

**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

**Palais des Nations, Geneva  
4<sup>th</sup> April 2012**

# How rating systems can drive the change

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## 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:

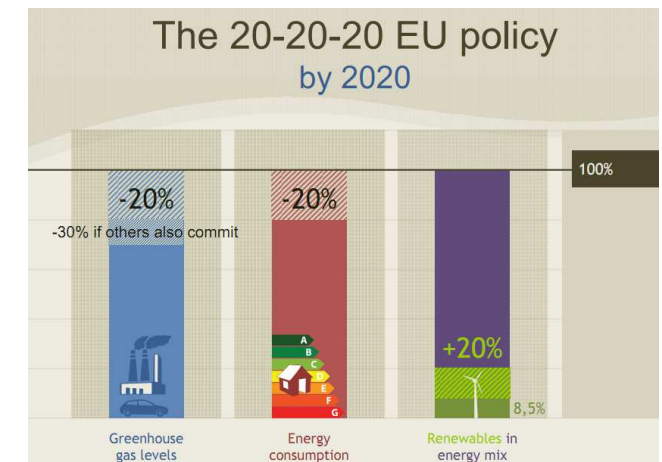
- Resources depletion
- Climate Change
- Population Growth
- Harmonization of jurisdiction
- Social issues



**United Nations**  
Framework Convention on  
Climate Change

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

- Energy and Climate Change Package (20-20-20)
- Energy Performance of Buildings (EPBDII: 2010/31/EC)
- Energy End-use Efficiency and Energy Services (ESD: 2006/32/EC) -> **Energy Efficiency Directive**
- Co-generation Directive (2004/8/EC)
- Energy Efficiency Action Plan



