ANAMORPHOSIS Group – Workshop ECOWEEK 2010

AGNES COUVELAS Group – Workshop ECOWEEK 2010

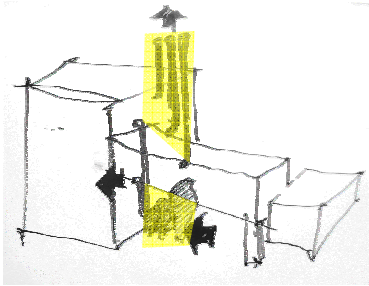
9:00 am

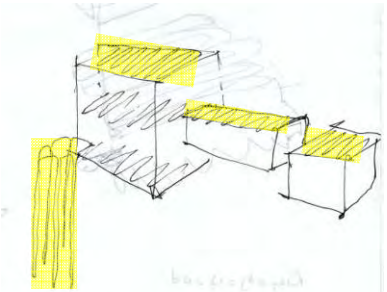
12:00 pm

15:00 pm

18:00 pm

zero emissions house@site in Artemida_office Couvela.com

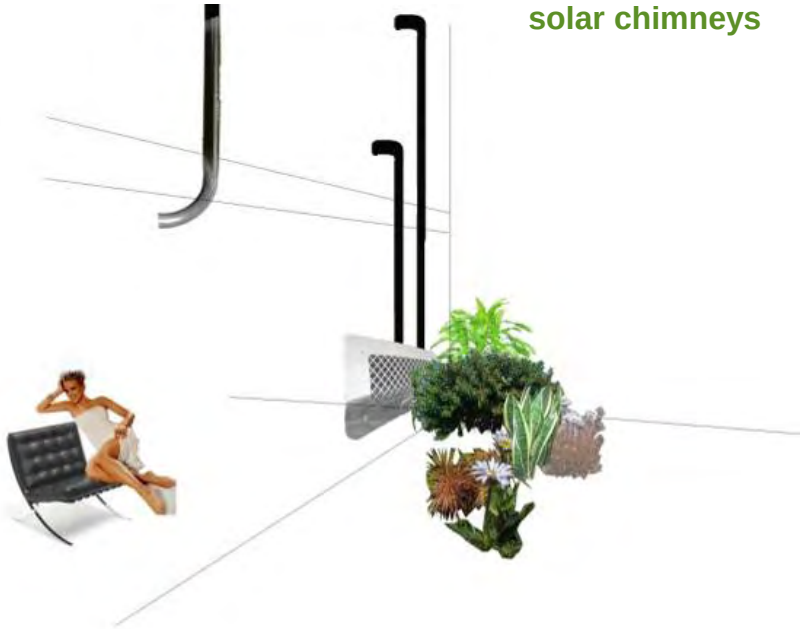


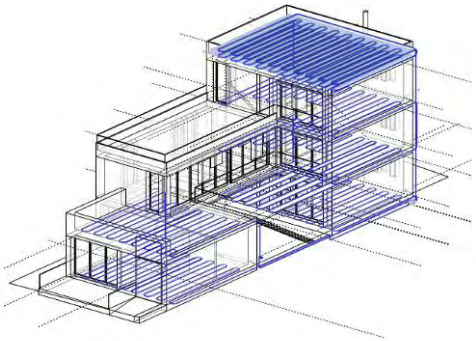


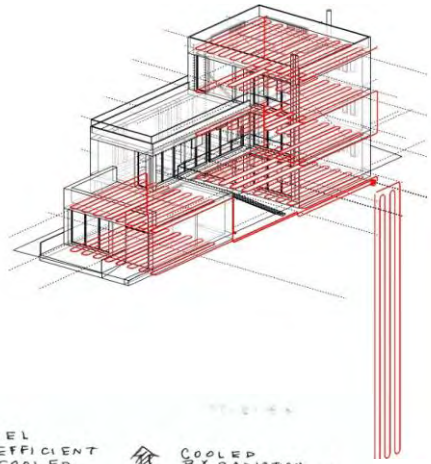
