GREENING THE CAMPUS

SUSTAINABILITY, LEED®, AND YOUR BOTTOM LINE
GREENING THE CAMPUS

DO YOU REMEMBER OUR 2004 CFO CONFERENCE?

Supplying Oil and Gas Demand Will Require Major Investment
Millions of Barrels per Day of Oil Equivalent (MBDOE)

World Demand
Existing Field Decline ~ 4–6%
Required New Production
Base Investment Required
Existing Production

2004

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YOUR FUTURE CAMPUS DESIGN WILL BE……………..?

LEED®
GREEN
SUSTAINABLE
ENVIRONMENTAL
HIGH PERFORMANCE
RE-THINKING DESIGN?

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GREENING THE CAMPUS
THE “INTEGRATED PROJECT DELIVERY PROCESS”

- Building Energy Modeling
- Life Cycle Cost Analysis
- High Performance Design and Construction
- Lower Operating Costs

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GREENING THE CAMPUS
BUILDINGS AND ENERGY USE

TYPICAL ENERGY USE IN COMMUNITY COLLEGES
- 26% Space Heating
- 23% Water Heating
- 21% Artificial Lighting
- 20% Space Cooling
- 10% Other

POSSIBLE ENERGY SAVINGS
- 100,000 sq.ft. - energy cost:
  - $1.50/sq.ft. = $150,000 / year
  - 10% savings = $15,000 / year
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WHAT IS ON THE HORIZON

EXTERNAL SCAN:

- Rising Energy Costs
- Students’ Interest in Sustainability
- Higher Education on Sustainability
- The Illinois Sustainable University Compact
- LEED-based Design and Construction
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THE ILLINOIS SUSTAINABLE UNIVERSITY COMPACT

- Acquire 3% of the energy from renewable sources
- Join the U.S. EPA ENERGY STAR Challenge
- All new construction on campus to be LEED Certified
- Promote sustainable transportation
- Reduce water usage on campus by 15%
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U. S. Green Building Council / LEED® CERTIFICATION

LEED™ For Schools 2007

- LEED Platinum  58-79 points
- LEED Gold      44-57 points
- LEED Silver    37-43 points
- LEED Certified 29-36 points

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GREENING THE CAMPUS
THE ILLINOIS SUSTAINABLE UNIVERSITY COMPACT

THE ILLINOIS SUSTAINABLE UNIVERSITY COMPACT

- Install permeable pavement in parking lots on campus
- Incorporate rain gardens and bioswales into landscaping
- Purchase non-toxic / green cleaning products / services
- Purchase 25% of food served from local farms/vendors
- Compost at least 5,000 cubic yards of organic waste
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PERMEABLE PAVEMENT: YOU MAY ALREADY HAVE IT?
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PERMEABLE PAVEMENT SOLUTIONS
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BIOSWALES AND WATER EFFICIENT LANDSCAPING
GREENING THE CAMPUS
SUSTAINABLE, LEED© GOLD BUILDING DESIGN

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SUSTAINABLE, LEED© GOLD BUILDING DESIGN

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WHITE OR REFLECTIVE / “COOL” ROOFS

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VEGETATIVE / "GREEN" ROOFS

GREEN

ROOF

STUDENT

RESEARCH

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GREENING THE CAMPUS
DAYLIGHTING DESIGN AND DAYLIGHT MODELING
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DAYLIGHTING AND DAYLIGHT HARVESTING
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DAYLIGHTING AND DAYLIGHT HARVESTING
GREENING THE CAMPUS
GEOTHERMAL HEATING AND COOLING
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SUSTAINABILITY AS AN INSTITUTIONAL OBJECTIVE

Shift Society by using the "Voice of Higher Education"
• Civil Rights Movement
• Movement against the War in Vietnam
• Women's Movement
• Sustainability Movement

Sustainability as an Institutional Objective
• AC&U "Presidents Climate Commitment"
• Illinois Sustainable University Compact
## Components of Sustainability in Higher Education

- Strategic Planning
- Community Development
- Societal Outreach
- Legislation
- Research
- Curricula
- Student Life
- Human Resources
- Purchasing
- Facilities

## Facilities

- New Construction
- Existing Buildings
- Master Planning
GREENING THE CAMPUS
MASTER PLANNING

Sustainability Initiative
Campus as a Teaching Tool
LEED Based Design
Organic Gardens
Green/Cool Roofs
Preferred Parking for Low-Emitting Vehicles
Renewable Energy
Water Conservation
Public Transportation
Composting
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Sustainable Applications

Green your Major Renovation / New Projects

- Controlled Natural Day-lighting
- Renewable Energy
  - Solar Panels
  - Geothermal
  - Wind Power
- Green Roofs
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NEW CONSTRUCTION

Moraine Valley Community College
Southwest Educational Center

- LEED-NC Gold Design
- High-Performance Building
- Water-efficient Landscaping
- Water Conservation (20%)
- Geothermal Heat Pumps
- Energy-Efficient MEP Systems
  - 35% Energy Savings
- Daylight Harvesting
- Green Roof / Reflective Roof
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EXISTING BUILDINGS

Lutheran School of Theology at Chicago and McCormick Theological Seminary Interior Renovations

40-Year Old Existing Buildings
LEED-NC Gold Design
High-Performance Building
Water-Efficient Landscaping
Water Conservation (20%)
Energy-Efficient MEP System
  • 40% Energy Savings
Green Roof
Recycled/ Low VOC Materials
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Sustainable Applications

- Recycle old Carpet
- Specify Recycled Carpet
- Use Low VOC Paints
- Lighting Control
- Cool Reflective Roofs
- Retro Commissioning
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Sustainable Applications

Green Your Current Renovation Projects

- Simple Changes in Materials / Specifying
- Low / $0 cost
- Quick payback
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PURCHASING AND OPERATIONS

- Low-VOC chemicals (volatile organic compound)
- Non-toxic cleaning agents
- Bio-degradable chemicals
- Reusable containers
- Lower operating costs

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Sustainable Applications

Support your Students to be Green

• Provide Services to keep Students on Campus
  – Food, Retail
  – Student Activities
  – Internet/WiFi
  – Social Interaction
• Survey your Students
• Locate Student Services Centrally on Campus
“Most produce in the US is picked 4 to 7 days before being placed on supermarket shelves, and is shipped for an average of 1500 miles before being sold.”
THANK YOU!

Michael Lundeen, AIA, LEED
LEGAT ARCHITECTS
651 W. Washington Blvd.
Suite One
Chicago, Illinois 60661
email: mlundeen@legat.com
phone 312.756.1276
fax 312.258.1555

Vuk Vujovic, Assoc. AIA, LEED
LEGAT ARCHITECTS
651 W. Washington Blvd.
Suite One
Chicago, Illinois 60661
email: vvujovic@legat.com
phone 312.756.1266
fax 312.258.1555