# How rating systems can drive the change



## 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...



# How rating systems can drive the change



## 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!**



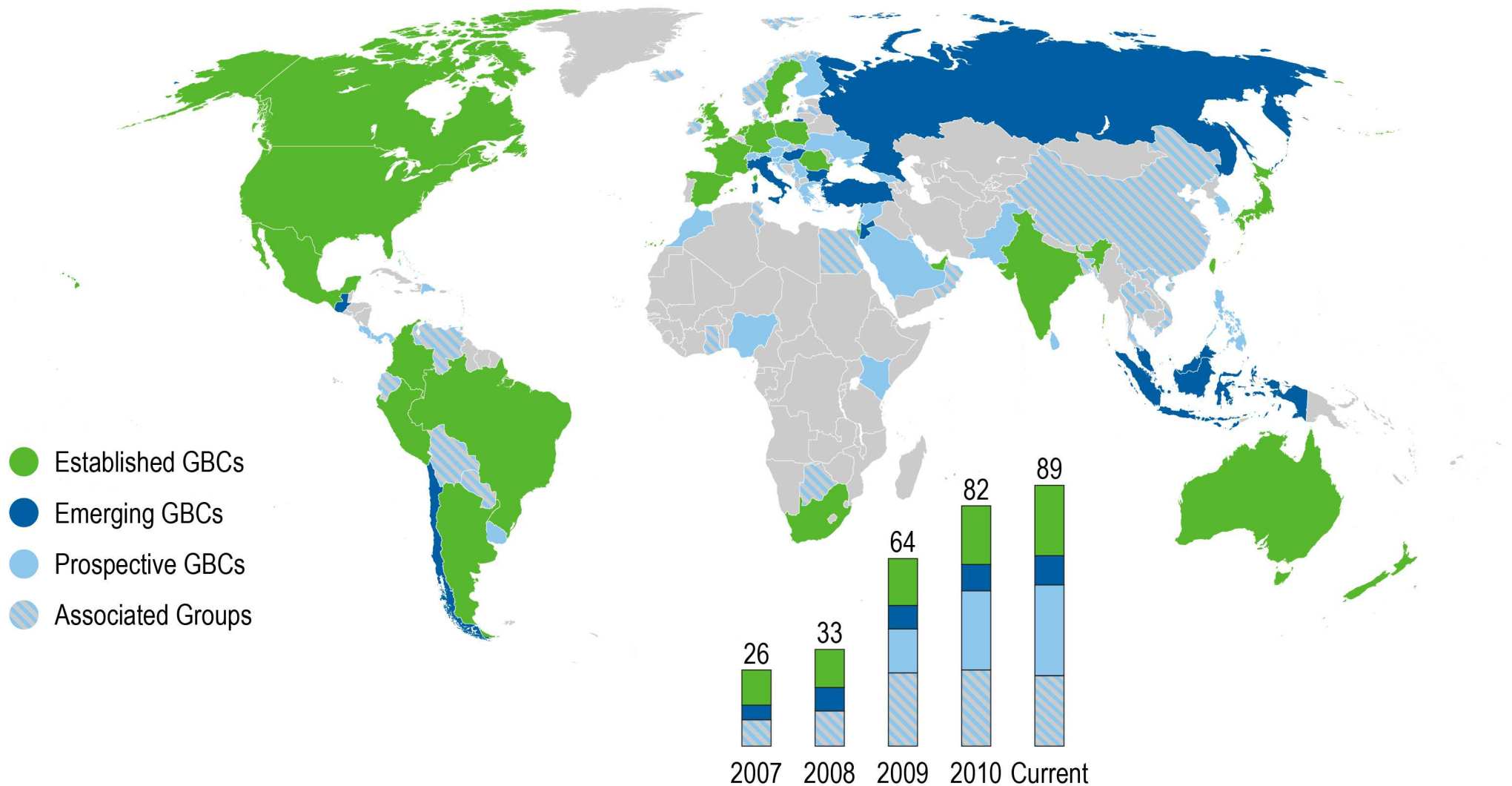


# How rating systems can drive the change



## Market leaders joined efforts to promote their excellences:

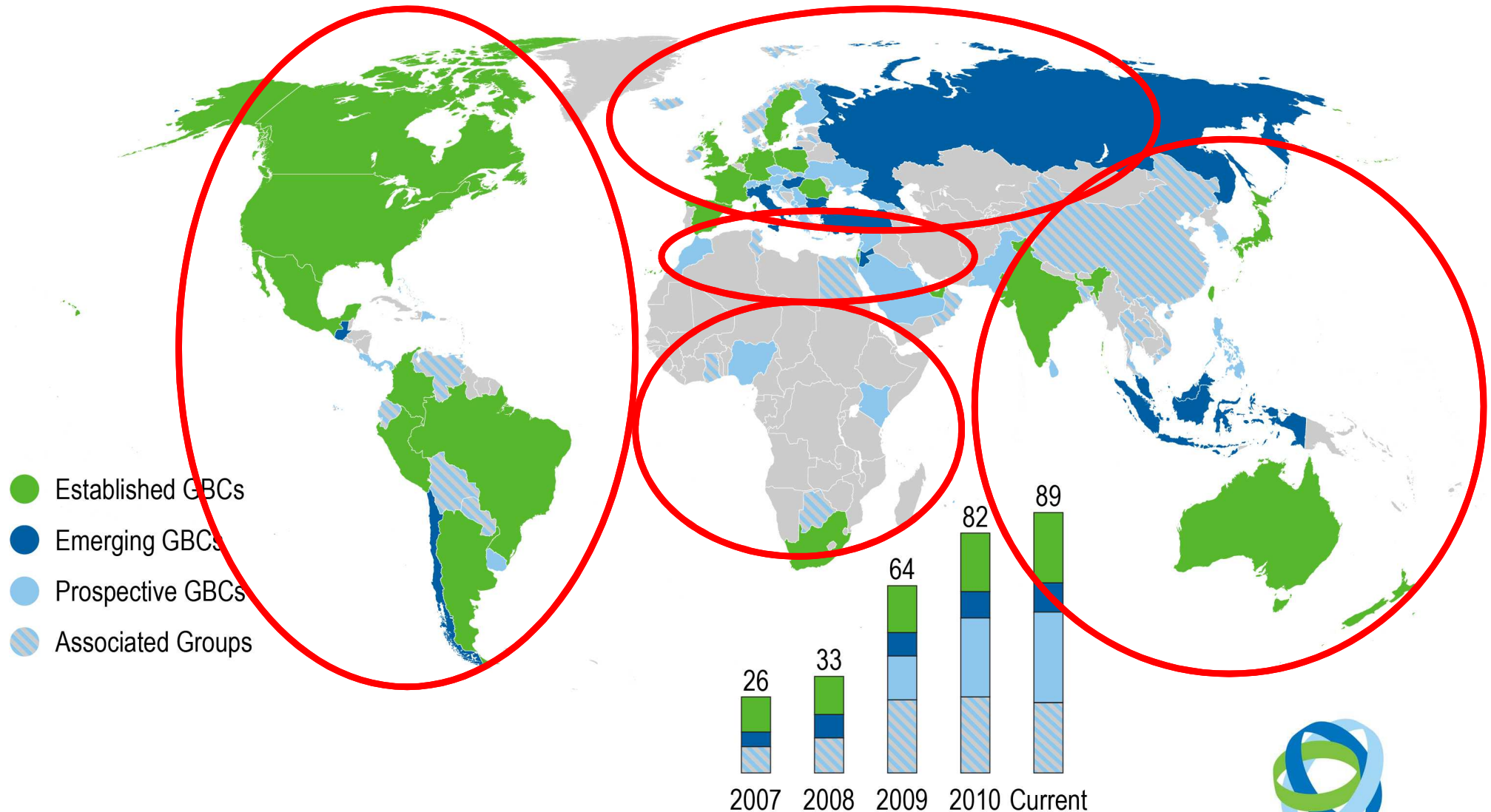
... In the last few years Green Building Councils have been founded all-over the World and they cooperate internationally through **World GBC**