solar chimneys

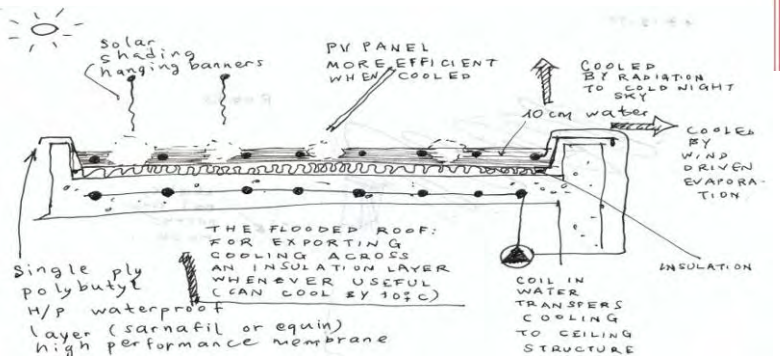
flooded roof cooling

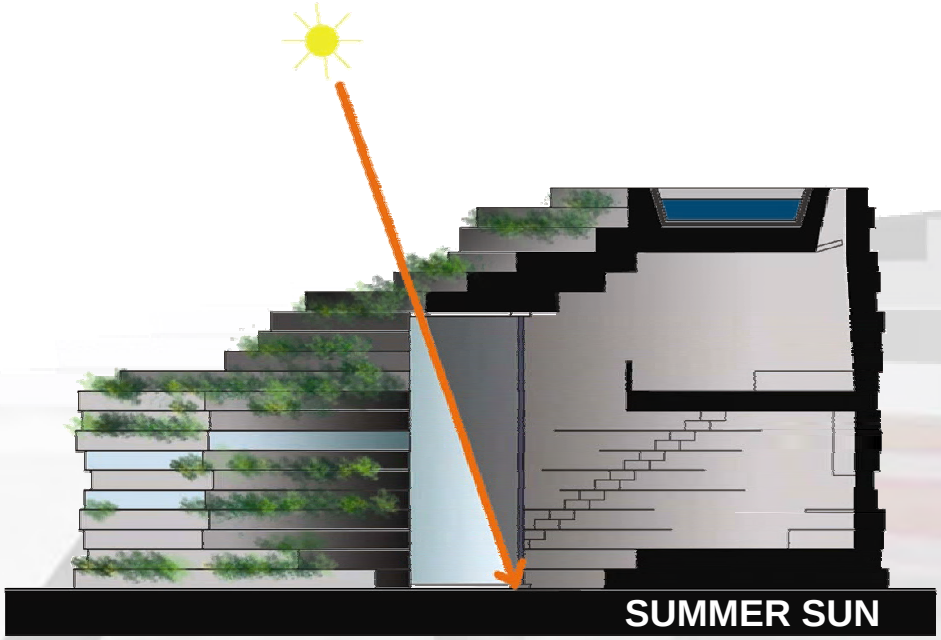
borehole heating



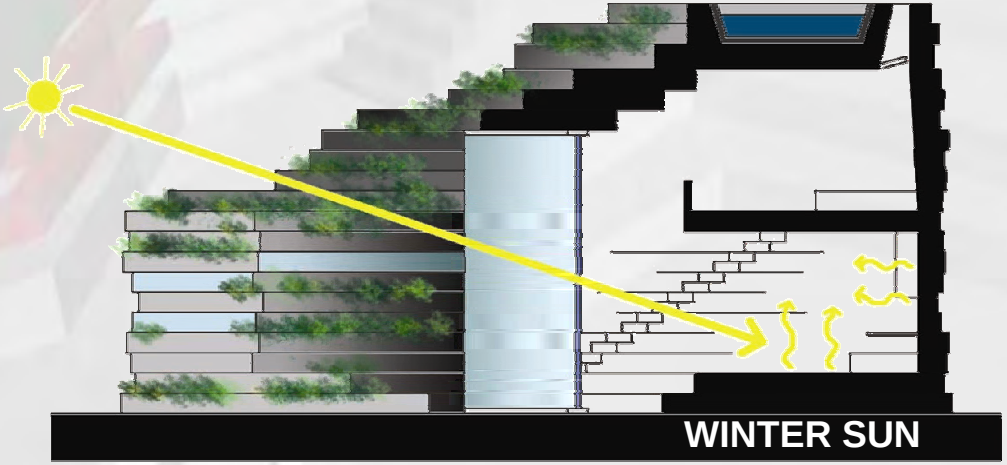








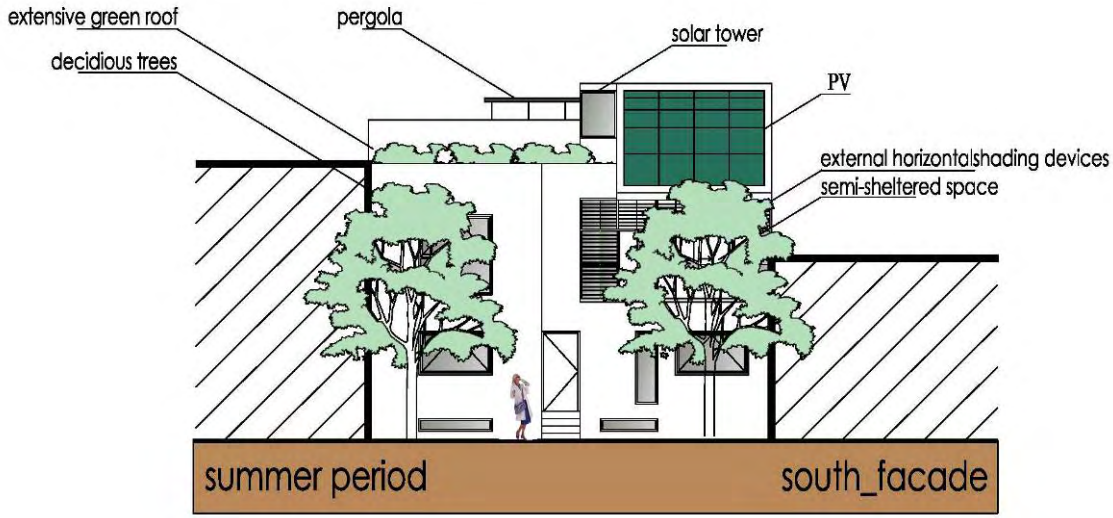
THE FLOOR SLAB SHADOWS THE SOUTH FACING LIVING-ROOM KITCHEN



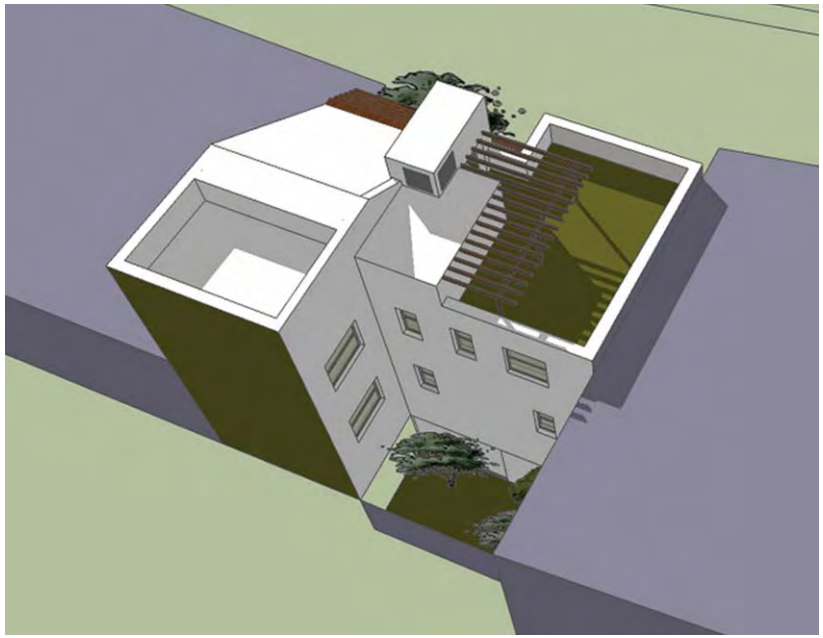
VEGETATION GROWS NATURALLY BETWEEN THE SLABS

