



# BLENDING SYSTEMS

new interactions between people, green systems and mobility

Country / City .....

University / School .....

Academic year .....

Title of the project .....

Authors .....

Spain / Barcelona .....

UPC ETSAB MBLandArch .....

2018-2019 .....

Blending Systems .....

Caterina Covi, Gisela Espinosa López, Mauricio Morfín Quintanar .....



## TECHNICAL DOSSIER

Title of the project	Blending Systems
Authors	Caterina Covi, Gisela Espinosa López, Mauricio Morfín Quintanar
Title of the course	Landscape Design Studio II
Academic year	2018-2019
Teaching Staff	Enric Battle, Javi Zaldívar, Mario Suñer
Department/Section/Program of belonging	ETSAB MBLandArch
University/School	UPC ETSAB MBLandArch



Written statement, short description of the project in English, no more than 250 words

Blending Systems aims at creating new interactions between people, green systems and mobility. Climate change is causing new perturbations and a transition towards a more conscious living is extremely necessary. Issues like flooding, coast erosion, biodiversity loss and energy crises are all tackled by our proposal. The project acts through 3 main systems: the Besos River, the social activation and cultural productivity. It focuses on upgrading the environmental conditions and reinforcing biodiversity in the Besos river mouth and raising people's awareness through the creation of a research centre about renewable energies in the smokestacks.

This new configuration of the space should create new flows and synergies between people, green systems, mobility and leisure. We strongly believe that if we change the physics support, the existing biotics and encourage the cultural part, the social activation will be the resulted element that will blend the systems. The project will be the base for rewriting a new identity for the place, generating new interest, new uses and a new community, taking care of this new reality.

For further information  
**Máster d'Arquitectura del Paisatge -DUOT - UPC**

T: + 34 93 401 64 11 / +34 93 552 0842  
Contact via email at: [biennal.paisatge@upc.edu](mailto:biennal.paisatge@upc.edu)

**Máster d'Arquitectura del Paisatge -DUOT - UPC**  
ETSAB- Escola Tècnica Superior  
d'Arquitectura de Barcelona  
Avenida Diagonal, 649 piso 5  
08028 Barcelona-Spain



# CLIMATE CHANGE AGAIN

11th International Biennial Landscape Barcelona

Barcelona September 2020  
SCHOOL PRIZE

# BLENDING SYSTEMS



Blending Systems aims at creating new interactions between people, green systems and mobility.

The project emphasizes the river as a connecting element, merging the natural, the social and the cultural flows.

Practically, the masterplan is articulated in these points:

/Extending the rivermouth conditions, upgrading the environmental conditions and reinforcing biodiversity.

