United Nations Economic Commission for Europe
Greening Homes in the UNECE Region

Green Building Council Italia: How Rating Systems Can Drive the Change

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Executive Officer GBC Italia

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4th April 2012
How rating systems can drive the change

Story line

- A ‘bottom-up’ approach
- World GBC and the European Network
- Tools to measure leadership in sustainable building
- GBC Italia and GBC Home: how does it work?
- Examples of certified buildings
- Our approach to market transformation: subsidiarity
- Current and future developments
How rating systems can drive the change

There are a lot of ‘top-down’ reasons to transform the building market into a more sustainable market:

- Resources depletion
- Climate Change
- Population Growth
- Harmonization of jurisdiction
- Social issues

European Union has set-up a large number of tools to support the change

- Energy and Climate Change Package (20-20-20)
- Energy Efficiency Action Plan
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But what is happening in EU Countries?

- **Economic crisis**: building market suffers dramatically
  = very little new constructions especially in ‘established’ Countries
- National Governments need to deal with **Debt Crisis**: public investments reduced, incentives reduced
- Banks became much stricter in releasing finance to entrepreneurs and developers: **Credit Crunch**

In this situation **a top-down approach is not enough** to drive the needed changes.

A new ‘bottom-up’ pressure arises…
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A new ‘bottom-up’ approach started by market leaders

• **Leading architects and engineers**, who are already **designing** sustainable buildings

• **Leading builders** who are already **building** sustainable buildings

• **Leading technology suppliers**, who can already supply high-efficiency and environmentally sound **equipment**

• **Leading materials suppliers**, who can supply high-quality **materials**, with low impact on the consumption of resources

They are willing to **invest in transforming the market** into a more sustainable market: **why?**
Because it means **more work for them!**
Market leaders joined efforts to promote their excellences: … In the last few years Green Building Councils have been founded all-over the World and they cooperate internationally through World GBC
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World Green Building Council is organized in five Regional Networks

- Established GBCs
- Emerging GBCs
- Prospective GBCs
- Associated Groups

2007: 26
2008: 33
2009: 64
2010: 82
Current: 89
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The European Network
It counts already more than 3,500 leading companies
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The means chosen by the market operators to demonstrate and communicate the sustainability of their buildings are the:

ENVIRONMENTAL RATING TOOLS

There are several building rating tools available in the market, while in each Country some are used more than others.
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The idea is very simple: put a label, give a score that tells everybody about the performance of the ‘product’.
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The market recognizes the value of certified buildings.
Extra costs of design are compensated by lower build and operational costs.
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Let’s focus on GBC Italia as an example:
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Green Building Council Italia (not for profit National association)

- Mission: promote Green Building in Italy
- Founded in 2008 with 30 founding members
- Today: >550 members
- Engineering, Manufacturers, Developers, Builders
- Universities, Associations, ONGs
- Staff: 10 FTE
- Steering Committee: 20 members
- Executive Board: 5 of the 20 SC members (President and Vice President)

- Technical Committees: 200 volunteers (delegate of members)
- Scientific Committee: 50 volunteers (delegate of institutional members)
- Policy Task Force: 15 members; coordination with WGBC-EU PTF
Green Building Council Italia:

- There are only few countries in the world that are actually developing protocols. Most countries adopt protocols created by other countries.

- In March 2012 GBC Italia released its first product marked as GBC Italia: GBC HOME dedicated mainly to RESIDENTIAL BUILDINGS.
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Green Building Council Italia:

Currently under development:

- LEED Italia for Schools
- LEED Italia Existing Buildings O&M
- LEED Italia Core & Shell

- GBC (or LEED) Historic Buildings
- GBC Ecoquartieri Neighborhood
PLESSO SCOLASTICO
DI BONDONE-BAITONI E LODRONE
STORO (TN)