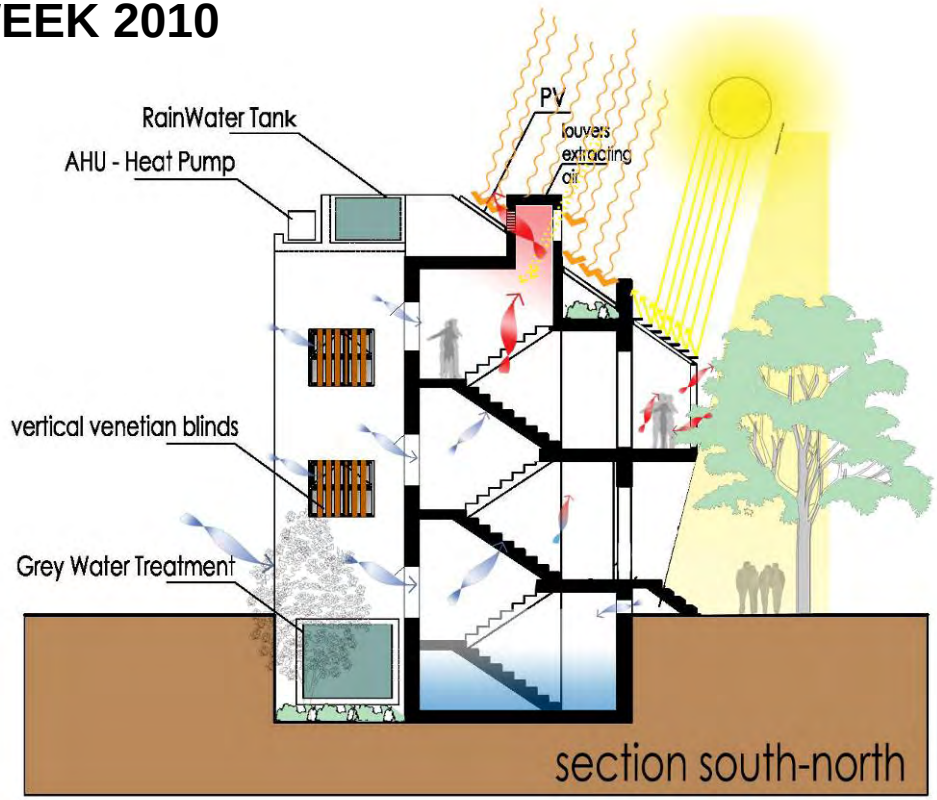
Summer Strategies

ECOWEEK workshop

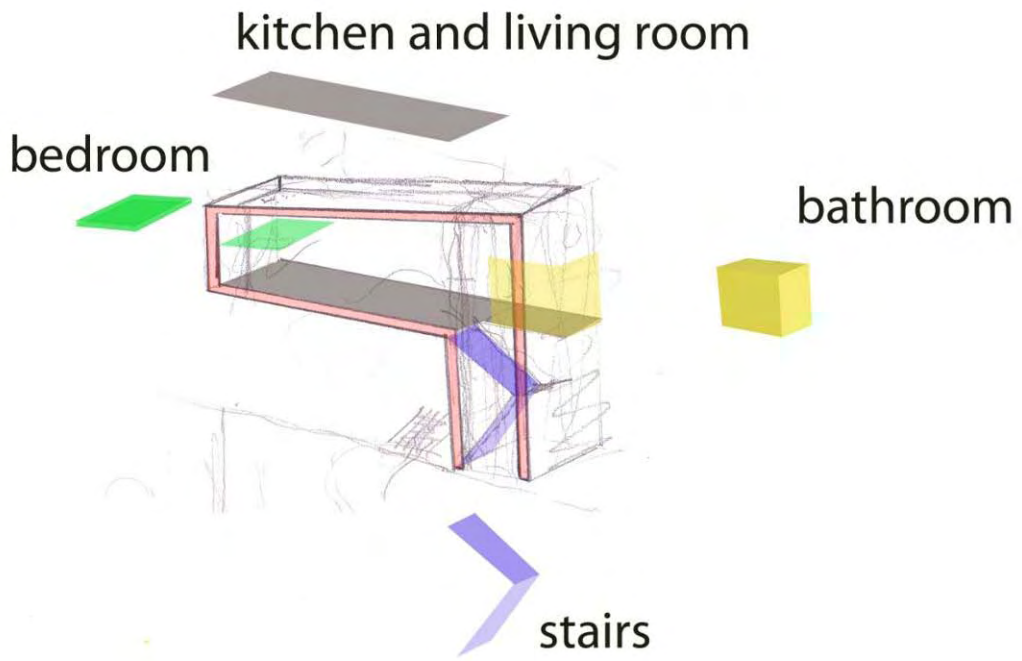


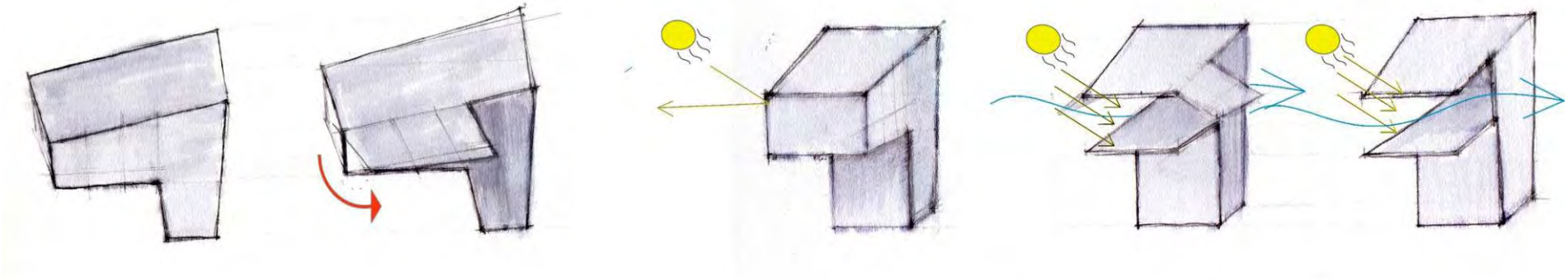
DOXIADIS+ Group – Workshop ECOWEEK 2010





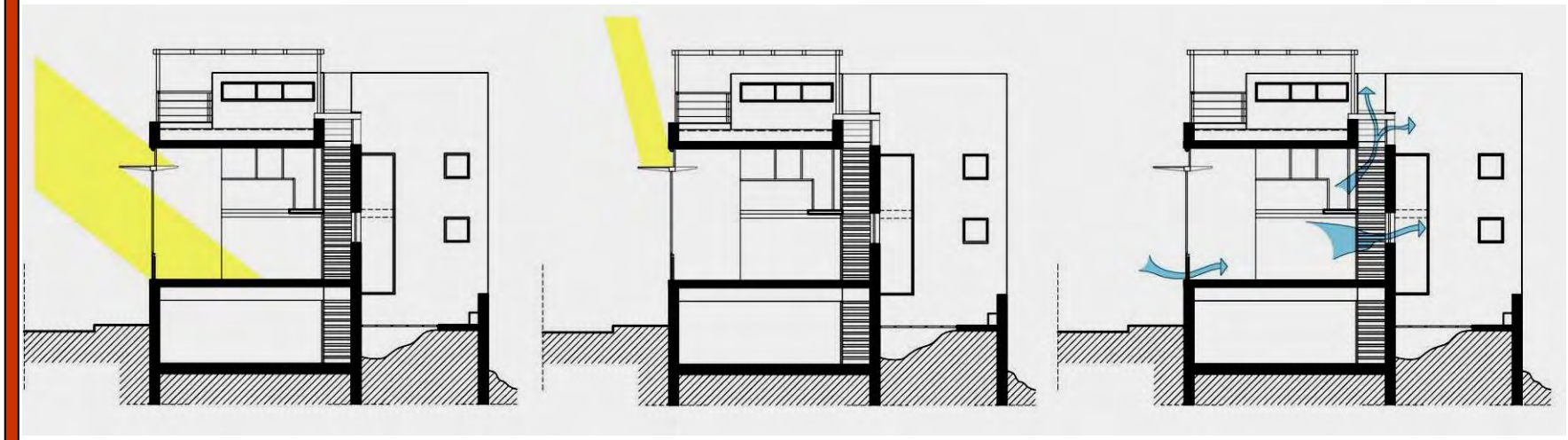
DRIFTING CITY Group – Workshop ECOWEEK 2010


kitchen and living room
bedroom
bathroom
stairs



PLEIAS Group - Workshop ECOWEEK 2010

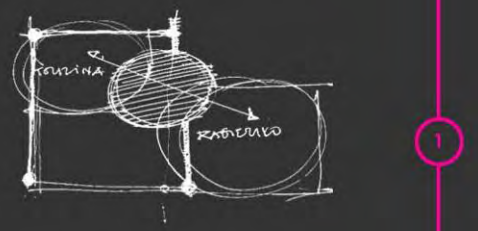
winter | summer | summer

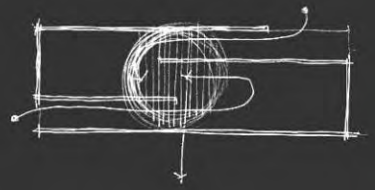


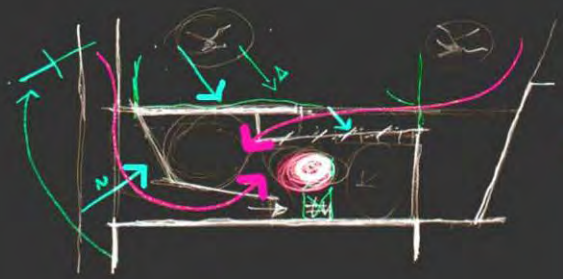
Solar heating | Shading | Ventilation & Cooling

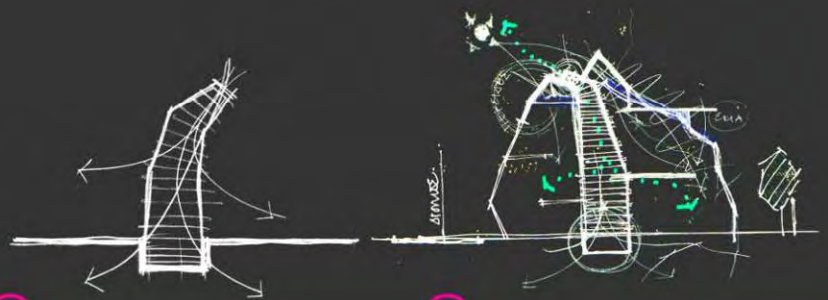
ΓΕΡΑΚΙΟΥ ΚΑΛΛΙΟΠΗ ΗΛΙΑΔΟΥ ΑΝΝΑ ΜΑΓΚΛΑΡΑ ΔΗΜΗΤΡΑ ΧΑΤΖΗ-ΡΟΔΟΠΟΥΛΟΥ ΘΕΟΔΩΡΑ

- Exception of building regulations
- Do not open up towards the near open space
- Plane and void masses create a flow renewable system
- Design a patio in the heart of the building for vertical air and sun flow, and spaces with transparent feeling
- A reverse cone enables the desirable air masses to penetrate the building
- Green roofs in the last three levels