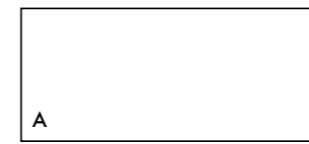
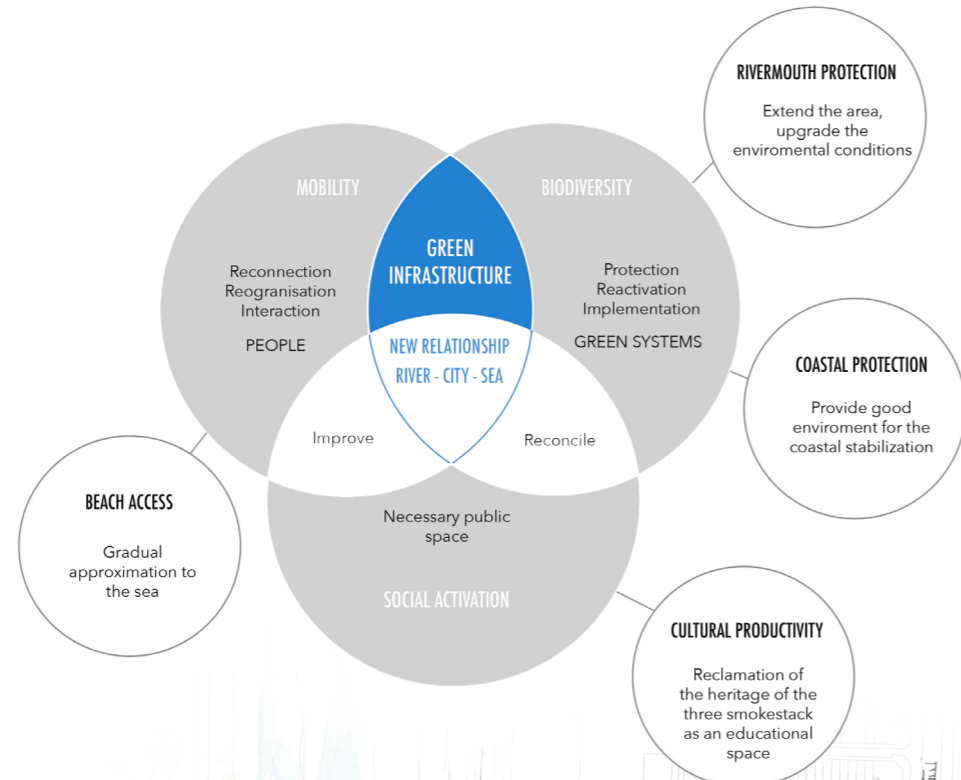
/Creating new social connections.

/Formalizing a new connection for pedestrians and bicycles along the litoral path.

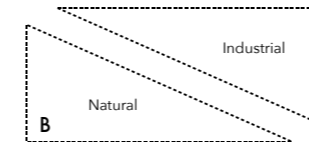
/Creating a network of beach accesses and proposing a gradual transition towards the sea, which will be helping in the coastal stabilization

/Proposing a program for cultural productivity: reclaiming the heritage of the structure of the smokestacks and converting it into a research center for renewable energies.

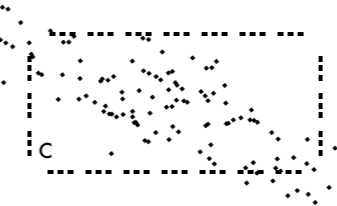
These physical actions on the site will lead to a social reactivation, turning the area into a constant state of becoming and transformation, starting a process which will develop over many years.



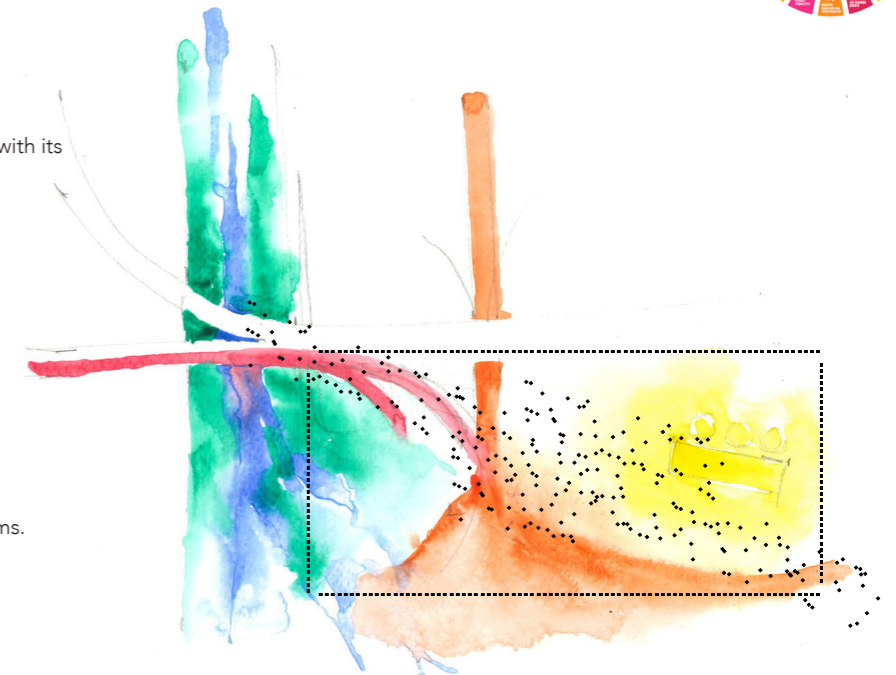
Actual situation: isolated site disconnected with its surroundings.