# How rating systems can drive the change



World Green Building Council is organized in five Regional Networks

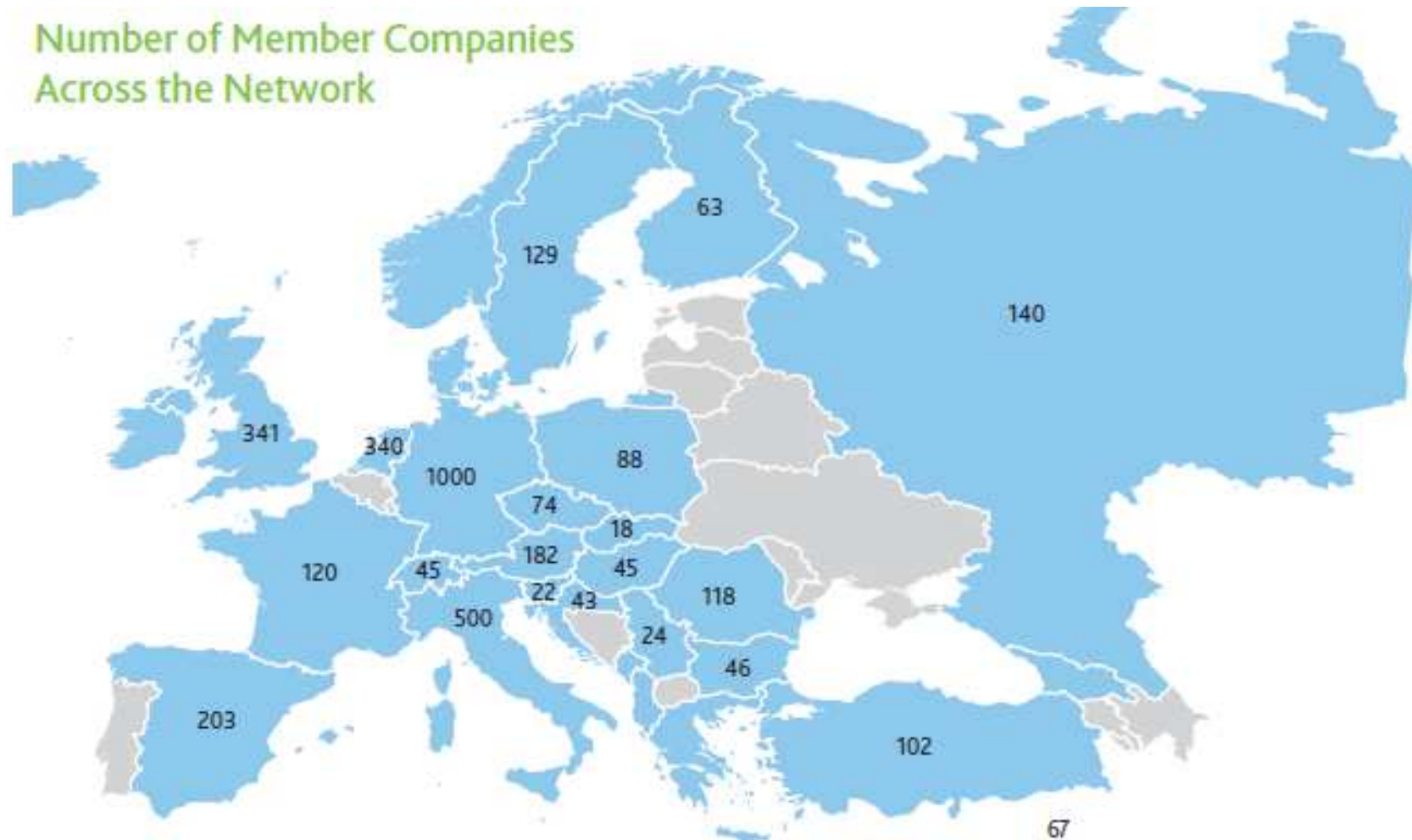


# How rating systems can drive the change



## The European Network

It counts already more than 3.500 leading companies





# How rating systems can drive the change



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.