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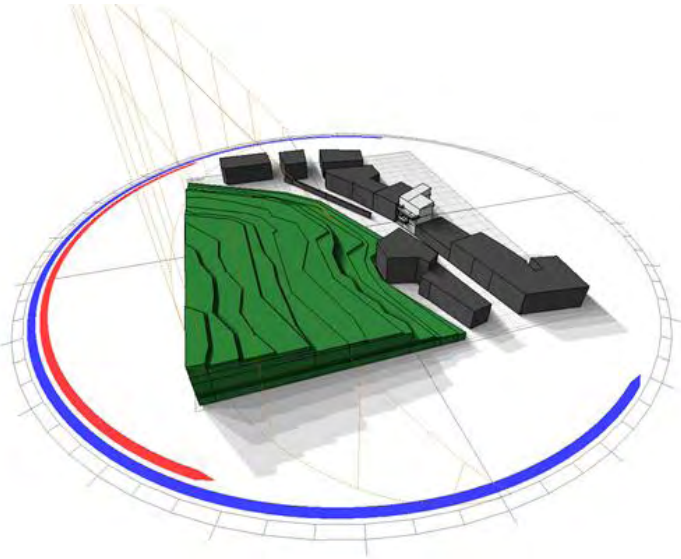
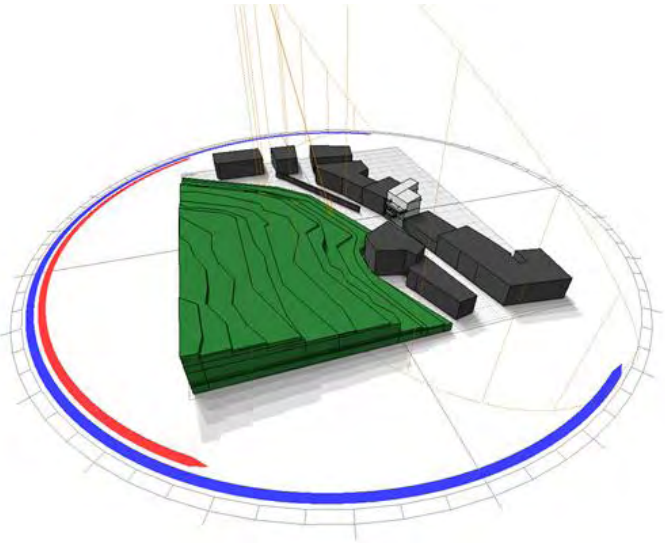
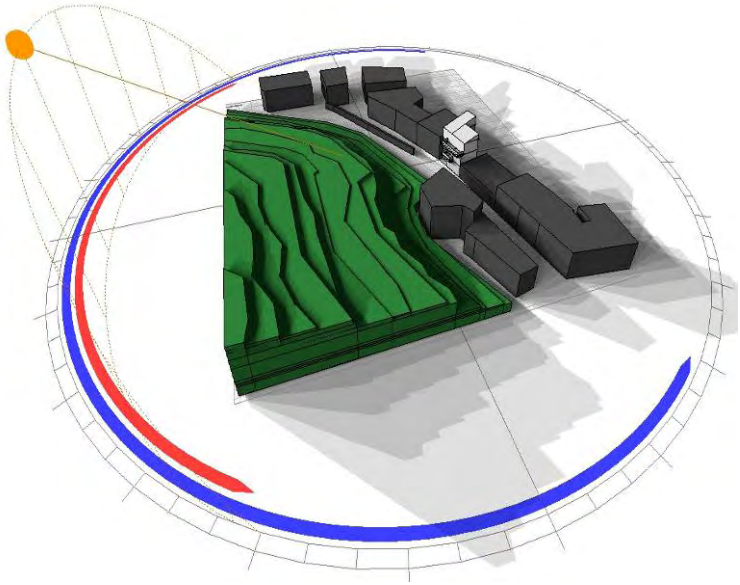
RKITEKTS Group – Workshop ECOWEEK 2010

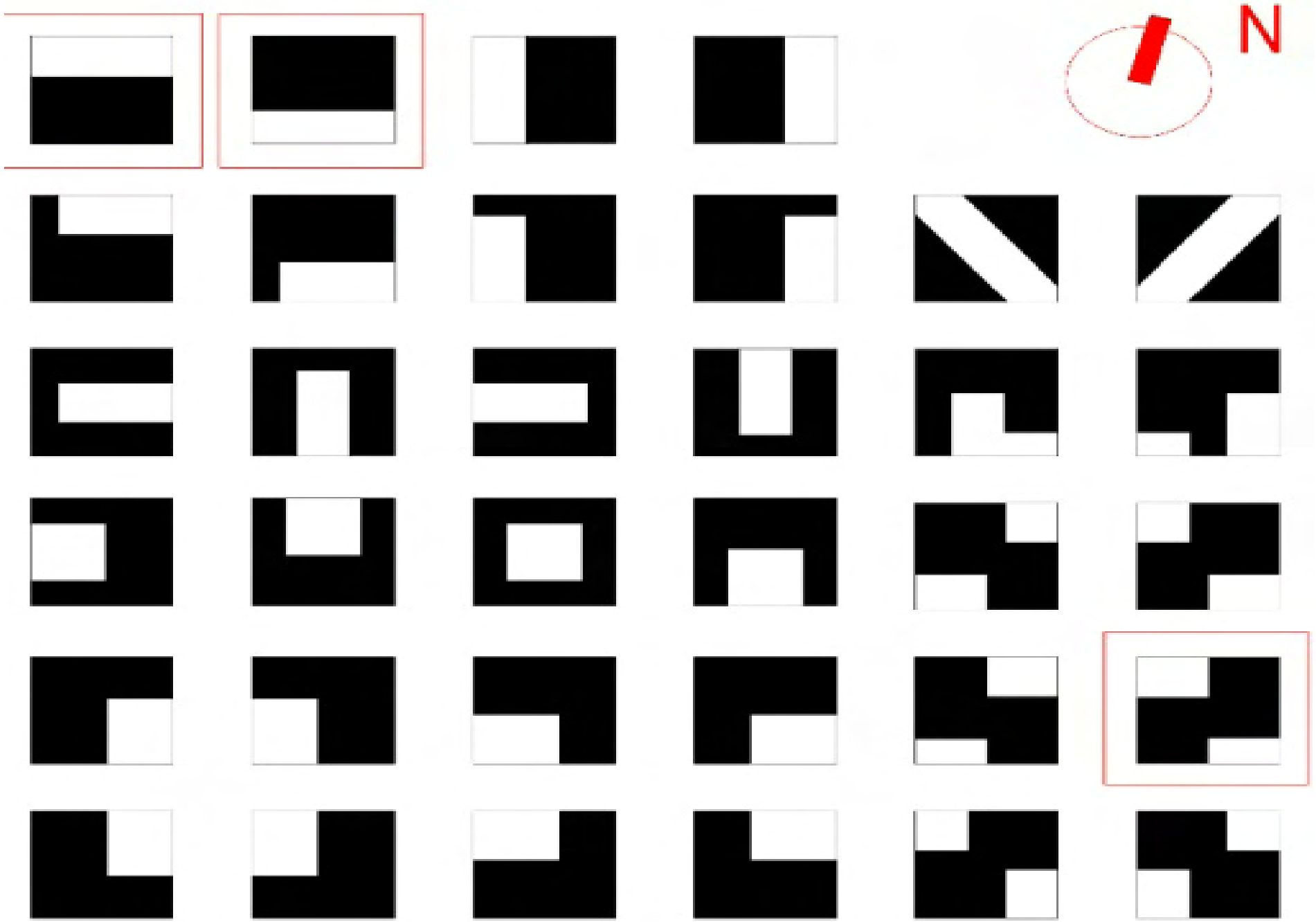
SOLAR ANALYSIS

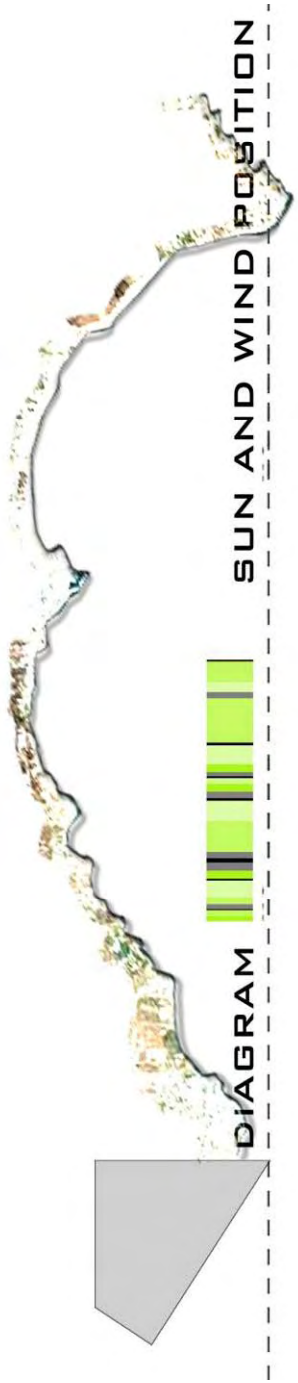






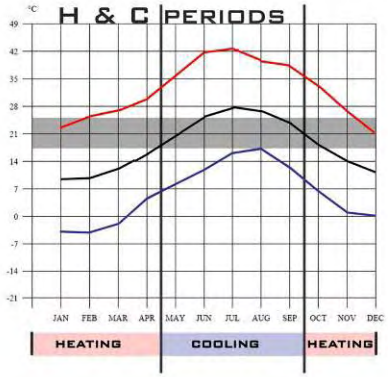
RURAL STUDIO Group – Workshop ECOWEEK 2010