Analysis: identification of two constituting elements.



Solution: blending composing systems.



STRATEGY BLENDING SYSTEMS



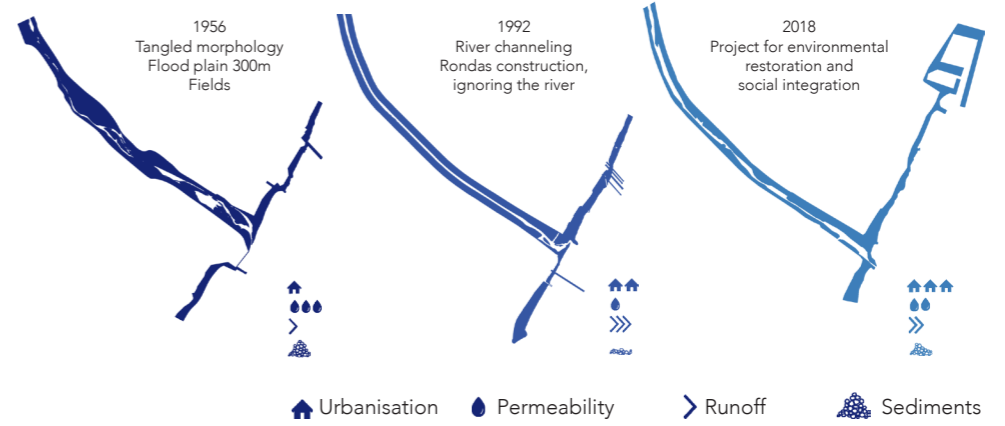
- Tram Stop
- Access
- Viewpoint

MASTERPLAN

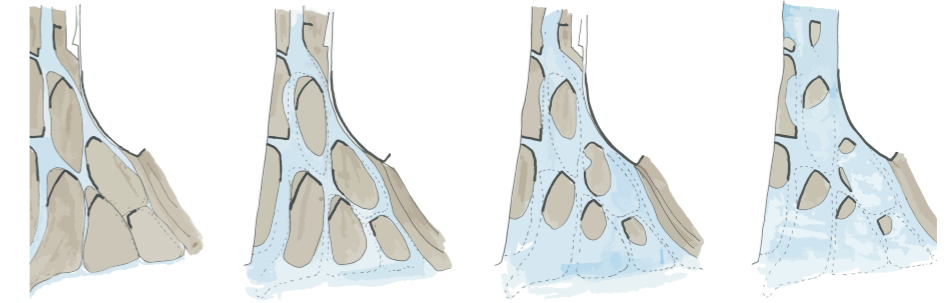
# BLENDING SYSTEMS

Blending Systems proposes to create a natural reserve through the existing green infrastructure of sea and river. This specific area of the river mouth corresponds to an important meeting point of ecological interactions and the project aims at recognizing this value and its fragility. Climate change is creating new perturbations like sea level rising and flooding and we believe that this meeting points are essential to be observed, studied and protected.

Being aware that this is a flood-prone area, the project proposes a structure of deflectors to offer stability to the islands whilst functioning as an element of sediment recovery. At the same time, the islands' morphology will be dynamic, in a constant movement and ready for new configurations.