# How rating systems can drive the change



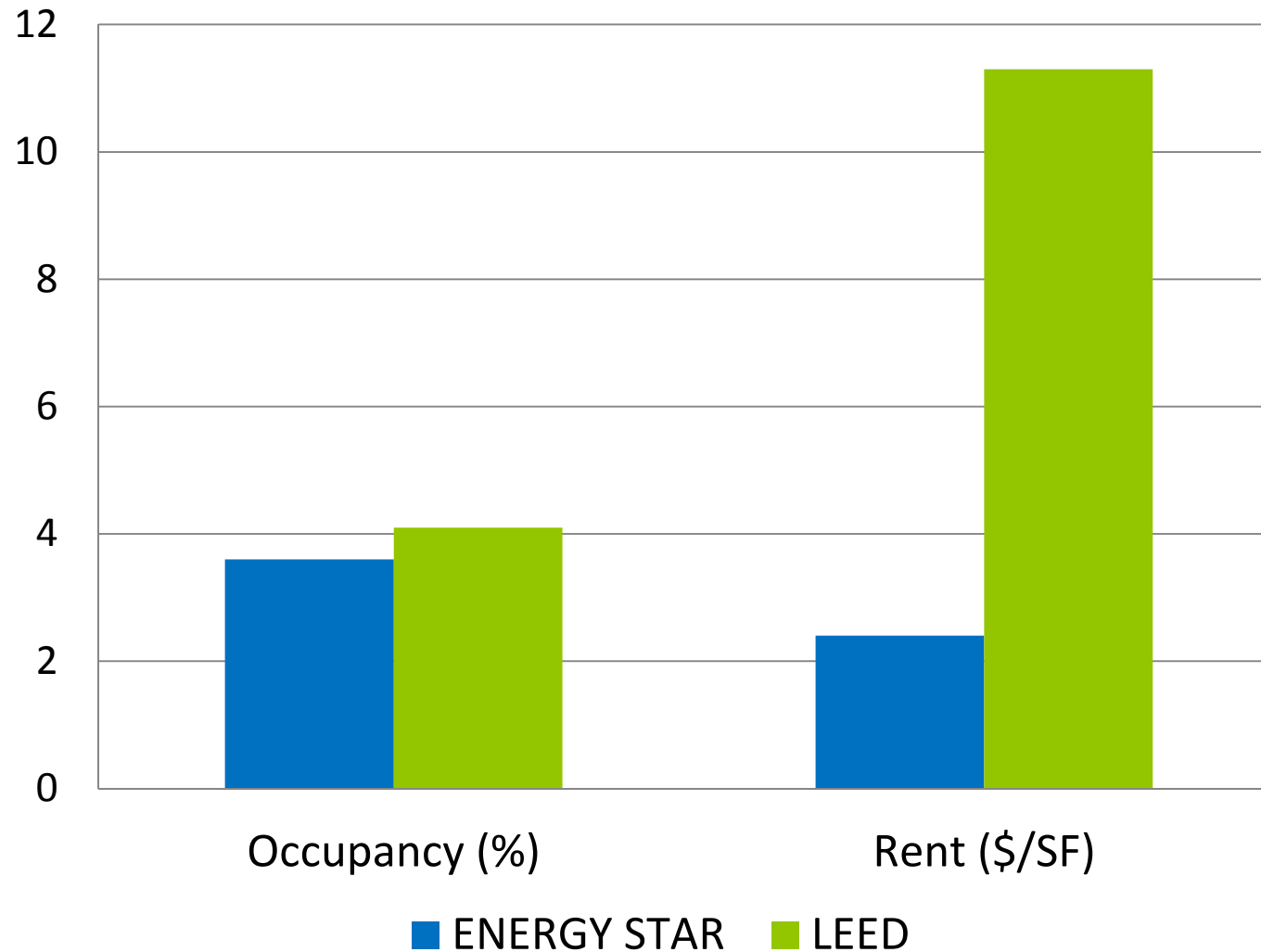
The idea is very simple: put a label, give a score that tells everybody about the performance of the 'product'.



