



New Building Sustainability: Zero emissions new passive-solar building

Park and Housing Proposal in an earthquake evacuees community, Metamorfosi, Attika

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Main highways and routes

- intense borders, isolating the area
- heavy traffic – sound pollution

Access

- Easy access by private vehicle
- Easy access by mass transportation
- Difficult pedestrian circulation
- Lack of parking spaces

LEGEND

-  main highways and routes
-  suburban train station
-  bus station
-  site
-  local center



Τατοίου



Εθνική οδός



Αττική οδός



Main points

- Conflict between the residential and manufacture activities close to the highway
- Disconnected and non-used green spaces

LEGEND

	HOUSING
	GREEN SPACES
	EDUCATION BUILDINGS
	MANUFACTURE
	EXHIBITION BUILDING
	COMMERCIAL USE

Area's photos

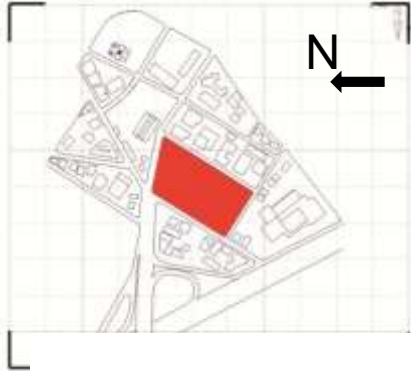




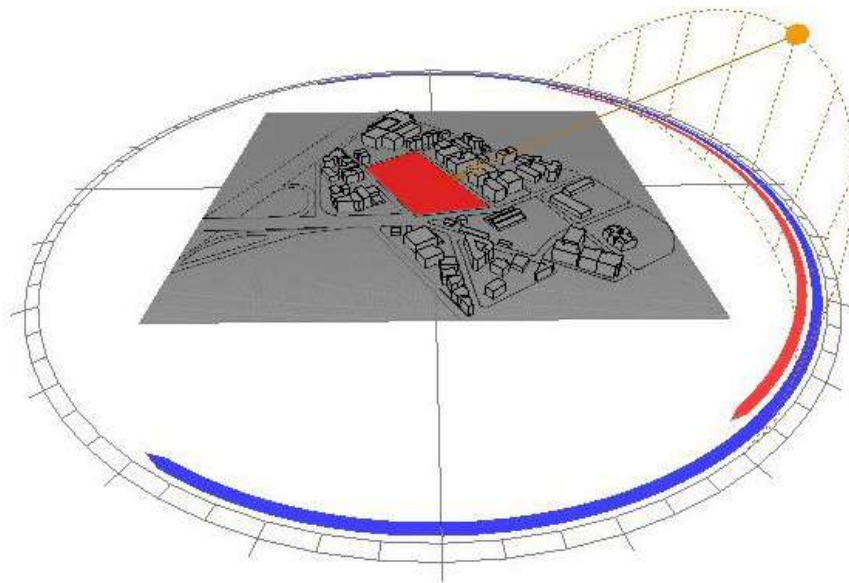
Site

Surrounding buildings

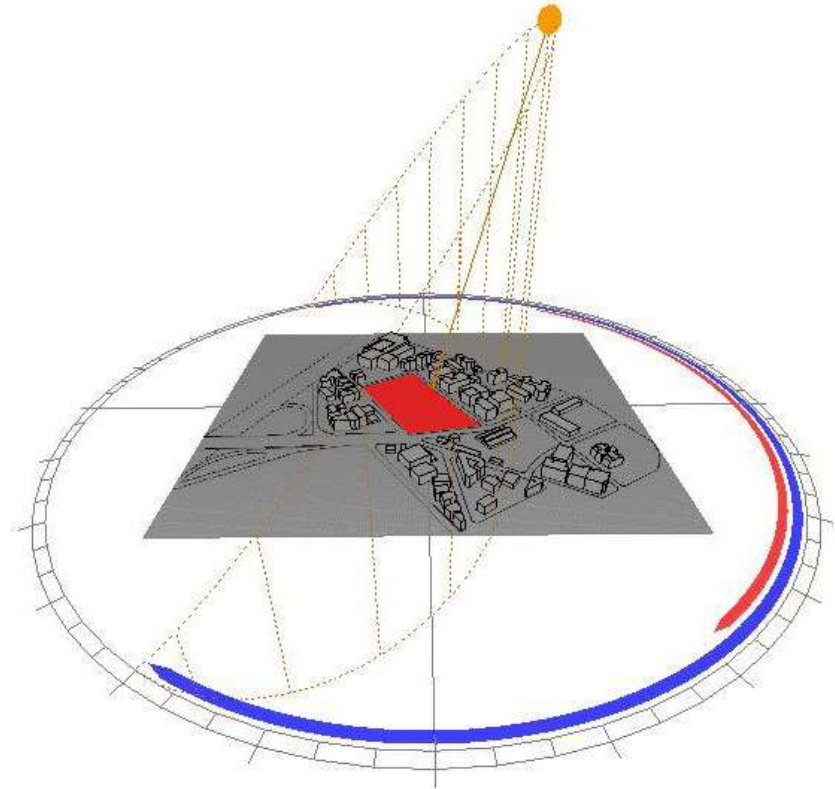




Solar Angles



21st December



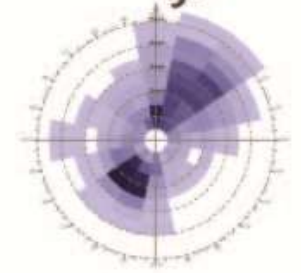
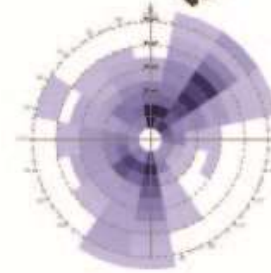
21st June

Monthly Diurnal Averages

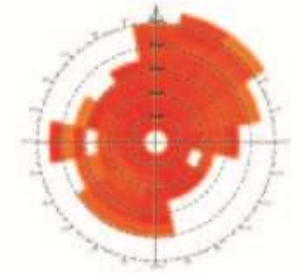
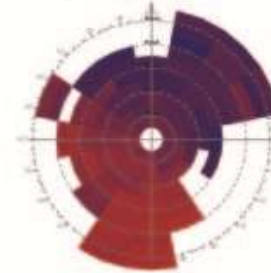
Prevailing winds

Wind Frequency (Hrs)

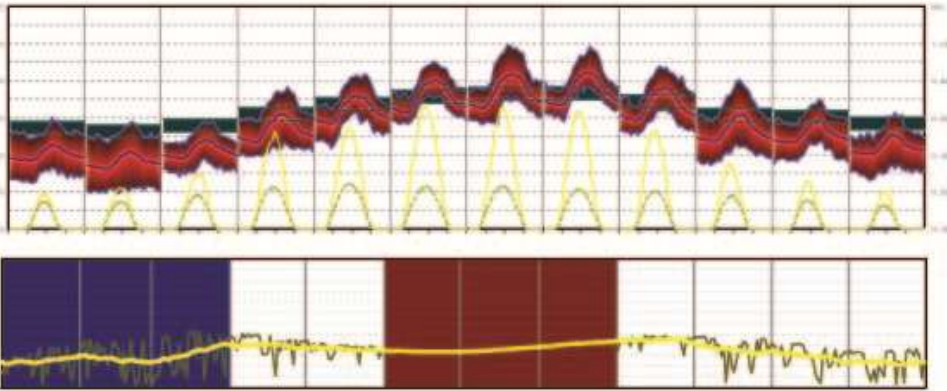
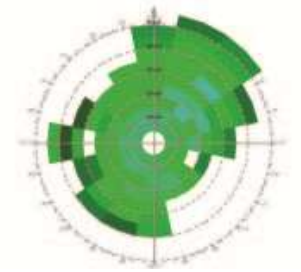
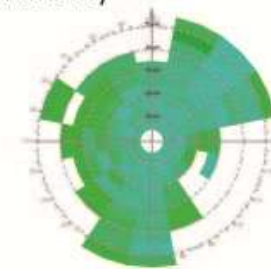
winter summer



