Università e sostenibilità: 
\textit{luci e ombre}

Egidio Dansero

\textit{Dipartimento Culture Politica Società}
World's 10 most spectacular university buildings

By CNN Staff
February 19, 2014 -- Updated 0502 GMT (1302 HKT)

The whole Campus consists of two buildings and houses the faculties of Law and Political Science at Universita Degli Studi Di Torino in Italy. The Campus is also designed to house 5,000 students. Architects: Foster + Partners.

Campus Luigi Einaudi (Italy)

(CNN) -- If the memory of your university is a somewhat hazy mix of missed lectures, cheap food, empty beer cans and cold, concrete classrooms, you won't recognize this list.

STORY HIGHLIGHTS
* New report details most beautiful university buildings in world

13 gorgeous NZ spots

February 13, 2014 -- Updated 0528 GMT (1328 HKT)

New Zealand's Travel Photographer of the Year in 2013 shares his picks for best photo spots.
Università, Ambiente e Territorio

L’ università come sistema integrato
La sfida della sostenibilità

• Le dimensioni della sostenibilità (ambientale, economico, sociale, politica, culturale, geografica...)

• Università e sostenibilità: nella ricerca, nella formazione,

• la III missione (insieme delle attività con cui le Università entrano in relazione con la società:
  – Valorizzazione economica della conoscenza
  – Culturale e sociale
    – Organizzazione e Attore territoriale (organizzazione territoriale alle diverse scale)
TRE TIPOLOGIE DI POLITICHE E AZIONI AMBIENTALI

• Politiche ambientali esplicite: *L’ambiente è al centro dell’iniziativa pubblica.*
• Politiche ambientali “indirette”: *L’ambiente è parte di politiche urbane settoriali incentrate su altri comparti economici e sociali.*
• Politiche ambientali “emergenziali”: *Risposte a situazioni di particolare criticità ambientale.*

LOGICA CONFORMATIVA O PERFORMATIVA?
UNIVERSITAS INDONESIA INITIATED
UI GREENMETRIC WORLD UNIVERSITY RANKING
UI Green Metric Rank of World

<table>
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<tr>
<th>Indicator</th>
<th>Weight</th>
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<tr>
<td>Green Statistic</td>
<td>24%</td>
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<tr>
<td>Energy and Climate Change</td>
<td>28%</td>
</tr>
<tr>
<td>Waste</td>
<td>15%</td>
</tr>
<tr>
<td>Water</td>
<td>15%</td>
</tr>
<tr>
<td>Transportation</td>
<td>18%</td>
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</table>
Setting and Infrastructure (SI) (15%)
The campus setting and infrastructure information will give the basic information of the university consideration towards green environment. This indicator also shows whether the campus deserve to be called Green Campus. The aim is to trigger the participating university to provide more space for greenery and in safeguarding environment, as well as the development of sustainable energy.

The indicators are:
1. Campus Setting
2. Type of higher education institution
3. Number of campus sites
4. Total campus area (meter square)
5. Total ground floor area of buildings (meter square)
6. Number of students
7. Number of academic and administrative staff
8. Percentage of area on campus covered in vegetation in the form of forest.
9. Percentage of area on campus covered in planted vegetation (include lawns, gardens, green roofs, internal planting)
10. Retention: non-retentive surfaces on campus as percentage of total area for water absorption
11. Percentage of university budget for sustainability effort
Energy and Climate Change (EC) (21%)
The university’s attention to the use of energy and climate change issues be the indicator with the highest weighting in this ranking. In our questionnaire we define several indicators for this particular area of concern, i.e. energy efficient appliances usage, renewable energy usage policy, total electricity use, energy conservation program, green building, climate change adaptation and mitigation program, greenhouse gas emission reductions policy. With this indicator, universities are expected to increase the effort in energy efficiency on their building and to care more about nature and energy resources.

The indicators are:
1. Energy efficient appliances usage
2. Renewable energy resources
3. Electricity usage per year (Total KWH)
4. Energy conservation program
5. Green building elements
6. Climate change adaptation and mitigation program
7. Greenhouse gas emission reductions policy
**Waste (WS) (18%)**
Waste treatment and recycling activities are major factors in creating a sustainable environment. The activities of university staff and students in campus will produce a lot of waste, therefore some programs and waste treatments should be among the concern of the university, i.e. recycling program, toxic waste recycling, organic waste treatment, inorganic waste treatment, sewerage disposal, policy to reduce the use of paper and plastic in campus.

