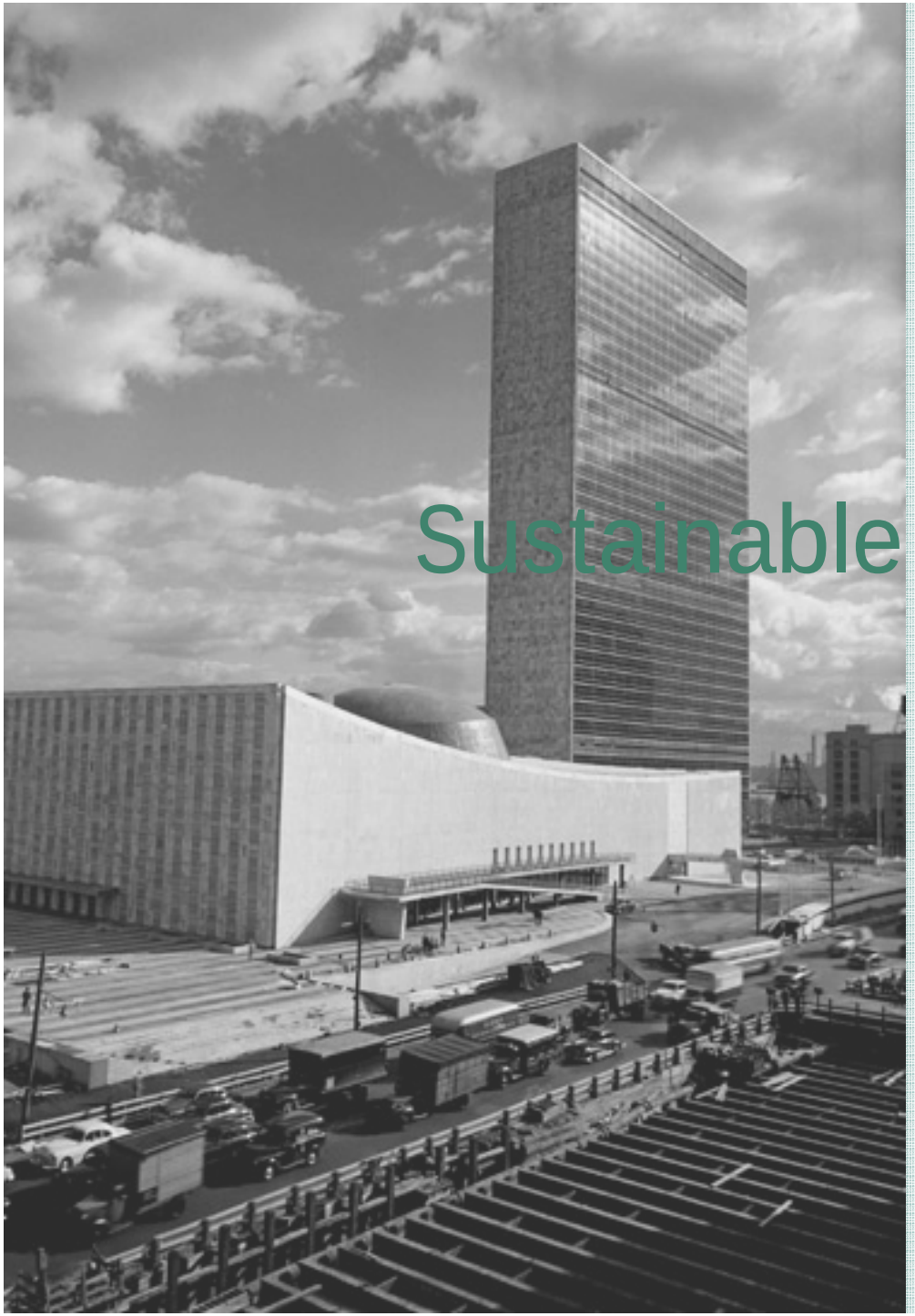


United Nations
Capital Master Plan

Sustainable Design Initiatives

July 2009

CMP Sustainable Design Initiatives

Performance Metrics

- **Energy Efficiency:** total min. 50% reduction compared to existing campus; min. 65% reduction for heating and cooling (see pages 3 & 4)
- **Reduction in CO_2 Emissions:** min. 45% reduction compared to existing campus related to total energy consumption (23,000 tons emissions)
- **Water Efficiency:** 40% reduction compared to existing campus
  - Low-flow lavatories, toilets fixtures and urinals
  - Greywater harvesting (demonstration)
- **Materials and Waste Efficiency**
  - Construction waste management program
  - Use of recycled materials
- **Atmosphere and Air Quality**
  - Removal of hazardous materials
  - Removal of ozone-depleting refrigerants (CFC's)
  - Use of reduced greenhouse gas (GHG) HVAC coolants
- **Education and Outreach** (see page 7)
- **New Technology Demonstrations** (see page 8)