Average Wind Temperature



Wind relative humidity



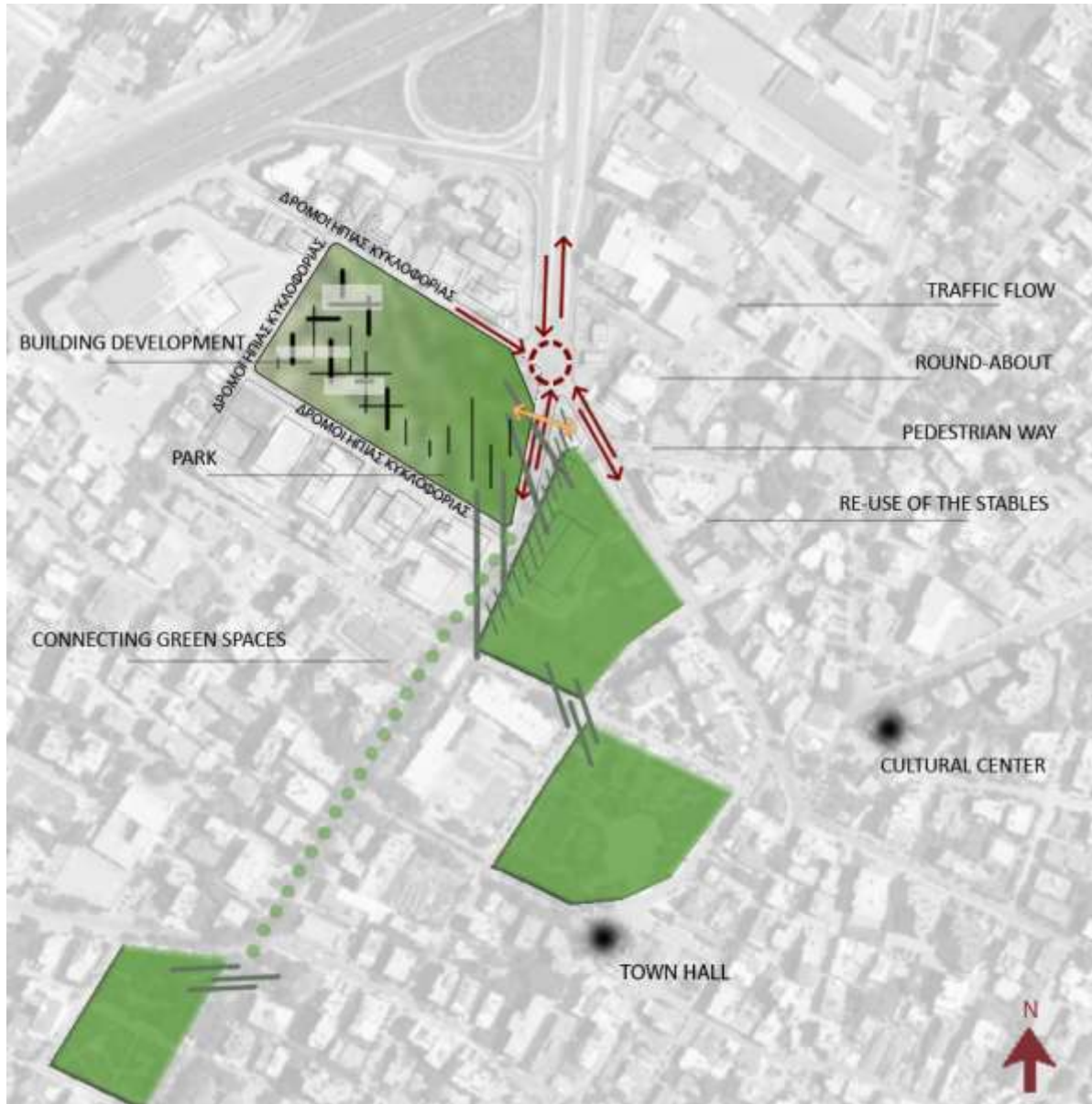
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Heating
Period

Cooling
Period

LEGEND

Comfort - Adaptive - Free Floating	
Temperature	Direct Solar
Background	Diffuse Solar
Wind Speed	Cloud Cover