LEED® 2009 ITALIA NC

ALTRI PROGETTI LEED®
ALTRI PROGETTI LEED®
UNIPOL GOES LEED

TORRE UNIFIMM
VIA LARGA - BOLOGNA

Alta 125 metri, è costituita da 30 piani di 800 m² di superficie lorda ciascuno, una hall di ingresso, 2 piani interrati per riunioni, convegni e archivi, locali impianti e una piazzola contigua ad uffici, servizi e pubblici esercizi.
La superficie utile totale per i due corpi è di 16.000 m².
L'integrazione progettuale (involucro, impianti, strutture) permette di raggiungere risultati di eccellenza relativamente a:
- consumo energetico;
- utilizzo di facciate a doppia pelle;
- utilizzo di facciate ad alte prestazioni sui lati non esposti;
- utilizzo di superfici a cellule fotovoltaiche;
- progetto impiantistico orientato alla massima efficienza energetica.

www.gbcitalia.org
How rating systems can drive the change

Sustainable Sites:
• Site selection, public transportation, density, green spaces, heat island, community.

Water efficiency:
• Domestic and irrigation water usage reduction.

Energy & Atmosphere:
• Energy performance of building and equipment, refrigerant management, sanitary hot water, appliances, lighting, renewables.

Materials & Resources:
• During construction, reuse, waste, recycled content, local materials, renewable materials, certified wood.

Indoor Environmental Quality:
• Radon, VOC, mechanical ventilation, air filters, natural daylighting, acoustics.

Innovation in Design:
• Integrated design, GBC Home AP, usage & maintenance manual, innovation, regional priorities.
GBC HOME
Leader nel Green Residenziale

WELLDOM BIO CASA 82

CROCETTA DEL MONTELLO (TV)

GBC HOME casa piatta

<table>
<thead>
<tr>
<th>GRUPPO DI PROGETTAZIONE</th>
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<tbody>
<tr>
<td>Commissario del progetto</td>
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<tr>
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<td>Progetto struttura</td>
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<td>Progetto impianti meccanici</td>
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<td>Progetto impianti elettrici</td>
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<td>General contractor</td>
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Il "progetto pilota" è finalizzato alla verifica dell'applicabilità del protocollo di certificazione GBC Home al contesto italiano.
Examples: Biocasa.82
Examples: Biocasa.82

- 74% construction waste recycled
- 99% demolition waste recycled
- 52.5% of the energy need produced by PV
- 80% water savings for the irrigation plant
- 99% of the construction materials are fully recyclable
- 100% lighting CFL or LED
- 100% storm water collected for internal and irrigation use
Examples: Biocasa.82
GBC HOME
Leader nel Green Residenziale
Examples: Bergamo Via Bronzetti

Courtesy of: FILCA Cooperative
GBC HOME
Leader nel Green Residenziale

PARCO DEI CILIEGI
VILLAZzano (TN)

GRUPPO DI PROGETTAZIONE

<table>
<thead>
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<th>Descrizione del progetto</th>
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Il progetto pilota è finalizzato alla verifica dell'applicabilità del protocollo di certificazione GBC Home al contesto italiano.
GBC HOME
Leader nel Green Residenziale
GBC HOME
Leader nel Green Residenziale

VILLA BIFAMILIARE
POVO (TN)

GRUPPO DI PROGETTAZIONE

Il “progetto pilota” è finalizzato alla verifica dell’applicabilità del protocollo di certificazione GBC HOME al contesto italiano.
GBC HOME
Leader nel Green Residenziale

NUOVA RESIDENZA SOLE
LIMONE PIEMONTE (CN)
GBC HOME caso pilota

GRUPPO DI PROGETTAZIONE

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How rating systems can drive the change

In EU Emerging Countries GBCs are a real accelerator of change:
How rating systems can drive the change

What GBC and Rating Systems can drive...

.. With little or no cost to the Public Administrations.
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The GBCs in Central and Eastern Europe (latest from GBC Romania):

**EPC vs Green Building Rating:**
- Various forms of ambition and enforcement for EPCs (e.g. Germany very high, Romania lower on both fronts).
- Professional developers looking to sell to international funds are inquiring about or seeking Voluntary Green Certificates - primarily LEED and BREEAM.
- **Buyers are starting to demand it.**
- Some occupiers (e.g.: RBS, Price, Starbucks, Skanska) are requiring it.

