United Nations Environmental Council

A Workshop for Sustainability
“UN Headquarters for Sustainability in New York City”: United Nations Environmental Council (UNEC)
What is Sustainability?

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

“By the end of this century, nearly all of the economically recoverable fossil fuels will be gone”


“The world fuel supply will peak by 2010 and be down to half that level by 2025-30”

geologist Colin Campbell

“The oil peak will be in 2025 or later according to Shell”

Hirsch Report

Peaking of World Oil Production: Impacts, Mitigation, & Risk Management
The 192 Member States of the UN

UN Headquarters in New York
United Nations Environmental Council

International Court of Justice

General Assembly

Security Council

Economic & Social Council

Secretariat

The Hague

Manhattan

International Court of Justice

General Assembly

Security Council

Economic & Social Council

Secretariat

Environmental Council

The Hague

Manhattan
Location in Manhattan

UN Headquarters

View from the East River
The highway underneath the UN plot
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Battery Park

East River Park

area of opportunities

C. Schurz Park

Connecting the parks

The City of New York

Mayor Michael R. Bloomberg

A GREENER, GREATER NEW YORK

plaNYC
Connecting the parks

Battery Park
East River Park
C. Schurz Park

Missing link Bike Masterplan
existing bike masterplan
biggest missing link
CONNECTING THE PARK
In order to get better grip on the specific connections between water and city tissue, a series of sections has been made, both for the area north and south of the UN plot. Main focus is the position and impact of the highway (Franklin D. Roosevelt East River Drive) along the riverbank.
TUNNEL SOLUTION
Subway station

Waterbus

Bike lane

Restaurants & Bars

Sport Facilities
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RECREATION AREA
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Grand Central

pedestrians

waterfront park zone

AROUND THE UNITED NATIONS
Program of Requirements

United Nations Environmental Council

Program of Requirements Analysis
Version 01
15-03-2011

COLLECT 1835 m²
PRODUCE 1224 m²
PROPAGATE 3536 m²

ENTRANCE 930 m²

EXCHANGE 3330 m²

GENERAL 2680 m²

FACILITIES 2300 m²

Total: 15,835 m²
PROGRAM OF REQUIREMENTS

United Nations Environmental Council | SADD | Program of Requirements Analysis | Version 01 | 15-03-2011

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Two Characteristics

Supporting part
- private
- interaction within UNEC
  - offices
  - library
  - meeting rooms

Representative part
- (semi) public
- interaction with the world
  - auditoria
  - conference room
  - press rooms
PLOT NEXT TO THE UN HEADQUARTERS
42 St to Grand Central
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FLYOVERS
Current Situation

Masterplan
MAINTAINING FACILITIES

Current Situation

Masterplan

UNEC Design
Current Situation

[Diagram of plot boundaries with north arrow labeled]

[Images of the current situation showing a large building with scaffolding and a security gate]

PLOT BOUNDARIES
Current Situation
Current Situation

Masterplan
LINE OF SIGHT
ALIGNMENT WITH THE GENERAL ASSEMBLY

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ORIENTATION TO THE UN AND THE WATER
ADAPTING SOUTH FACADE TO THE SUNLIGHT AND THE WATER
EMPHASIZING THE ENTRANCE
OPTIMAL USE OF PV PANELS ON THE ROOF
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The Most Powerful Rooftops on the Planet

How PowerFLEX™ BIPV compares

More power per roof with lower BOS & installation costs

This is your roof

This is your roof with tilted solar panels

This is your roof with PowerFlex™ BIPV

More surface area covered plus higher performance equals more power to you

Integrates with roofing surface
- No mounting hardware
- No roof penetrations
- No wind load

Flexible module
- Fits many roof types
- Durable, non-breakable

Light weight
- 3.5 kg/m² (0.7 lb/ft²) with adhesive
- No structural reinforcement required

Designed specially for rooftops

High efficiency CIGS
- 10.5% to 12.6% aperture efficiency
- 50% more efficient than flexible a-Si

High performance
- Performs in all light conditions
- Shade tolerant

Covers entire roof area
- Lays flat. No tilt required
- Minimum module spacing required

More energy per roof

Lower installed system costs

Large format module
- 250-300 Watts
- 5.75m x 0.49m dimensions
- 30% to 40% savings in BOS & installation costs

PowerFLEX™ BIPV - 250/275/300W
USING THE EAST RIVER TEMPERATURE FOR HEATING AND COOLING
STORAGE OF RAINWATER
FACADE AND ATRIUM: USE OF DAYLIGHT AND NATURAL VENTILATION
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NATURAL VENTILATION
two areas inside
> one facade
outside
emphasis on the length
FACADE AMBITIONS

transparent & closed
Facade Ambitions shouldn’t show the different floors.
FACADE AMBITIONS

reflect the light
reuse & light weight
Veranda Car Park - Paul de Ruiter
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QUESTIONS?