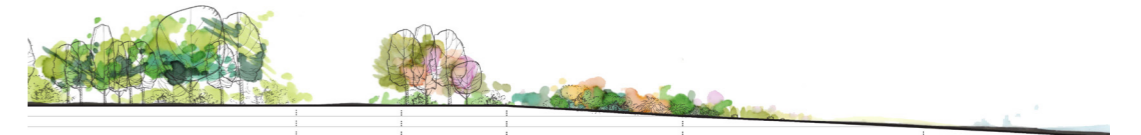


RIVER AND COAST EVOLUTION

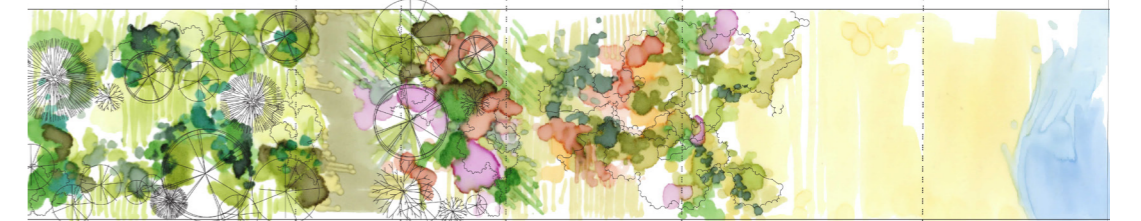


The morphology of the islands depends on several factors, such as water flow, water volume and current, mechanical force, sediments transport and vegetation.

FLOOD DYNAMICS



TYPICAL SECTION GRADUAL APROXIMATION TO THE BEACH



ARBOREAL VEGETATION STRIP

*Eucaliptus spp*  
*Pinus pinea*  
*Pinus halepensis*  
*Populus alba*  
*Quercus ilex*

LITORAL CYCLE LANE AND PEDESTRIAN PATH

SHRUBBY VEGETATION STRIP

*Tamarix africana*  
*Tamarix gallica*

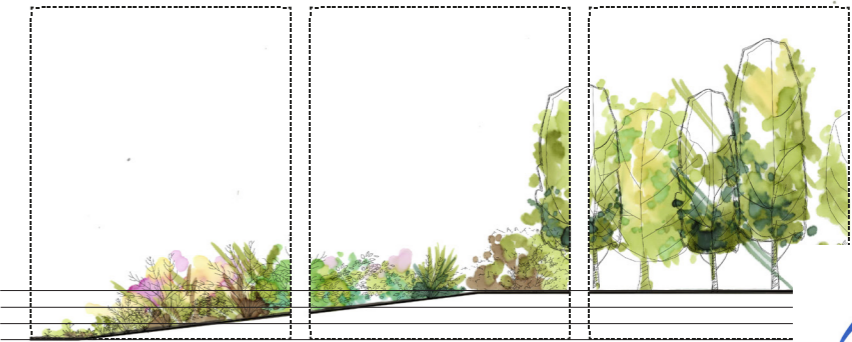
DUNE VEGETATION STRIP

*Ammophila arenaria*  
*Cakile maritima*  
*Crithmum maritimum*  
*Salsola kali*

The vegetation is distributed in strips, and its distribution depends on:

- 1) proximity to the coast
- 2) proximity to the river
- 3) groundwater level
- 4) surface water level
- 5) sunshine

A variation in the vegetation distribution is a consequence of the temporal ecological successions, the seasonality of the place, the Mediterranean regime of Besós River and the spatial ecological successions given by the morphology of the land.