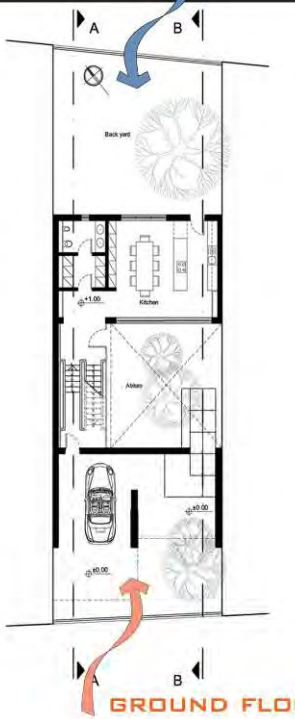


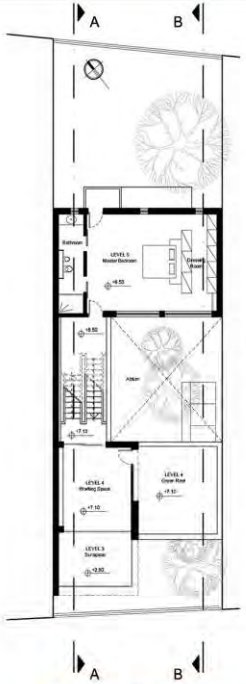

SUN AND WIND POSITION
DIAGRAM

TEAM4 Group – Workshop ECOWEEK 2010

ZERO EMISSIONS SOLAR HOUSE IN ATHENS







BASEMENT GROUND FLOOR 1ST FLOOR 2ND FLOOR

SCENARIO

This project concerns the design of a zero carbon dwelling in the centre of Athens. The three bedroom dwelling will host a typical Greek family of four people and will also include a working space.

THE CLIMATE

Greece has a hot and dry climate combined with a extended heating period. During the summer, natural ventilation and vegetation will provide natural cooling. During the winter, passive solar heating is incorporated in the design with the use of the sunspace, the morphology of the volumes and the size of the glazing facades.

ARRANGEMENT

The arrangement of the house is formed around a central atrium based on the vernacular architecture of the Mediterranean. The main spaces of the house are located around a central atrium taking advantage of its lighting and thermal effect. The atrium in-between the enclosed spaces of the house makes cross ventilation possible, improves the microclimate and allows daylight to penetrate the northern rooms. The living room and the working space of the house are located towards south. The bedroom and the

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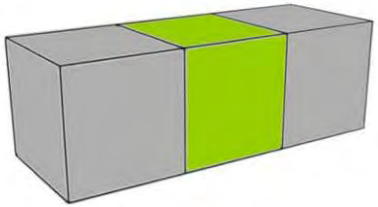
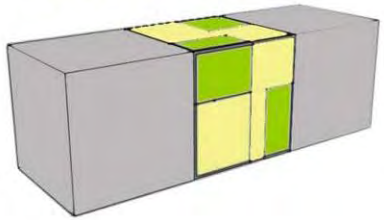
main idea

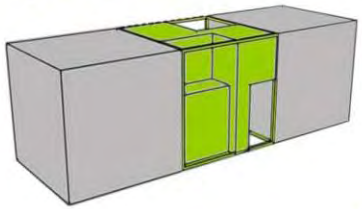
the cube



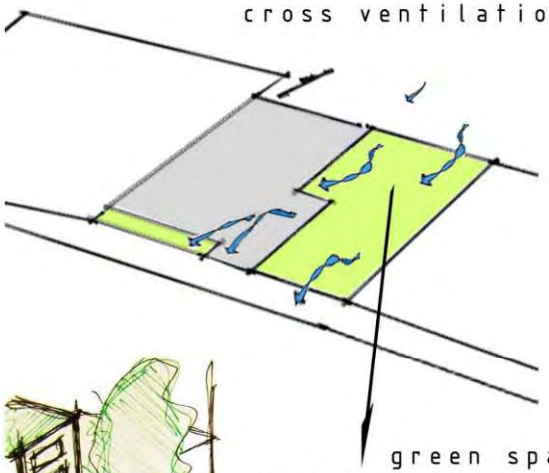
substraction



'green house'

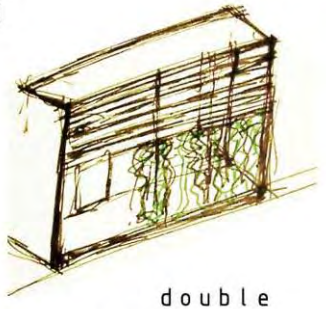


natural
cross ventilation



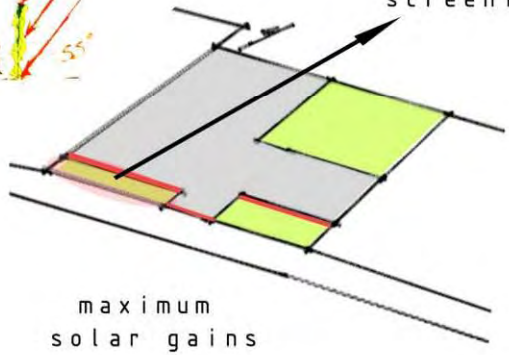
green space
with water element
for microclimate

winter period



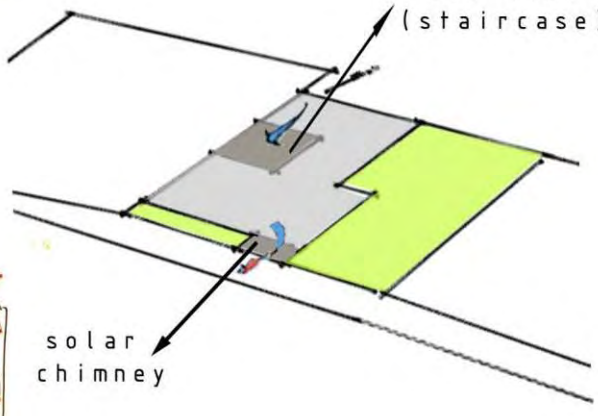
summer period

double
screening

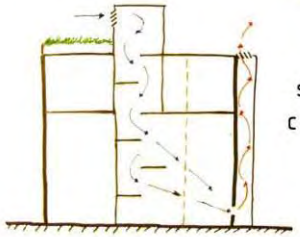


maximum
solar gains

air duct
(staircase)

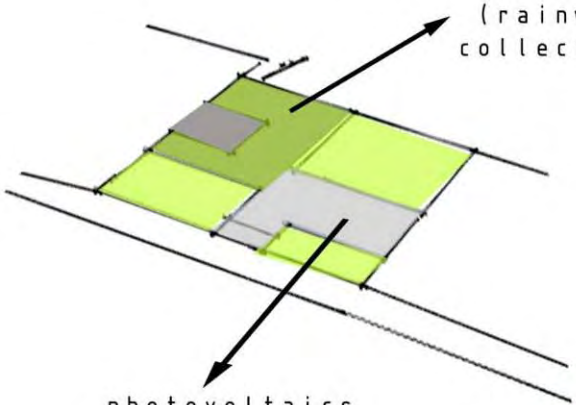


solar
chimney



cooling strategy

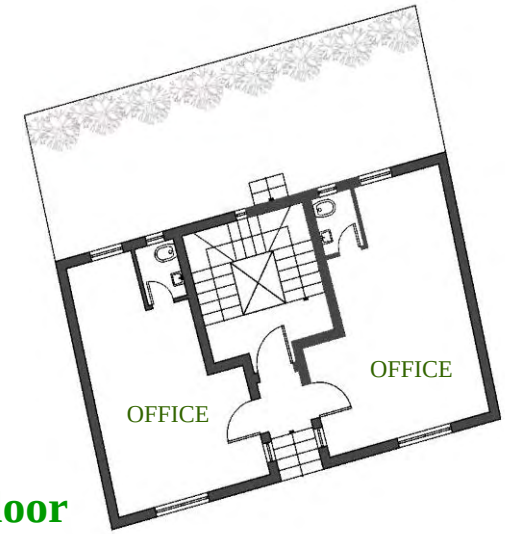
green roof
(rainwater
collection)