**GBC accelerating the change:**
- Domestic firms and professionals in CEE are rapidly adopting the green idea.
- More difficult to get trained tradesmen.
- Architectural and engineering schools just beginning (or not at all) to teach adequate sustainable construction principles.
- **GBCs are starting to fill the gap for students, working professionals, tradesmen. A 52 hours course plus many (as Italy) offering LEED and others courses.**
- The cost premium feared by being a "first mover" has NOT been experienced in Romania or the region.
- **Adopting a professional approach: adequate documentation, satisfactory EH&S practices.**
16th March 2012
Paris: LEED International ROUNDTABLE
The meeting convened leaders from across Europe to address regional issues in LEED for existing and historic structures in the E.U.

Existing Buildings are the real challenge: exponential growth of certified LEED EB:O&M buildings.

16th March 2012:
LEED recognizes BREEAM Credits
(LEED for New Construction)
16th March 2012
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The meeting convened leaders from across Europe to address regional issues in LEED for existing and historic structures in the E.U.

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<td><strong>Grand Total</strong></td>
<td><strong>2,856</strong></td>
<td><strong>581</strong></td>
<td><strong>3,437</strong></td>
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</table>
Example: the IFAD building in ROME

IFAD GOES LEED

Edificio di 8 piani fuori terra più 2 interrati per una superficie totale di circa 27000 m².

I principali risultati sono:
- risparmio di 41000 € grazie alle modifiche sul controllo degli impianti;
- risparmio idrico del 91 % grazie all'utilizzo di sensori di pioggia e recupero acque;
- acquisto di beni durevoli e con il maggiore numero di caratteristiche di sostenibilità possibili:
  - 82% di apparecchiature elettriche Energy Star;
  - 64% mobili acquistati utilizzando legno FSC;
  - 38% del cibo e delle bevande sono prodotti e acquistati entro 160 km dal sito.

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50% of today’s existing building stock will still be in use in 2050. Available energy savings within this building stock are estimated at 20-40%.

- **Operations**
  - benchmarking
  - training in operational best practice
  - targets + feedback

- **Occupants**
  - engagement + recognition
  - education + support
  - measurement + feedback

- **System Design**
  - retrofit, re-design, re-commissioning
  - standardized building systems testing (Building Performance Audit)

Courtesy of: GBC Canada
Conclusions: two ways to move the Gaussian towards high environmental performance:

Public policy: obligatory minimum performance standards - pushing the market

Public policy: incentives to market based voluntary Leadership standards - pulling the market
On-going activities between WGBC and UN agencies:

**UNEP:**
- WGBBC is a member of UNEP-SBCI
- Cooperation on a series of *Road to Rio+20* events
- Cooperation on COP18 events under discussion
- Cooperation ‘World Urban Forum’ in September in Italy
- MOU with UNEP-SBCI and SBA to work on the Common Carbon Metric

**UN-HABITAT:**
- Participation in the ‘Sustainable Housing Network’ with UNECE and UNEP-SBCI (first meeting Dec. 2011)
- May 2010: partners in a conference Green Building Rating in Africa: 20 African Countries attended, GBC Kenya, GBC Nigeria were founded
- Cooperation on the ‘Government Leadership Awards’
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On-going activities between WGBC and UN agencies:

**UNFCCC:**
- WGBC is a Registered observer with UNFCCC
- WGBC took part to the last three COP15, COP16, COP17
- COP17 in Durban, South Africa: official side-event and a number of unofficial events

**UNECE:**
- Started to Partner in different events
- Workshop ‘Greening Homes in the UNECE Region’
How rating systems can drive the change

Cooperation between institutions at all levels and GBCs:
- Promotion
- Incentives
- Finance rotation funds
- Framework convention
- Coordinated action

...we are more than willing to give our support

Heritage as sustainability
Venice 22nd June 2012

Keynote: S. Richard Fedrizzi
USGBC President, CEO & Founding Chairman,
CEO World Green Building Council