# How rating systems can drive the change



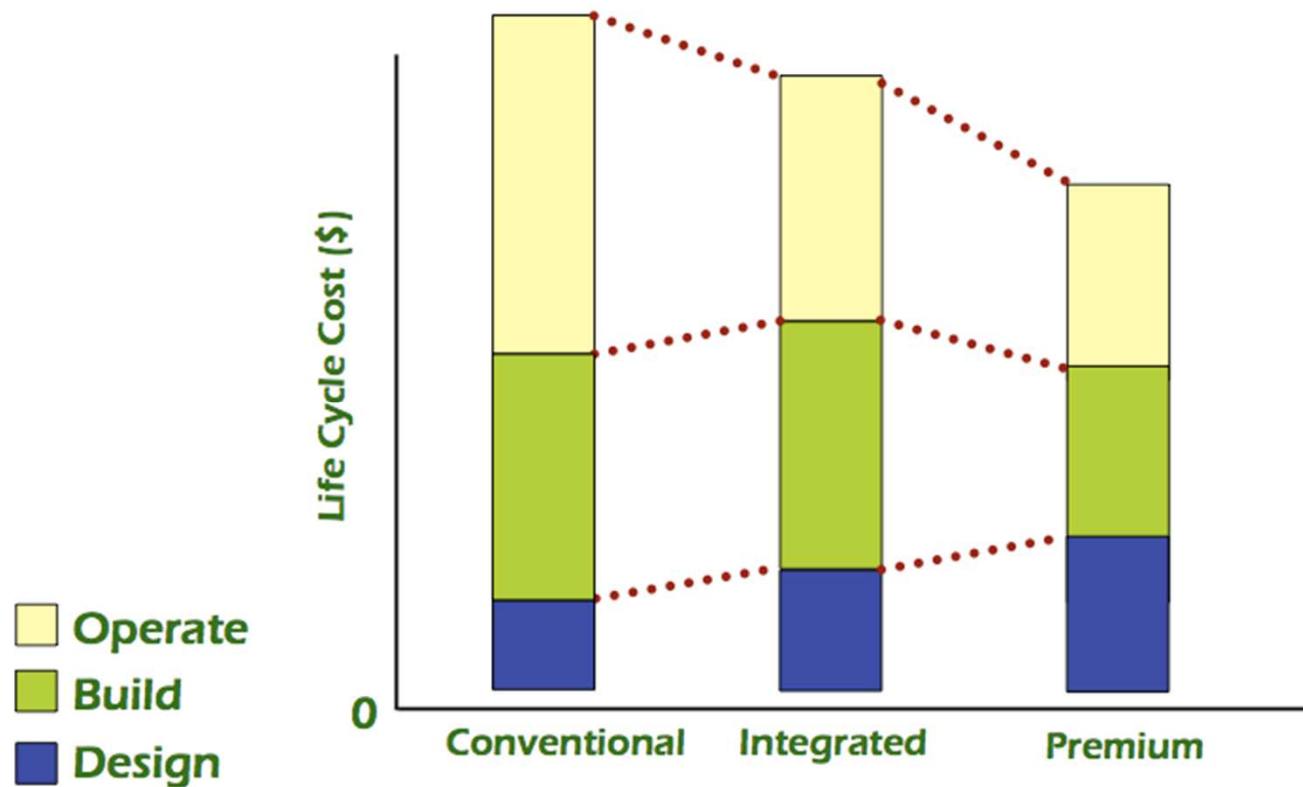
The market recognizes the value of certified buildings.



# How rating systems can drive the change



Extra costs of design are compensated by lower build and operational costs.



# How rating systems can drive the change



Let's focus on GBC Italia as an example:





# How rating systems can drive the change



## 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



# How rating systems can drive the change



## Green Building Council Italia:

- Through a MOU with USGBC, GBC Italia **released in 2009 the Italian version of LEED for New Constructions and Major Renovation** (LEED Italia 2009 Nuove Costruzioni e Ristrutturazioni)
- 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**



# How rating systems can drive the change



## Green Building Council Italia:

Currently under development:

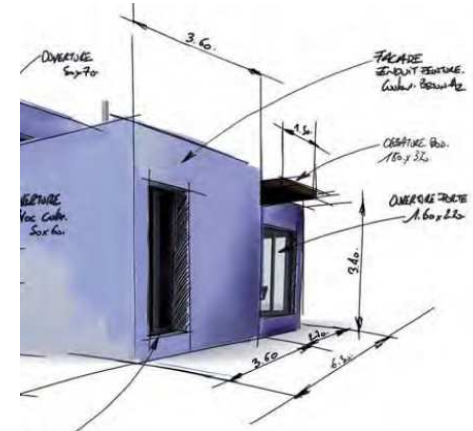
### LEED Italia for Schools



### 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®

## LEED® Obiettivi

PLESSO SCOLASTICO  
DI BONDONE-BAITONI  
E LODRONE

LEED® 2009 ITALIA NC

**PUNTEGGIO** 47\*

Sostenibilità del sito	24/26
Gestione delle acque	2/10
Energia e atmosfera	8/35
Materiali e risorse	5/14
Qualità ambientale interna	3/15
Innovazione della progettazione	3/6
Priorità regionale	2/4

\* massimo punteggio: 110 punti

# TORRE 11 TORRE 15

BRESCIA



LEED® 2009 ITALIA NC

ALTRI  
PROGETTI  
LEED®

## LEED® Obiettivi

TORRE 11  
TORRE 15  
LEED® 2009 ITALIA NC

**PUNTEGGIO** **ORO 61\***

Sostenibilità del sito	19/26
Gestione delle acque	6/10
Energia e atmosfera	17/35
Materiali e risorse	5/14
Qualità ambientale interna	13/15
Innovazione nella progettazione	1/6
Priorità regionale	0/4

\* massimo punteggio: 110 punti



# RÉDAIS CASAL BERTONE

ROMA



LEED® 2009 NC

ALTRI  
PROGETTI  
LEED®

## LEED® Obiettivi

RÉDAIS  
CASAL BERTONE  
LEED® 2009 ITALIA NC

### PUNTEGGIO

CERTIFICATO 47\*

Sostenibilità del sito	20/26
Gestione delle acque	2/10
Energia e atmosfera	11/35
Materiali e risorse	4/14
Qualità ambientale interna	6/15
Innovazione della progettazione	4/6
Priorità regionale	0/4

\* massimo punteggio: 110 punti

## UNIPOL GOES LEED

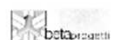
### TORRE UNIFIMM VIA LARGA - BOLOGNA

Alta 125 metri, è costituita da 30 piani di 800 m<sup>2</sup> di superficie lorda ciascuno, una hall di ingresso, 2 piani interrati per riunioni, convegni e archivi, locali impianti e una piastra contigua ad uffici, servizi e pubblici esercizi.

