GREEN CONSERVATION LAB
TEL- AVIV-YAFO

Arch. Rinat Millo-Steinlauf,
Conservation Department,
Tel-Aviv-Yafo Municipality, Israel
67% GHG EMISSIONS from buildings in TEL-AVIV YAFO
REDUCE 20% GHG EMISSIONS

ENERGY PRODUCTION 1.2 GW
THE GREENEST BUILDING

LCA | CRADLE TO GRAVE
THE **GREENEST** BUILDING IS THE ONE THAT IS ALREADY BUILT
EXISTING BUILDINGS SURVEY
GREEN RETROFIT PACKAGE DEALS
GREEN RETROFIT

No laws = No money = No Retrofit
ISRAEL’S STATUS
CONSERVATION is the most effective legal MECHANISM for enforcing the REUSE AND RETROFIT of buildings in Israel
TEL-AVIV-YAFO

45,000 Buildings
2,300 Listed Buildings
3,000 White City District
3,100 Jaffa District
8,400 Total

20% Retrofit Potential
Criterion ii The White City of Tel-Aviv is a synthesis of outstanding significance of the various trends of the Modern Movement in Architecture and town planning in the early part of the 20th century. Such influences were adapted to the cultural and climatic conditions of the place, as well as being integrated with local traditions.

Criterion iv The new town of Tel-Aviv in an outstanding example of town planning and architecture in the early 20th century, adapted to the requirements of a particular cultural and geographic context.
Natural ventilation
Balconies
Small Narrow openings
Shading elements
Shutters
Use of flat roof tops
Buildings on pillars
Green front yards
Water elements
GERMAN - ISRAELI 
COOPERATION

SAVE THE DATE

2/5/2013

GREENING THE 
WHITE CITY

INTERNATIONAL CONFERENCE

The Tel Aviv-Yafo Municipality, in collaboration with the Heinrich Boell and the Bauhaus Foundations, cordially invite you to attend the Greening the White City Conference. The Conference will serve as an arena for international experts to debate the White City’s intriguing past, discuss the social challenges of its present, and explore ideas on how it can help make our future greener.

Early registration for the venue on 26.4.2013 at the site of "Houses From Within": www.batim-il.org

2ND MAY 2013, 
"HABIMA" NATIONAL THEATER OF ISRAEL, TEL AVIV-YAFO

FREE ENTRANCE
OUTCOMES OF THE COLABORATIONS

THE HOME FOR URBAN RENEWAL

GREEN CONSERVATION LAB

ENERGIZING TEL-AVIV-YAFO
URBAN SCALE  “white city” heat island effect , old Jaffa heat island effect, roof top photovoltaic panels

BUILDING SCALE  building wall sections, quantifying the environmental value of conservation

DETAILS AND TECHNOLOGY SCALE  embodied energy in conservation materials, Tel-Aviv-Yafo plaster, solar cooling systems,

SOCIAL-ECONOMICAL ASPECTS
GREEN CONSERVATION

ENERGY EFFICIENCY OF CONSERVATION BUILDINGS IN TEL-AVIV-YAFO
DOCUMENTATION & PLANNING
The Liebling Conservation Center, 29 Idelson St., ESD ltd. Green Consultants

Before

After
- Air circulation around the building
- Natural ventilation
- Shading during summer
- Natural lighting
GREENING THE WHITE CITY CENTER
DEMO BUILDING

1. Embodied energy
2. Passive ventilation demo
3. Electricity use monitoring
4. Ecological urban gardening
5. Solar panels
SOLAR COOLING SYSTEMS
Feasibility assessment

Technical Requirements (Max-Liebling-House)

- Photovoltaic power plant

- No adjustments of electricity grid on building level required

- Components required
  - Inverter
  - PV generation meter
  - Feed-in meter

- Connection of PV-plant to consumption meter
Feasibility assessment

Solar Potential (Max-Liebling-House)

Estimation of solar potential:
- East/West orientation
- No consideration of shadowing and compromising areas for visiting purposes

Area A (12 m²):
- Number of modules: 7
- Performance: 1.82 kW_p
- Energy output: 2.730 kWh/a

Area B (18 m²):
- Number of modules: 11
- Performance: 2.86 kW_p
- Energy output: 4.290 kWh/a

Area C (19 m²):
- Number of modules: 11
- Performance: 2.86 kW_p
- Energy output: 4.290 kWh/a
PERMIT PROCESS
19 Pinsker St., Iftah Arad Architects, ESD ltd. Green Consultants

Before

After
PERMIT & IMPLEMENTATION
Balfur Elementary School, 13 Maze St., Yoav Messer Architects, Tami Hirsh Architects

Before

After
MONITORING
GREEN BUILDING FEATURES

8 classrooms, 1200 m² - 3 floors, Yard area: 1200 m²

- Window shading
- Solar passive heating
- Insulation - standard compliance:
  Glazing fitting to wood frame
  Wall insulation internal, problems with the windows’ sill
  Roof insulation inside/outside
- Natural lighting
- Efficient systems:
  HVAC & mechanical ventilation
  Lighting sensors, LED lighting
- Water savings:
  Condensation water collection was not implemented
- Green building materials
- Construction site management, material reuse
TEL-AVIV-YAFO PLASTER

The issue is how to insulate conservation walls with materials which will not change façade qualities, proportions and ornaments?

The goal is to develop a plaster based on natural materials with insulating qualities, so that the outcome will be thin and flexible

Course of action is through cooperation with universities and research institutions; EU research collaborations; etc.
THE FUTURE IS **GREEN**...

DANKE

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