The indicators are:
1. Recycling program for university waste
2. Toxic waste recycling
3. Organic waste treatment
4. Inorganic waste treatment
5. Sewerage disposal
6. Policy to reduce the use of paper and plastic in campus
**Water (WR) (10%)**
Water use in campus is another important indicator in Greenmetric. The aim is that universities can decrease water usage, increase conservation program, and protect the habitat. Water conservation program, piped water use are among the criteria.

The indicators are:
1. Water conservation program
2. Piped water
Transportation (TR) (18%)
Transportation system plays an important role on the carbon emission and pollutant level in university. Transportation policy to limit the number of motor vehicles in campus, the use of campus bus and bicycle will encourage a healthier environment. The pedestrian policy will encourage students and staff to walk around campus, and avoid using private vehicle. The use of environmentally friendly public transportation will decrease carbon footprint around campus.

The indicators are:
1. Number of vehicles owned by your institution
2. Number of cars entering the university daily
3. Number of bicycles that are found on campus on an average day
4. Transportation policy designed to limit the number of motor vehicles used on campus
5. Transportation policy designed to limit or decrease the parking area on campus
6. Campus buses
7. Bicycle and pedestrian policy on campus
Education (ED) (18%)  
In 2012 questionnaire, one new criterion added to the questionnaire: education. This criterion has 18% of the total score. This expansion of the criteria based on the thought that university has an important role in creating the new generation concern with sustainability.

The indicators are:
1. Number of courses related to environment and sustainability offered
2. Total number of courses offered
3. Total research funds dedicated to environmental and sustainability research
4. Total research funds
5. Number of scholarly publications on environment and sustainability published
6. Number of scholarly events related to environment and sustainability
7. Number of student organizations related to environment and sustainability
8. Existence of a university-run sustainability website
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Fig. 2. Hypothetical graphical representation of the Environmental Dimension of the GRI for universities. Source: This author.

The Learning in Future Environments (LiFE) Index
GREENING UNIVERSITIES TOOLKIT
TRANSFORMING UNIVERSITIES INTO GREEN AND SUSTAINABLE CAMPUSES

UNEP
SCOPE OF RESPONSIBILITY

HEI RESPONSIBILITY

AS ORGANISATIONS
- Personal well-being
- Personal development
- Health & safety
- Human rights
- Social & cultural diversity
- Employability
- Waste and pollution
- Natural resource preservation
- Energy
- Climate change
- Biodiversity preservation
- Financial transparency
- Financial sustainability
- Community development
- Anti-corruption
- Governance

AS SCHOOLS
- Socially responsible behavior of graduates and partners
- Personal and professional well-being of graduates
- Inclusion of environmental sustainability issues in the managerial decisions made by graduates
- Participation of graduates in the economic and ethical development of society

LEVERS OF ACTION

AS ORGANISATIONS

SOCIAL CAPITAL
- Working and learning conditions
- Diversity policy
- Access to knowledge
- Intellectual Development
- Social dialogue
- Stakeholder engagement

ENVIRONMENTAL CAPITAL
- Transportation policy
- Building solutions
- GHG emissions management
- Sustainable purchasing

ECONOMIC CAPITAL
- International strategy
- Local community involvement
- Investment and remuneration policy
- Quality and efficiency management
- Risk management
- Sustainable performance indicators

IN PROGRAMMES & RESEARCH

INTELLECTUAL CAPITAL
- Pedagogical approach
- Curriculum content
- Learning by doing
- Research themes
- Transversal research
- Exemplary behavior
- Evolving information sources
- President of standards

*Adapted From Eumed Management /Fedge 2009*
Figure 2.1: The “virtuous cycle” of stakeholder engagement. Modified from The Guide to Practitioners’ Perspectives on Stakeholder Engagement [42]

- **Stakeholder Engagement**
  - Program implementation integration
  - Renewed engagement

- **Value Creation**
  - Buy-in and influence of senior management
  - Support and resources