La superficie utile totale per i due corpi è di 16.000 m<sup>2</sup>.

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](http://www.gbcitalia.org)

## BENETTON GOES LEED



### UNITED COLORS OF BENETTON.

#### FABRICA STUDENTS ACCOMODATION

TADAO ANDO  
ARCHITECT & ASSOCIATES

Foresteria annessa a Fabbrica,  
Centro di ricerca del Gruppo Benetton.

Superficie: 2.400 m<sup>2</sup>

Luogo: Villorba, Treviso

Inizio costruzione maggio 2010

[www.benettongroup.com](http://www.benettongroup.com)



TECNOBREVETTI S.r.l.



stefano malvestro  
architetto



[www.gbcitalia.org](http://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 BIOCASA 82

CROCETTA DEL MONTELLO (TV)



GBC HOME caso pilota

### GRUPPO DI PROGETTAZIONE

Concezione del progetto	Greenfield Habitat
Coordinamento generale	G. Valse - WELLDOM srl
Progetto architettonico	Arplus srl
Progetto struttura	Ing. A. Galvani
Progetto impianti termotecnici	T. Zamboni srl
Progetto impianti elettrici	T. Zamboni srl
General contractor	WELLDOM srl

*Il "progetto pilota" è finalizzato  
alla verifica dell'applicabilità del  
protocollo di certificazione  
GBC Home al contesto italiano.*



# Examples: Biocasa.82



Courtesy of





# 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



Courtesy of  **WELLDOM**  
NATURA • ETICA • QUALITÀ





# GBC HOME

Leader  
nel Green Residenziale

## RESIDENZA BRONZETTI

BERGAMO



GBC HOME caso pilota

### GRUPPO DI PROGETTAZIONE

Coordinatore del progetto	Fika Cooperative
Coordinamento generale	Fika Cooperative
Progetto architettonico	Studio Aspinetti (MACRO) Bergamo
Progetto struttura	Modulo Zola srl, Lucca
Progetto impianti meccanici	Modulo Zola srl, Lucca
Progetto impianti elettrici	Modulo Zola srl, Lucca
Generali contractor	non ancora individuati



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GBC Home al contesto italiano.*

# Examples: Bergamo Via Bronzetti





# GBC HOME

Leader  
nel Green Residenziale

## PARCO DEI CILIEGI

VILLAZZANO (TN)



GBC HOME *caso pilota*

### GRUPPO DI PROGETTAZIONE

Conseccuzione del progetto	Gruppo Gbco Home
Coordinamento generale	Ing. Nicola Della Nave
Coesistenza specialistica LEED®	SDS Engineering S.p.A.
Progetto architettonico	Studio Tassinari A.S.O.
Progetto struttura	Studio Tassinari A.S.O.
Progetto impianti meccanici	Ing. Antonio Amato
Anno di registrazione	2012



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GBC Home al contesto italiano.



# GBC HOME

Leader  
nel Green Residenziale

## RESIDENZA CATERINA

POVO (TN)



GBC HOME caso pilota

### GRUPPO DI PROGETTAZIONE

Consulenza del progetto	Silberman Trento spa, Trento
Coordinamento generale	Studio Azzurro, Trento
Progetto architettonico	Studio Azzurro, Trento
Progetto struttura	A.T.A. Engineering srl, Trento
Progetto impianti meccanici	A.T.A. Engineering srl, Trento
Atto di registrazione	2012

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GBC Home al contesto italiano.

# GBC HOME

Leader  
nel Green Residenziale

## VILLA BIFAMILIARE

POVO (TN)



GBC HOME *caso pilota*

### GRUPPO DI PROGETTAZIONE

Consorzio del progetto	Avv. Filippo Fedrizzi e Avv. Federico Fedrizzi
Coordinatione generale	Arch. Alberto Giordano
Progetto architettonico	Arch. Marco Giordano
Progetto struttura	Ing. Luca Giordano
Progetto impianti meccanici	Ing. Paolo Giordano
Progetto impianti elettrici	Ing. Paolo Giordano
General contractor	non ancora individuato
Area progetto	Via del Valore - Povo di Trento (TN)
Area di registrazione	2012



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GBC Home al contesto italiano.*



# GBC HOME

Leader  
nel Green Residenziale

## NUOVA RESIDENZA SOLE

LIMONE PIEMONTE (CN)



GBC HOME *caso pilota*

### GRUPPO DI PROGETTAZIONE

Conoscenza del progetto	IBTT S.p.A.
Certificazione generale	AI Engineering
Progetto architettonico	AI Engineering
Progetto strutturale	AI Engineering
Progetto impianti meccanici	AI Engineering
Atto di registrazione	2012



Il "progetto pilota" è finalizzato  
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protocollo di certificazione  
GBC Home al contesto italiano.