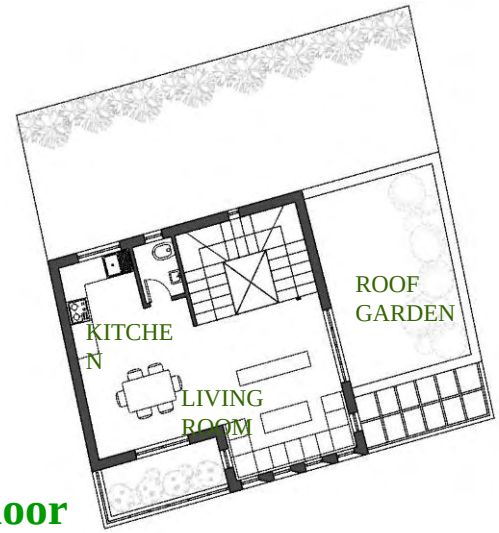
photovoltaics

design concept

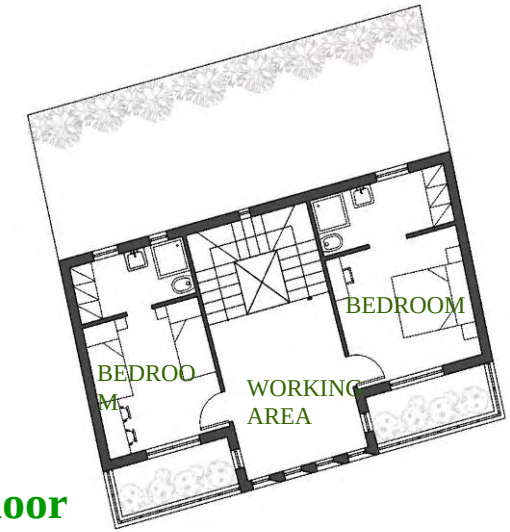
ARRANGEMENT OF LIVING SPACES



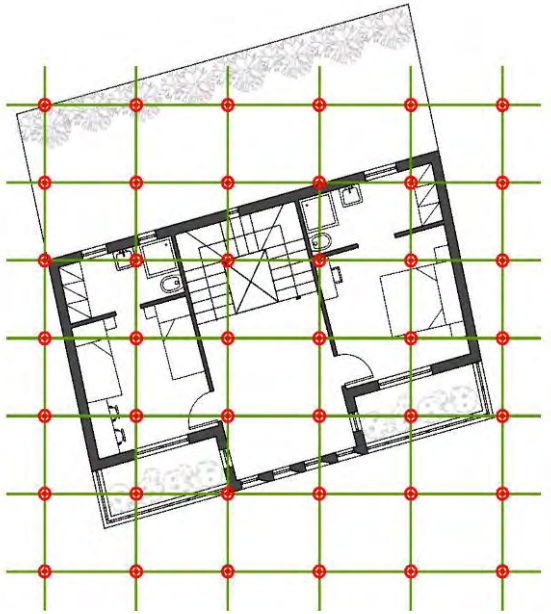
Ground floor



Second floor



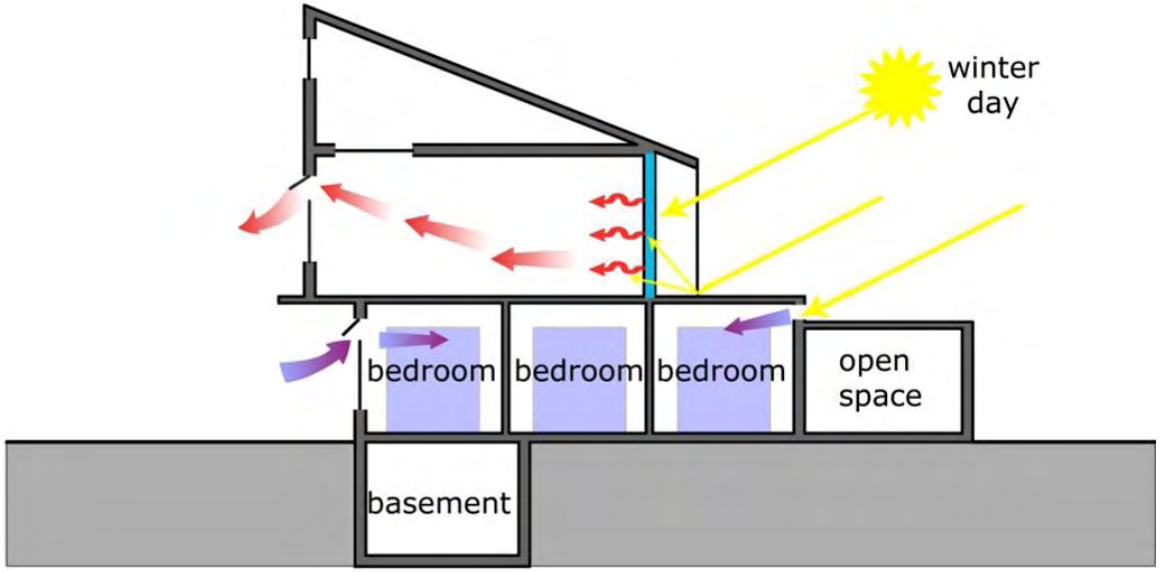
First floor

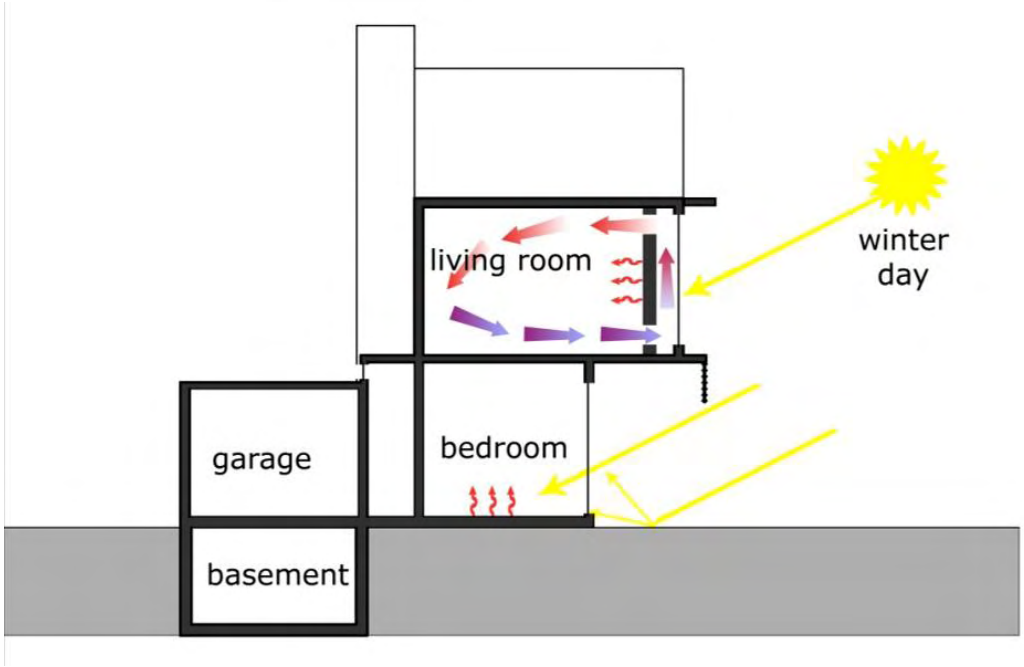


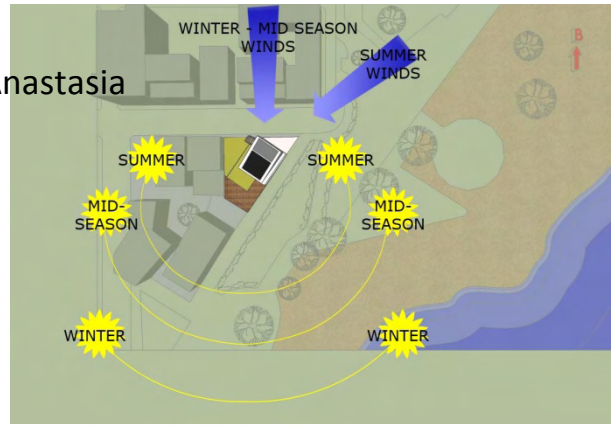
The Hartmann nodes on the first floor

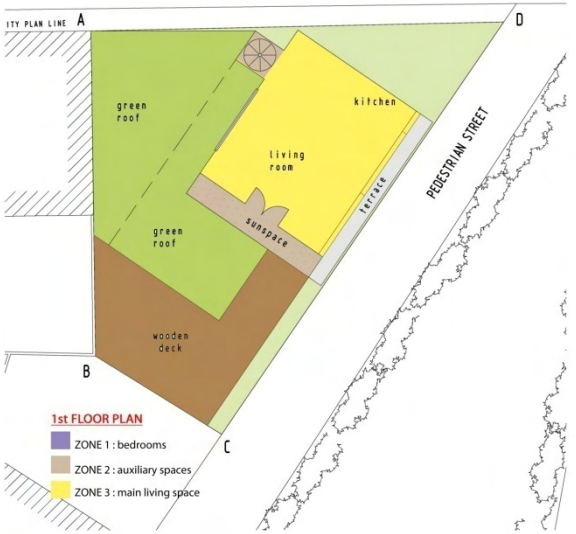
YPEKA 1 Group – Workshop ECOWEEK 2010

YPEKA Kaloumenou Eleana *)Zerboudaki Eleana *)Des Brosses Frederic *)Theodorou Anastasia





