Global green building

Presenter: Jane Henley
Chief Executive Officer
World Green Building Council

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Overview

- World GBC
- Country insights
- A quick look at carbon in the built environment
- Common threads

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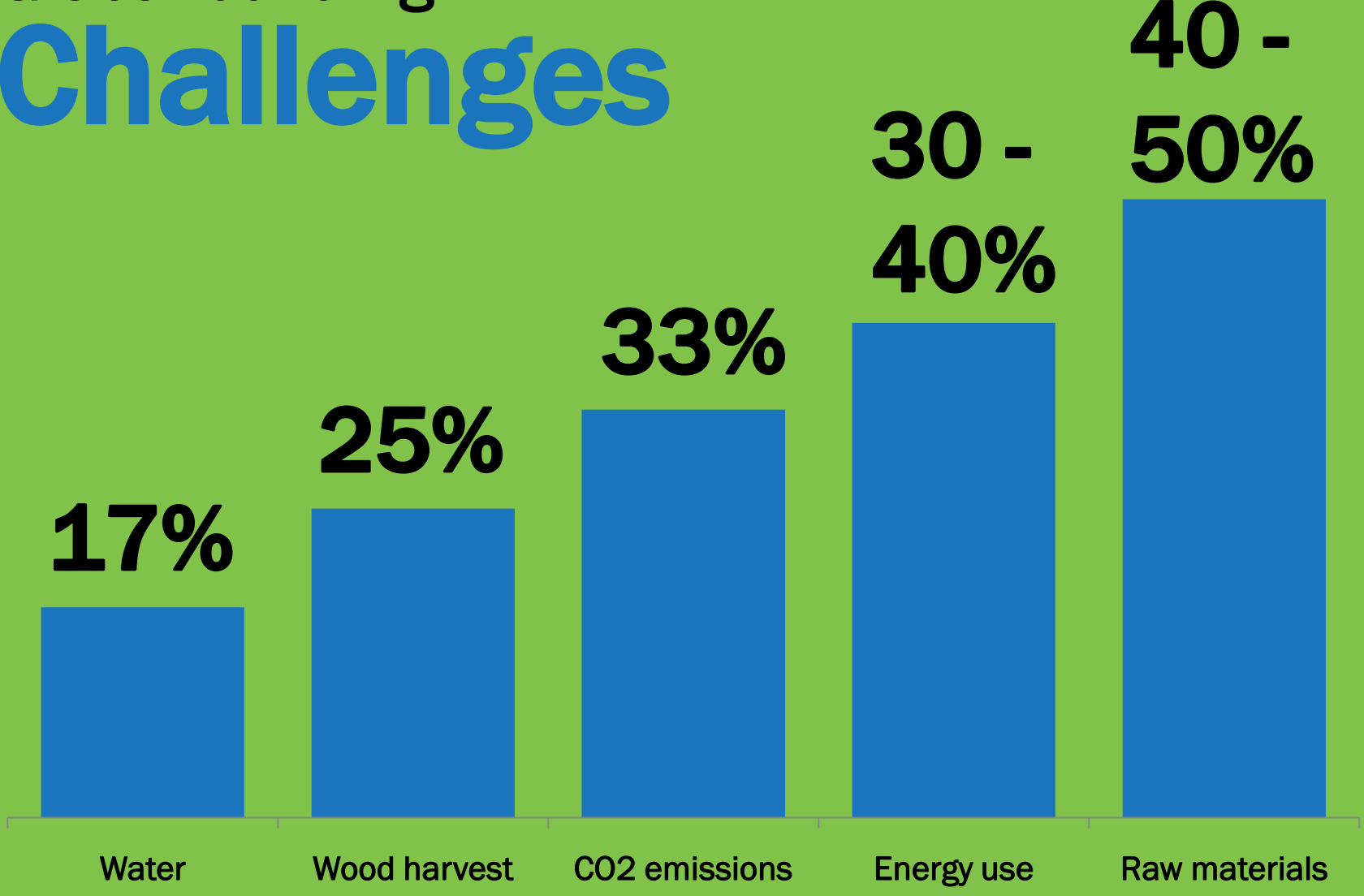
Global building Challenges



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Global construction output 2009

$7.5 trillion

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- 100 million people employed worldwide
- 10% plus of global gross domestic product