make traffic easier

creating a net of green spaces

connecting green spaces

design multiple residences

bringing more people in the area

sustainability in various scales

a park for the community



Social housing

Public buildings



stabilized ground



water zone



pavers



1st floor

2nd floor

Studio

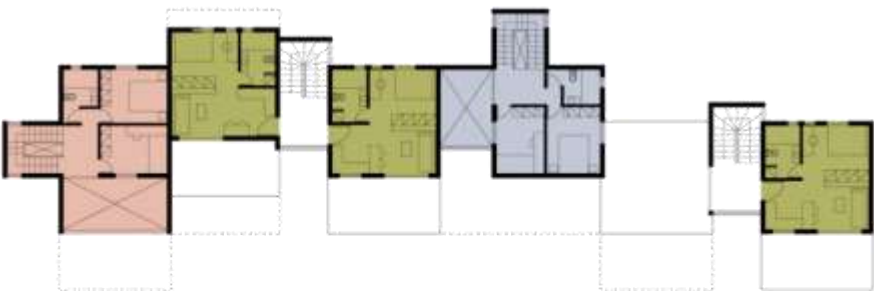
1-bedroom

2-bedroom

3-bedroom



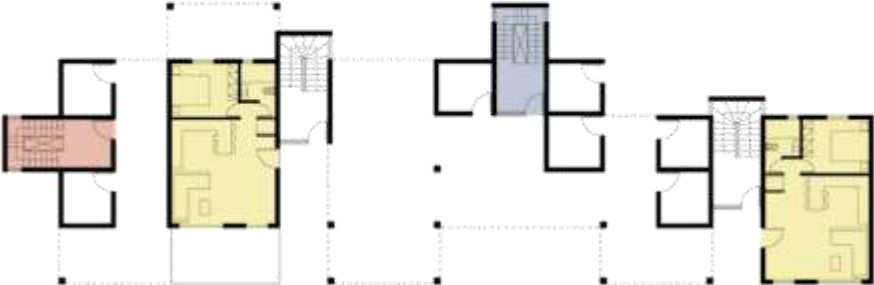
Block A



2nd floor

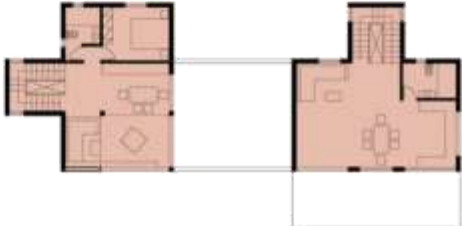
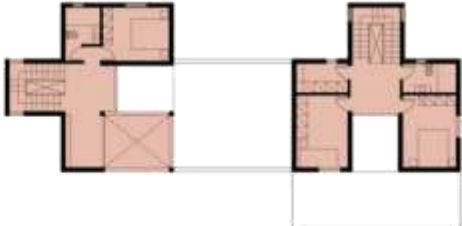


1st floor



ground floor

Block B



Block C



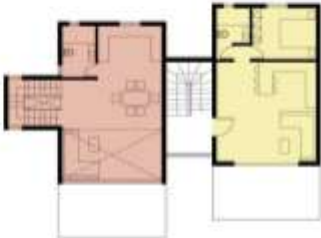
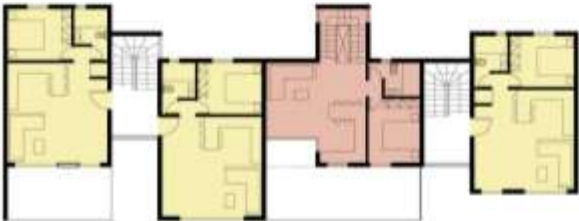
Block D



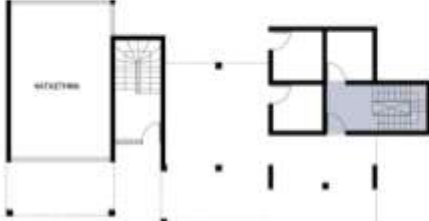
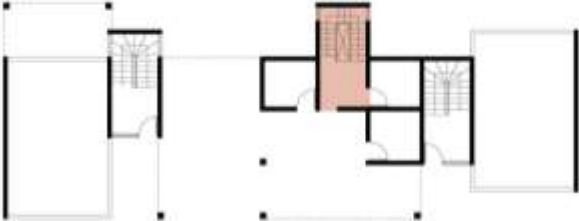
Block E