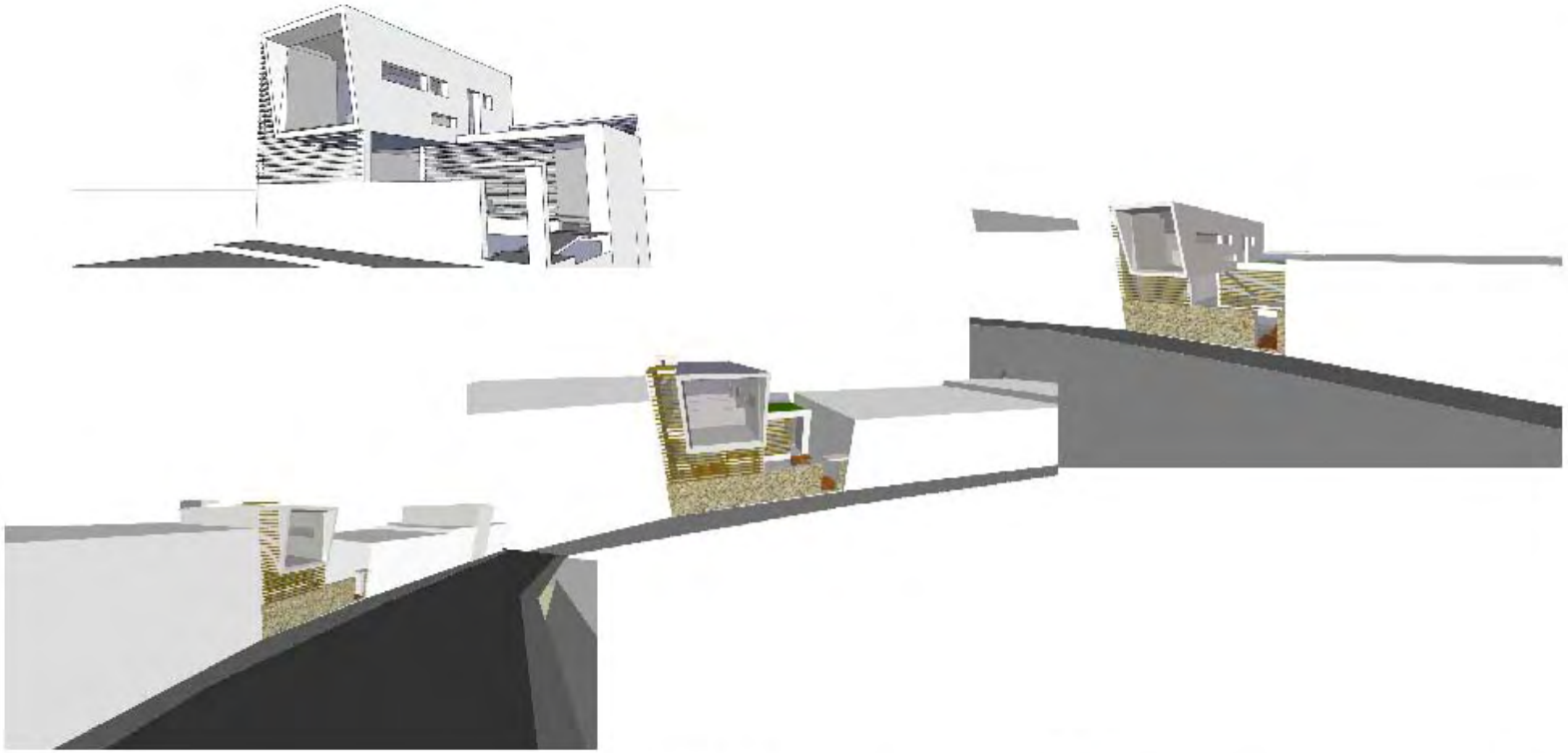


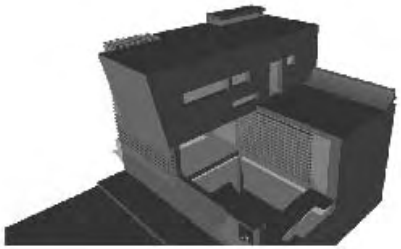


ZEREFOS TESSAS STUDIO Group – Workshop ECOWEEK 2010

VIEW C

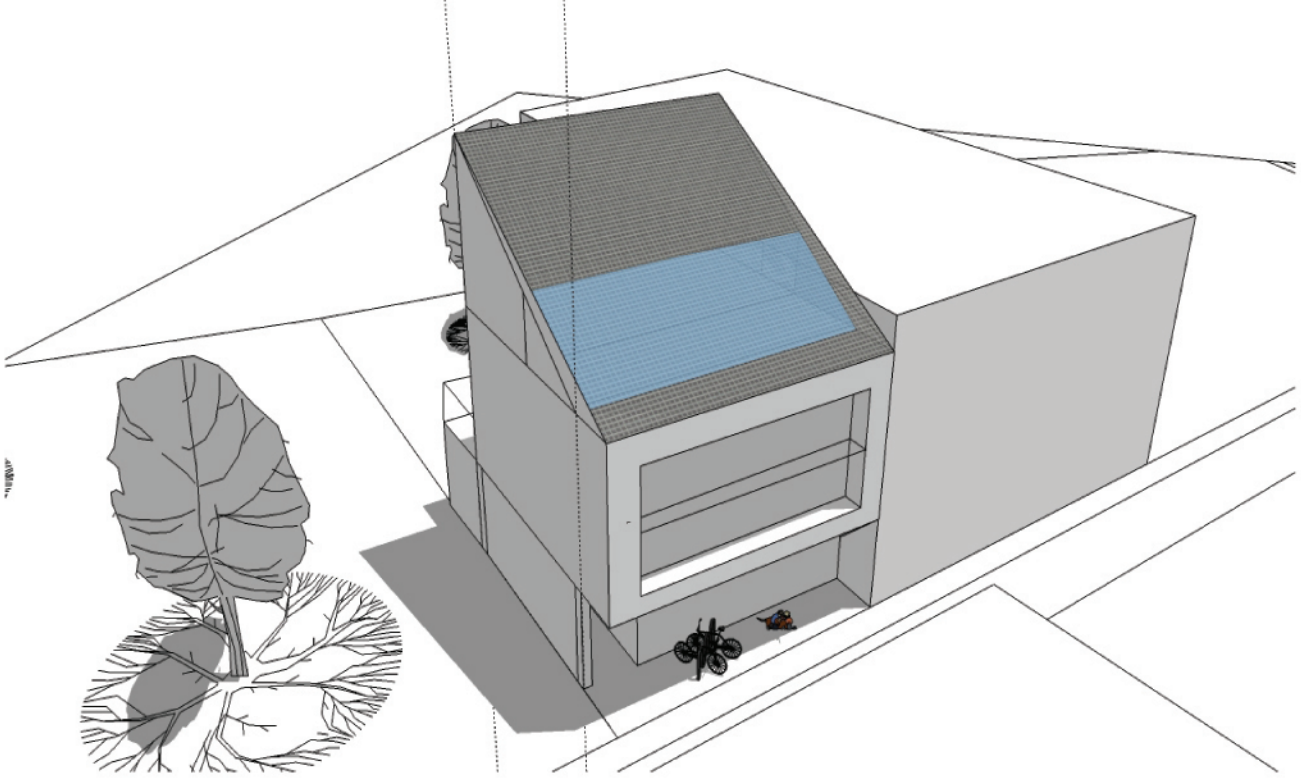
3D VIEWS



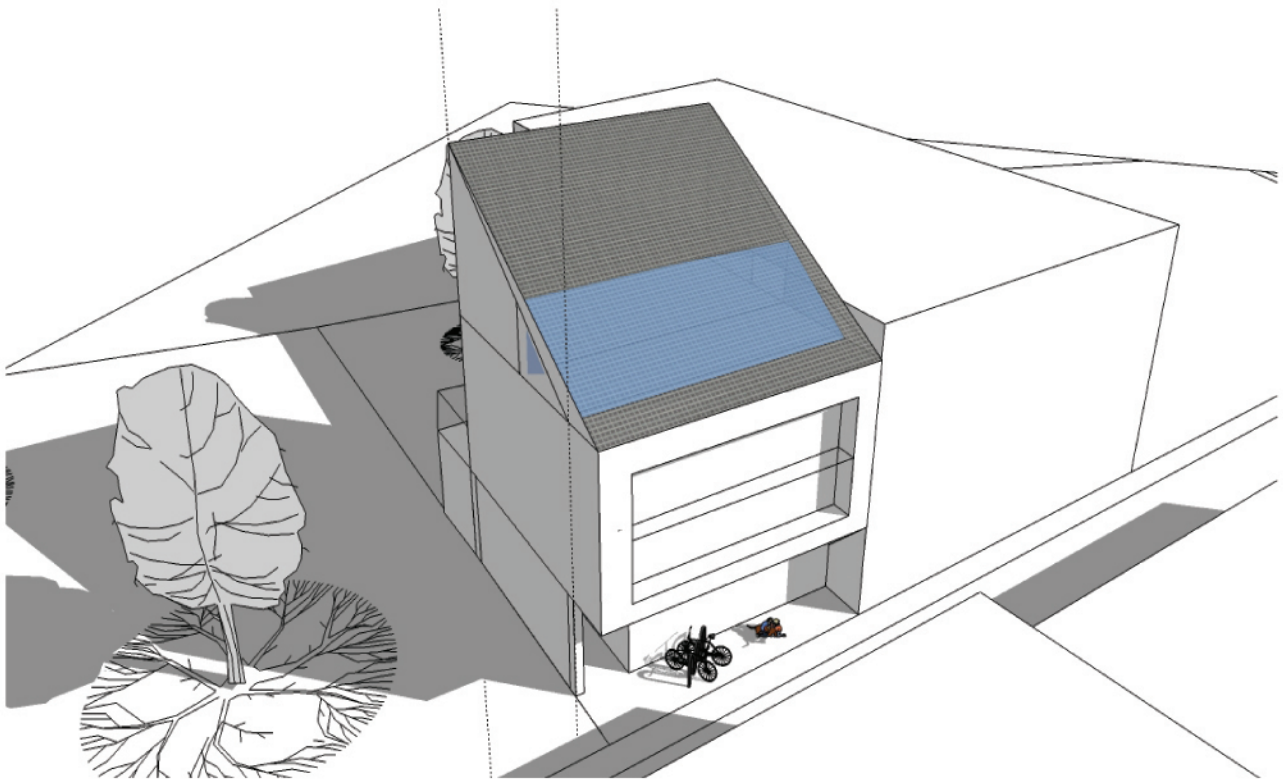


Passive solar house of zero emissions