HERBACEOUS VEGETATION IN CONTACT WITH WATER

*Carex flacca*  
*Carex pendula*  
*Equisetum arvense*  
*Iris pseudoacorus*

HERBACEOUS VEGETATION ABLE TO WITHSTAND CHANGES ACCORDING TO FLOW, WATER LEVEL AND FLOODS

*Althaea officinalis*  
*Crataegus monogyna*

SHRUB AND ARBOREAL VEGETATION

*Fraxinus angustifolia*  
*Populus alba*  
*Salix alba*

TYPICAL SECTION RIVER ISLAND



# BLENDING SYSTEMS

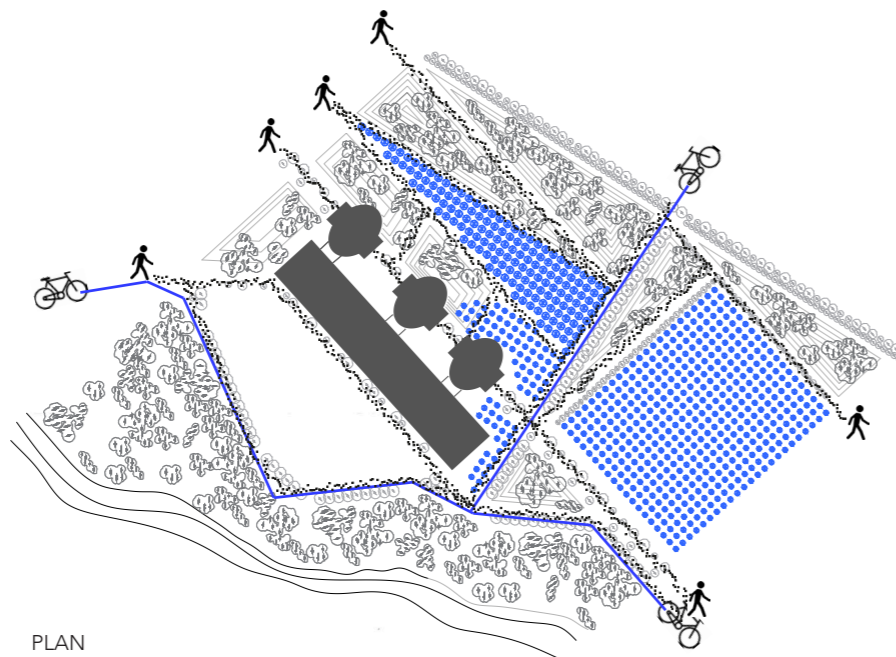
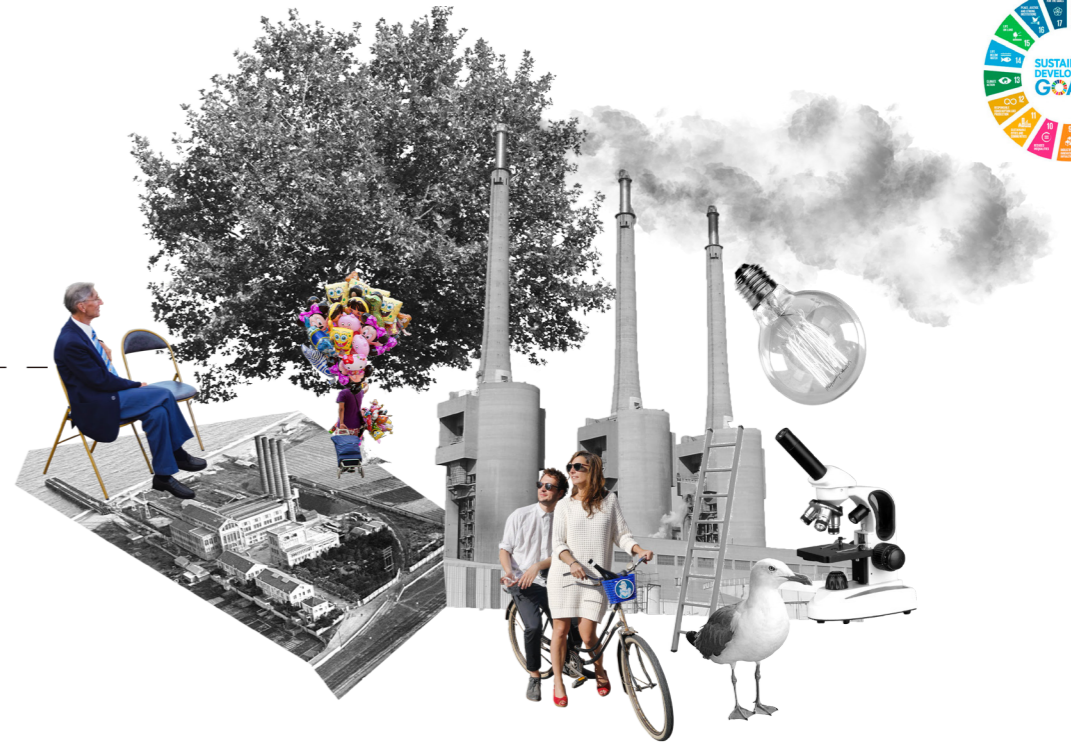
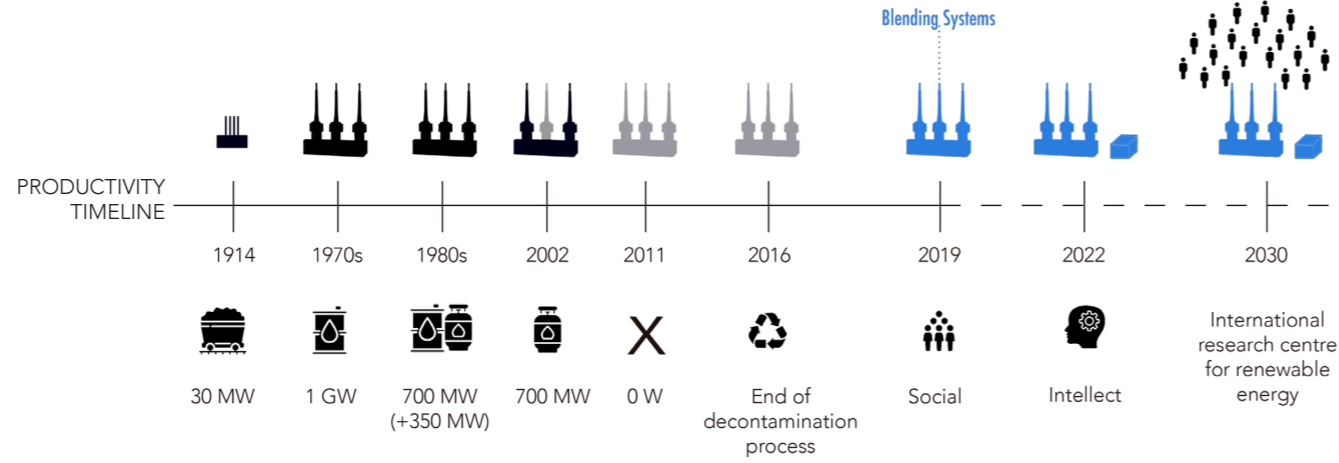


Whilst analyzing the historical evolution of the site, we can infer that the area surrounding the three smokestacks has always been productive: providing the city with electricity.

The past industrial conventional model had externalized the dysfunctions of that systems, polluting the atmosphere, water basins, also, had increased the inequality in the society. The heritage of this type of industrial equipment had been always something to hide because always reflect the bad consequences.

Now it is time to revert that vision, trying to revert that destructive heritage, rethinking the area and what it item represents.

Blending System's productivity it is not economical. Instead, giving the energy crises we are going to witness, it aims at raising the visitors' awareness regarding climate change, electricity consumption and its production.



## PROPOSAL:

Smokestacks: a didactical and formative complex: a centre for research on renewable energy.

Surrounding area: a flexible space, able to host future developments of the research centre.

A productive area, where biomass (such as the one coming from the plantation of *Populus* sp) will be produced to emphasize the importance of renewable energy.

A range of hills designed to create different spaces, whilst at the same time provide protection against the traffic and noise of the Avenida Maristanya.