# 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.**



# How rating systems can drive the change



## 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.**

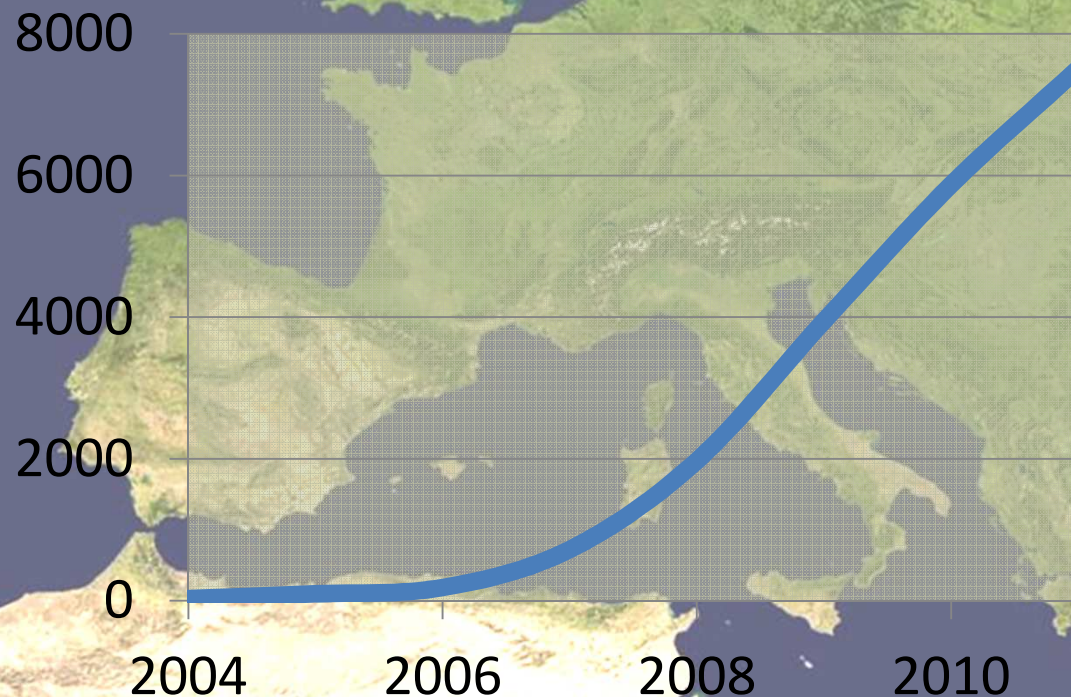
# Existing Buildings



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

16<sup>th</sup> 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.



16<sup>th</sup> March 2012:  
LEED recognizes  
BREEAM Credits  
(LEED for New Construction)

# Existing Buildings



16<sup>th</sup> 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.

Country	Certified?		Grand Total
	No	Yes	
CHINA	623	196	819
UNITED ARAB EMIRAT..	715	49	764
BRAZIL	420	44	464
INDIA	187	112	299
CANADA	176	108	284
MEXICO	233	22	255
GERMANY	212	27	239
KOREA, REPUBLIC OF	136	22	158
QATAR	154	1	155
<b>Grand Total</b>	<b>2,856</b>	<b>581</b>	<b>3,437</b>



# Example: the IFAD building in ROME



## IFAD GOES LEED

### 1° EDIFICIO IN FASE DI CERTIFICAZIONE EB O&M

Edificio di 8 piani fuori terra più 2 interrati per una superficie totale di circa 27000 m<sup>2</sup>.

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 maggior 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.



[www.gbitalia.org](http://www.gbitalia.org)