Angelidakis Group Workshop ECOWEEK 2010



POSITION OF SHADOW ON JULY 21



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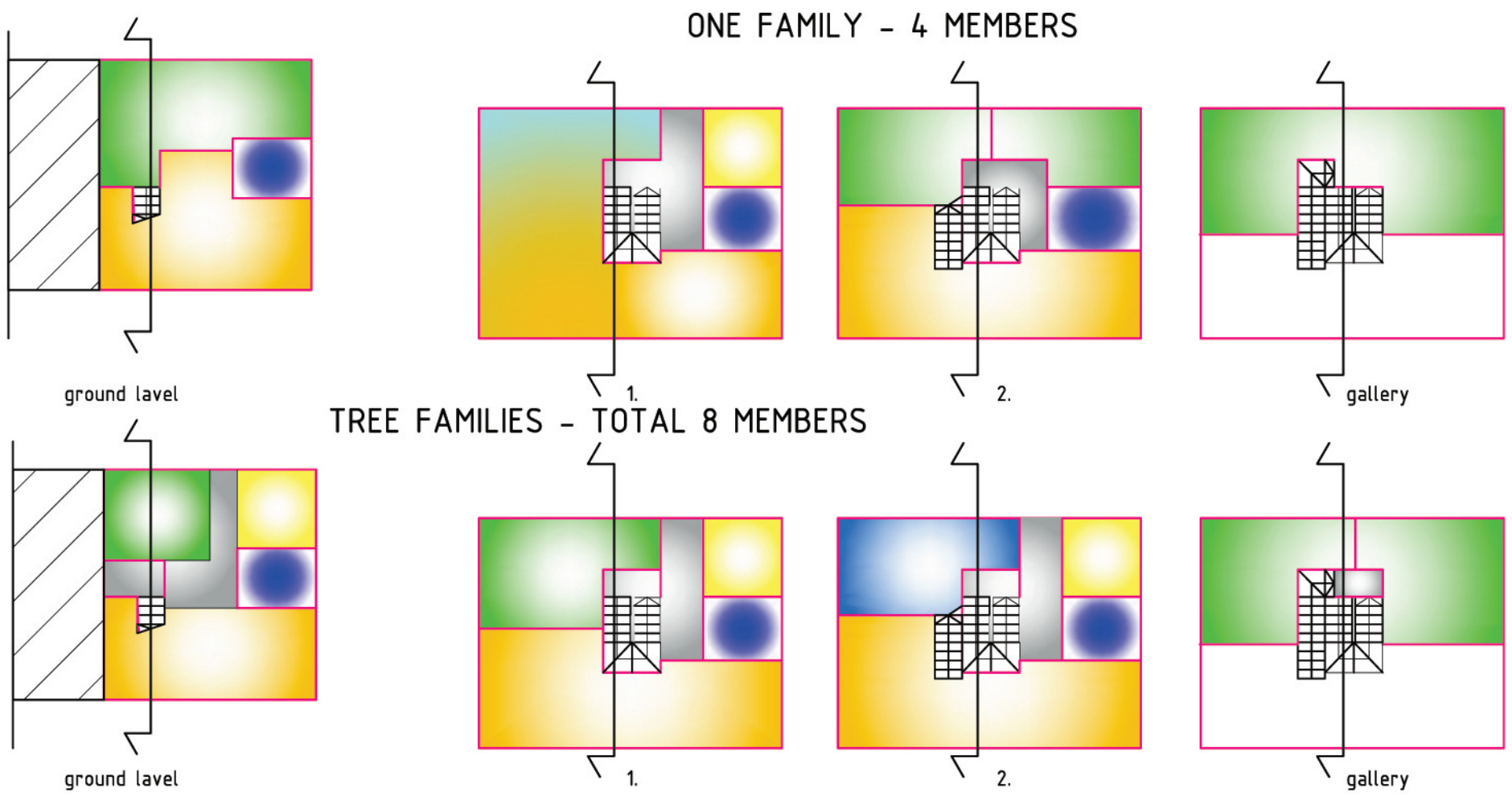

Ilic' Olivera / Iliopoulou Eleni / Ritsakis Giorgos / Stevanovic' Sanja

AREA TM Group Workshop ECOWEEK 2010