CMP Sustainable Design Initiatives

Energy Efficiency – Key Strategies

- Improved Building Envelope
  - New high performance double-glazed curtain wall
  - New automated interior shades/blinds
  - New insulation and other energy conserving measures on roofs and exterior walls

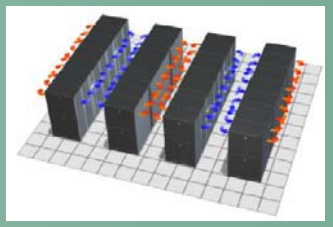
New Double-Glazed Curtain Wall

CMP Sustainable Design Initiatives

Energy Efficiency – Key Strategies

- Improved heating, ventilation and air-conditioning (HVAC) system
  - o New hybrid electric-steam chiller plant configuration
  - o New automated building management system (BMS), which controls building systems using centralized computer technology.
  - o New high-density, in-row data center cooling system
  - o New under floor air distribution system in select conference rooms
- Improved lighting systems
  - o New high-efficiency lamps and ballasts.
  - o New occupancy sensors, which automatically turn off lights if a space is unoccupied.
  - o New daylight harvesting system, which automatically controls artificial light levels in response to natural light levels.
- Renewable Energy Generation (see pages 5 & 6, in consideration)

Electric Chiller

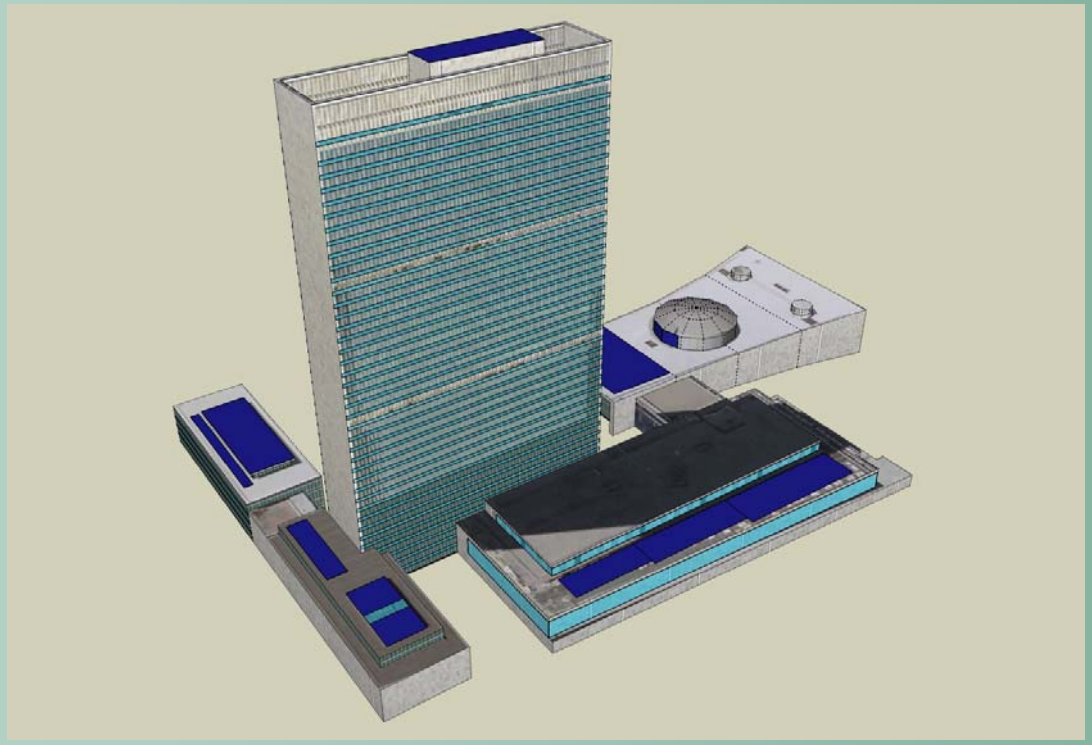


In-Row Data Center Cooling

Daylight Harvesting

CMP Sustainable Design Initiatives in Consideration

Renewable Energy Generation



Photovoltaic Roofs

Integrated Solar Roofs

Solar Roof Array

CMP Sustainable Design Initiatives in Consideration

Education and Outreach

Greywater Harvesting Demonstration

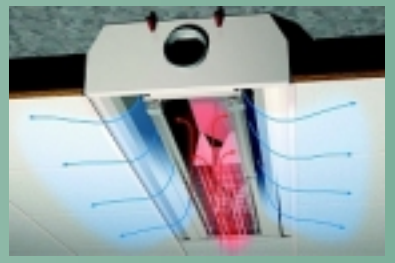
User and Visitor Interactive Lobby Displays

CMP Sustainable Design Initiatives in Consideration

New Technology Demonstrations

Wind Turbine / Sculpture Demonstration

Anaerobic Waste Management Demonstration



Active Chilled Beams Demonstration

www.un.org/cmp