# How rating systems can drive the change

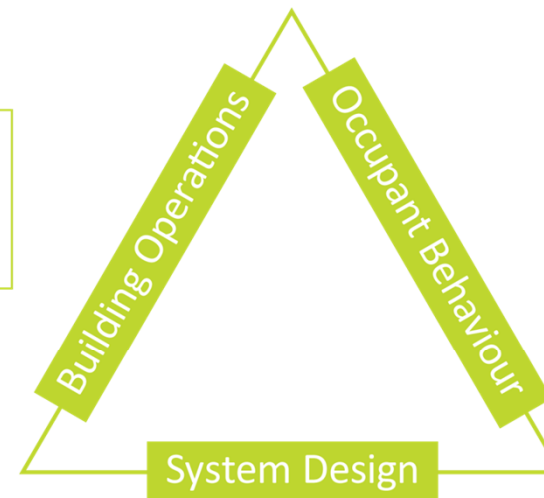


**50%** of today's existing  
building stock  
will still be in use in  
**2050**

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

#### Design

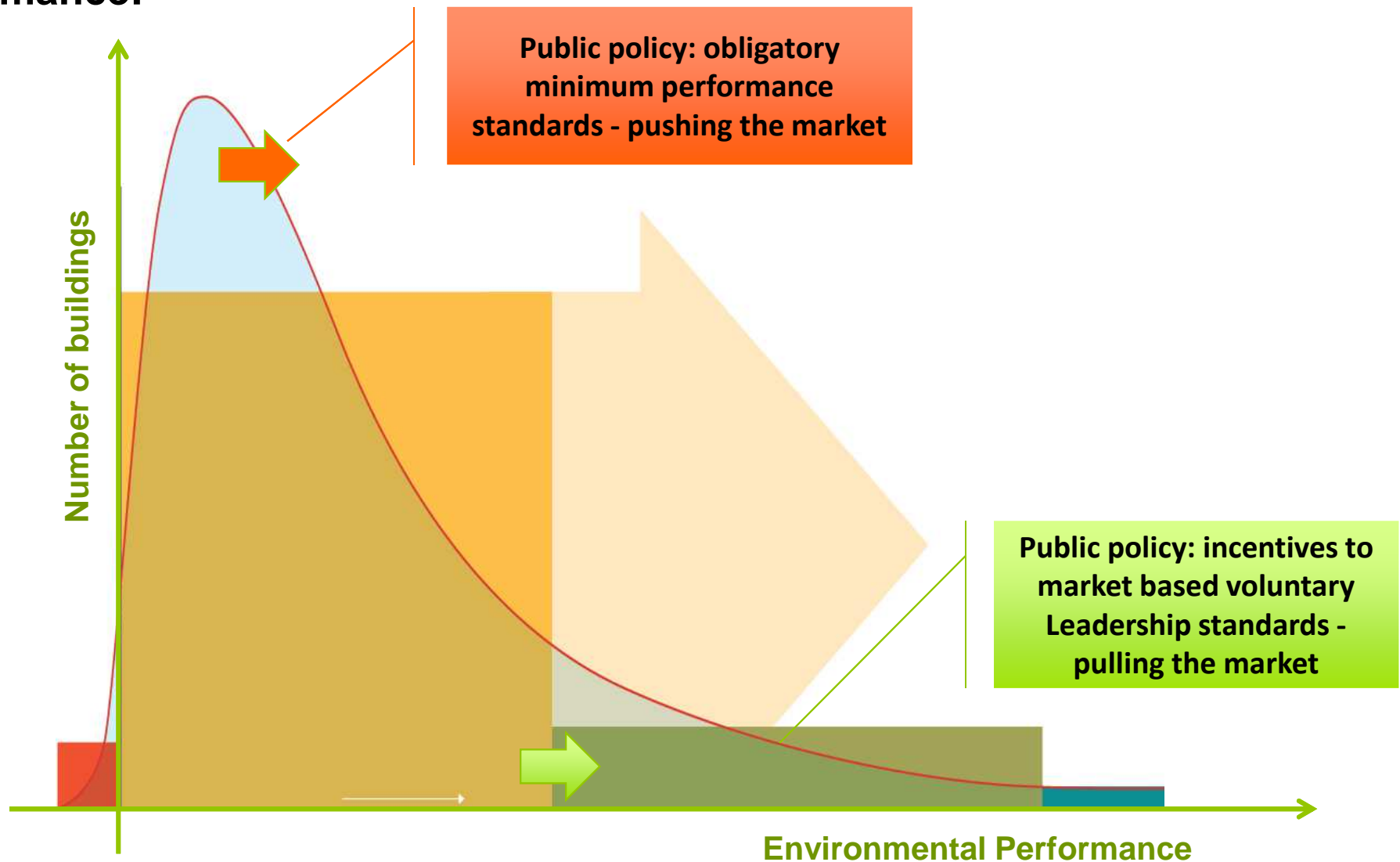
- retrofit, re-design, re-commissioning
- standardized building systems testing (Building Performance Audit)

Courtesy of: GBC Canada

# How rating systems can drive the change



**Conclusions: two ways to move the Gaussian towards high environmental performance:**





# How rating systems can drive the change



WORLD GREEN BUILDING COUNCIL



## On-going activities between WGBC and UN agencies:

### UNEP:

- WGBC 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**'

# How rating systems can drive the change



WORLD GREEN BUILDING COUNCIL



## 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



**United Nations**  
Framework Convention on  
Climate Change



### 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**







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