promotes the health of their users.

Administrative Campus for La Generalitat de Catalunya, Barcelona.

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Thank you!

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