2nd floor



1st floor



ground floor

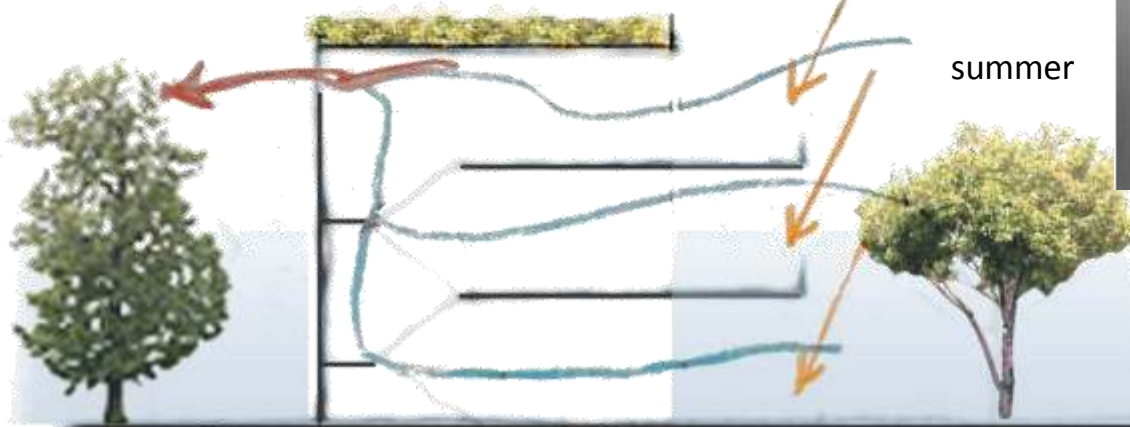


Building Performance

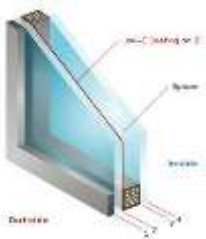
Proposal



Roof garden



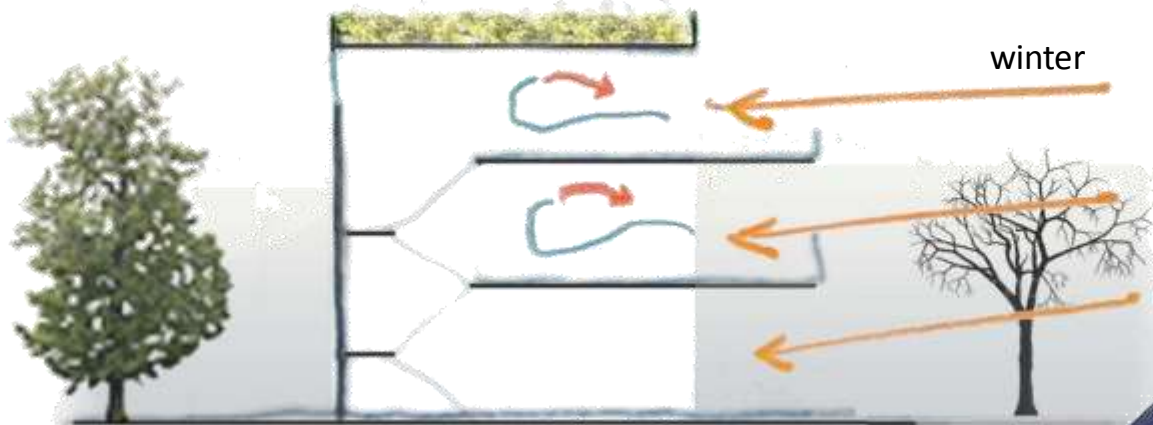
Fan



Double-glassed window Low-E



Thermo Block



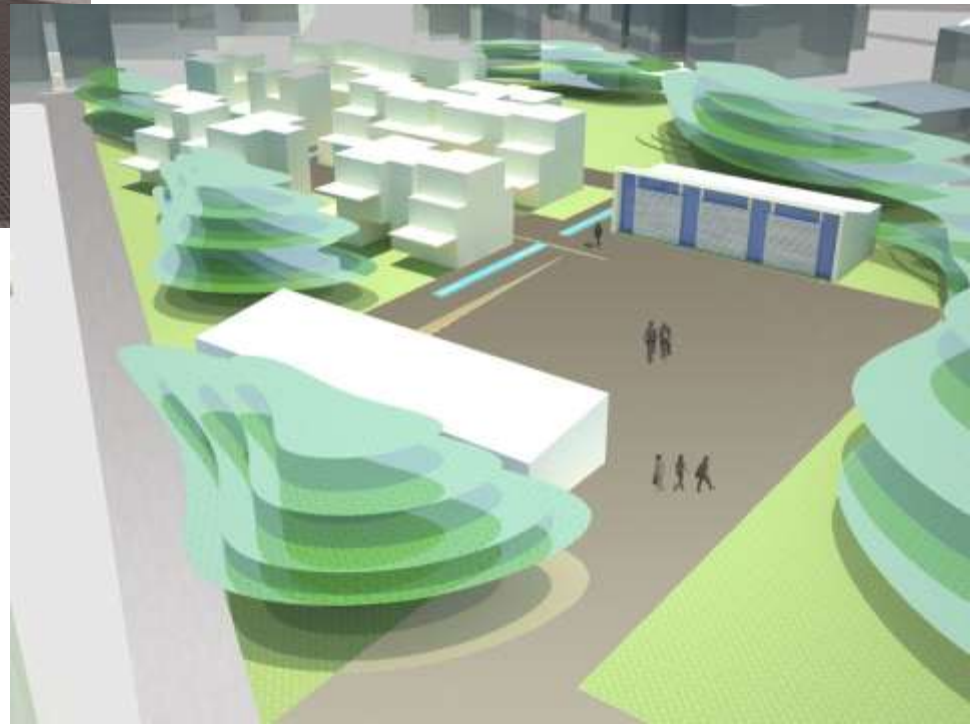
Pellets heater



Solar collector



Community road



General view of the public space



Views of the apartments





Views of the apartments





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architecture for humanity



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