- **Internal Commitment**
  - Public awareness catalyst for change

- **External Credibility**
  - Framework for establishing sustainability dialogue
  - Focus for initiating action
<table>
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<tr>
<th>DIMENSION</th>
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| Curriculum                    | Courses which address topics related to sustainability  
                                 Integration of sustainability into traditional disciplines  
                                 Learning about the campus as a socio-environmental system                                                                                           |
| Research and scholarship      | Staff and student research and scholarship relating to sustainability  
                                 Interdisciplinary structures for sustainability research, education and policy development                                                                       |
| Fabric and operations          | Building construction and renovation  
                                 Energy and water conservation  
                                 Waste minimisation  
                                 Sustainable food programs  
                                 Sustainable landscaping  
                                 Sustainable transportation  
                                 Green purchasing  
                                 Minimisation of toxic materials  
                                 Environmental / sustainability auditing  
                                 Integration of operational practices with learning and teaching                                                                                     |
| Staff development and rewards | Sustainability criteria for hiring and promotion  
                                 Staff development opportunities                                                                                                                       |
| Outreach and service          | Sustainable community development at regional, national and international levels  
                                 Partnerships with schools, local government and local business                                                                                       |
| Student opportunities         | Orientation on sustainability for students  
                                 Student environmental centre  
                                 Student groups with sustainability focus  
                                 Career counselling focused on sustainability  
                                 Student involvement in campus sustainability initiatives                                                                                             |
| Administration, mission and planning | Commitments to sustainability in terms of reference for university organisational units  
                                 Positions and committees dedicated to sustainability issues  
                                 Staff orientation programs  
                                 Socially responsible investment practices  
                                 Regular environmental audits  
                                 Sustainability related events                                                                                                                         |
Figure 3.2: The university sustainability continual improvement cycle [45-49, 56-58]. The red spiral represents the main plan-do-check-act sequence, the blue arcs indicate secondary feedback loops and information inputs.
Strategie e azioni interne a Unito
- elementi pregressi (Agenda XXI, vari studi e piani di localizzazione degli insediamenti universitari, altri ....)

-Linee strategiche di Ateneo 2014: in particolare i punto 1.6 e 1.7, ma anche altri punti di possibile aggancio
1.6
Partecipazione all’ elaborazione di strategie di sviluppo e della competitività del territorio

1.6.1
• Fornire contributo scientifico alla progettazione strategica a livello territoriale
• Numero di persone dell’Ateneo coinvolte nella progettazione strategica

1.7
Sostenibilità sociale, economica ed ambientale dell’Ateneo

1.7.1
• Elaborare una piattaforma di supporto alla gestione della compliance normativa sui temi della sicurezza sui luoghi di lavoro
• Disponibilità della piattaforma per la gestione condivisa dei contenuti normativi

1.7.2
• Attivare servizi in comune con altri atenei in ambito regionale
• Numero di servizi in comune

1.7.3
• Avviare interventi di contenimento dei consumi e di risparmio energetico
• Avviamento dei progetti di contenimento dei consumi, risparmio energetico e salvaguardia dell’ambiente

1.7.4
• Analizzare i contratti di locazione e ridurre gli oneri per i canoni di affitto
• Importi dei contratti di affitto risolti

Cfr. art. 2.3.II b del Decreto Carrozza

Miglioramento indice ISEF
1.7 Sostenibilità sociale, economica ed ambientale dell’Ateneo

1.7.1
• Elaborare una piattaforma di supporto alla gestione della compliance normativa sui temi della sicurezza sui luoghi di lavoro
• Disponibilità della piattaforma per la gestione condivisa dei contenuti normativi

1.7.2
• Attivare servizi in comune con altri atenei in ambito regionale
• Numero di servizi in comune Cfr. art. 2.3.II b del Decreto Carrozza

1.7.3
• Avviare interventi di contenimento dei consumi e di risparmio energetico
• Avviamento dei progetti di contenimento dei consumi, risparmio energetico e salvaguardia dell’ambiente

1.7.4
• Analizzare i contratti di locazione e ridurre gli oneri per i canoni di affitto
• Importi dei contratti di affitto risolti
• Miglioramento indice ISEF
UNITO verso una maggiore sostenibilità:
iniziative in corso o future

- Piano di risparmio energetico (punto 1.7 linee strategiche) (aspetti tecnici; aspetti di policy, sensibilizzazione, coinvolgimento, responsabilizzazione, partecipazione); Energy manager
- Bilancio in ottica partecipata (punto 4.5 linee strategiche)
- Adesione attiva al protocollo Acquisti pubblici ecologici (problema di policy per una organizzazione complessa e a struttura decentrata come l’Università)
- Possibilità di pensare a strategia di mobilità sostenibile tra le diverse sedi (Mobility Manager)
- Vari centri e gruppi di ricerca, tra i quali: IRIS (Centro Interateneo) e Cattedra Unesco “Sviluppo sostenibile e gestione del territorio
- Pluralità di iniziative, riflessioni e azioni alla scala di Unito (Hackunito, CraftLab... + sicuramente altre che non conosco) o delle singole sedi (CLE, Grugliasco, Palazzo Nuovo, Medicina, Poveri Vecchi ....): in corso o attivabili (a partire da problemi opportunità...)
- Strategie per diritto allo studio, ospitalità universitaria, collegamento Edisu, CUS con il territorio (vari punti di aggancio con linee strategiche)