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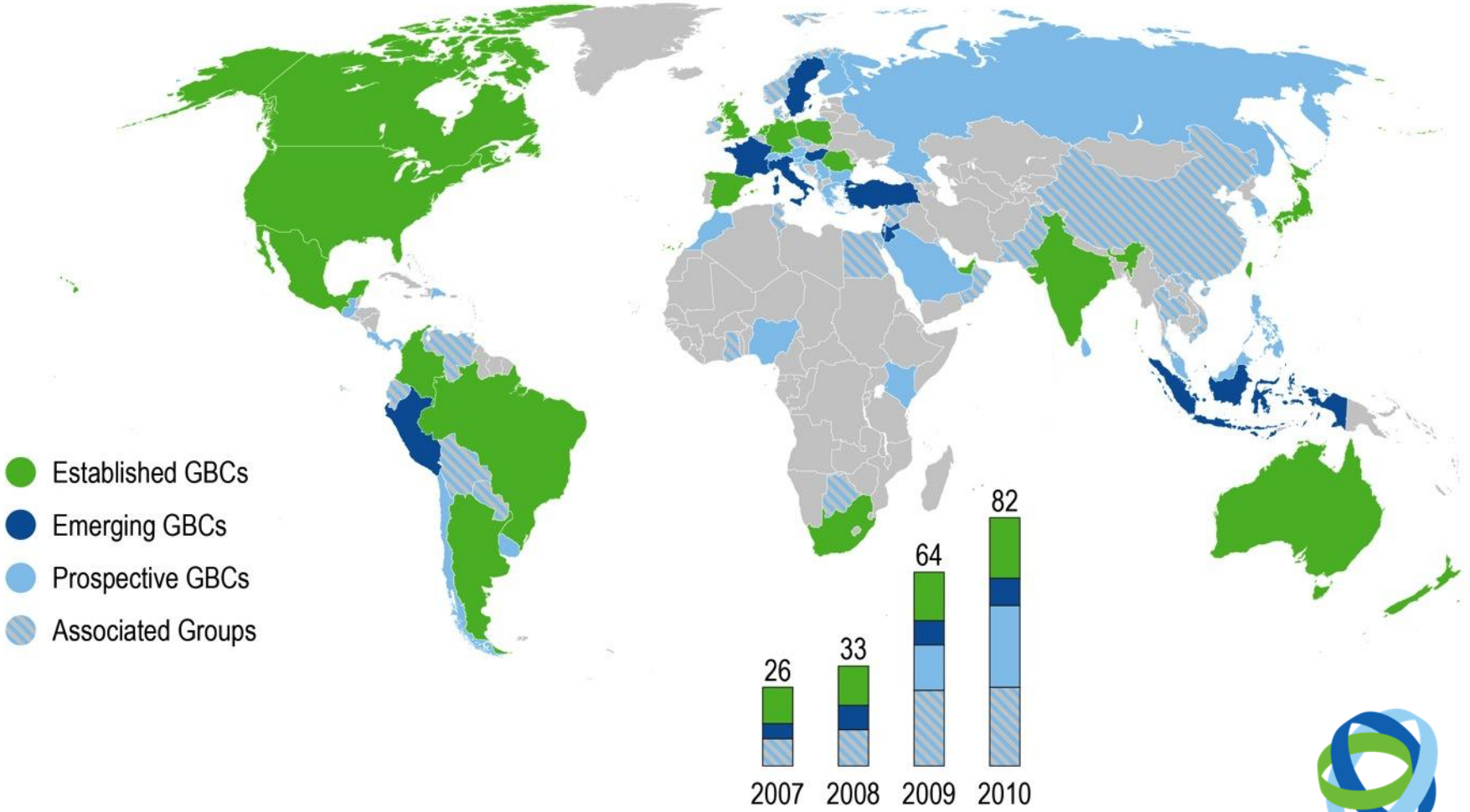
Growth



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November 30, 2010	Established Gbcs	Emerging Gbcs	Prospective Gbcs	Associated Groups	Total
Africa	South Africa (2008)		Kenya Mauritius Nigeria	Botswana Ghana	6
Americas	Argentina (2009) Brazil (2007) Canada (2002) Colombia (2009) Mexico (2005) Usa (1993)	Peru	Dominican Rep Costa Rica Chile Guatemala Panama Uruguay	Bahamas Bolivia Cayman Islands Ecuador El Salvador Paraguay Venezuela	20
Asia Pacific	Australia (2002) India (2001) Japan (2001) New Zealand (2006) Singapore (2010) Taiwan (2004)	Indonesia	Hong Kong Malaysia Philippines South Korea Sri Lanka	China Pakistan Thailand Vietnam	16
Europe	Dutch (2010) Germany (2007) Poland (2010) Romania (2009) Spain (2010) United Kingdom (2007)	France Hungary Israel Italy Sweden Turkey	Austria Bulgaria Croatia Finland Greece Russia Serbia Slovenia Switzerland	Albania Belgium Czech Republic Denmark Georgia Ireland Montenegro Norway	29
Mena Middle East & Northern Africa	Emirates (2006)	Jordan	Morocco Palestine Qatar Saudi Arabia	Egypt Kuwait Oman Syria	11
Total	20	9	27	26	82

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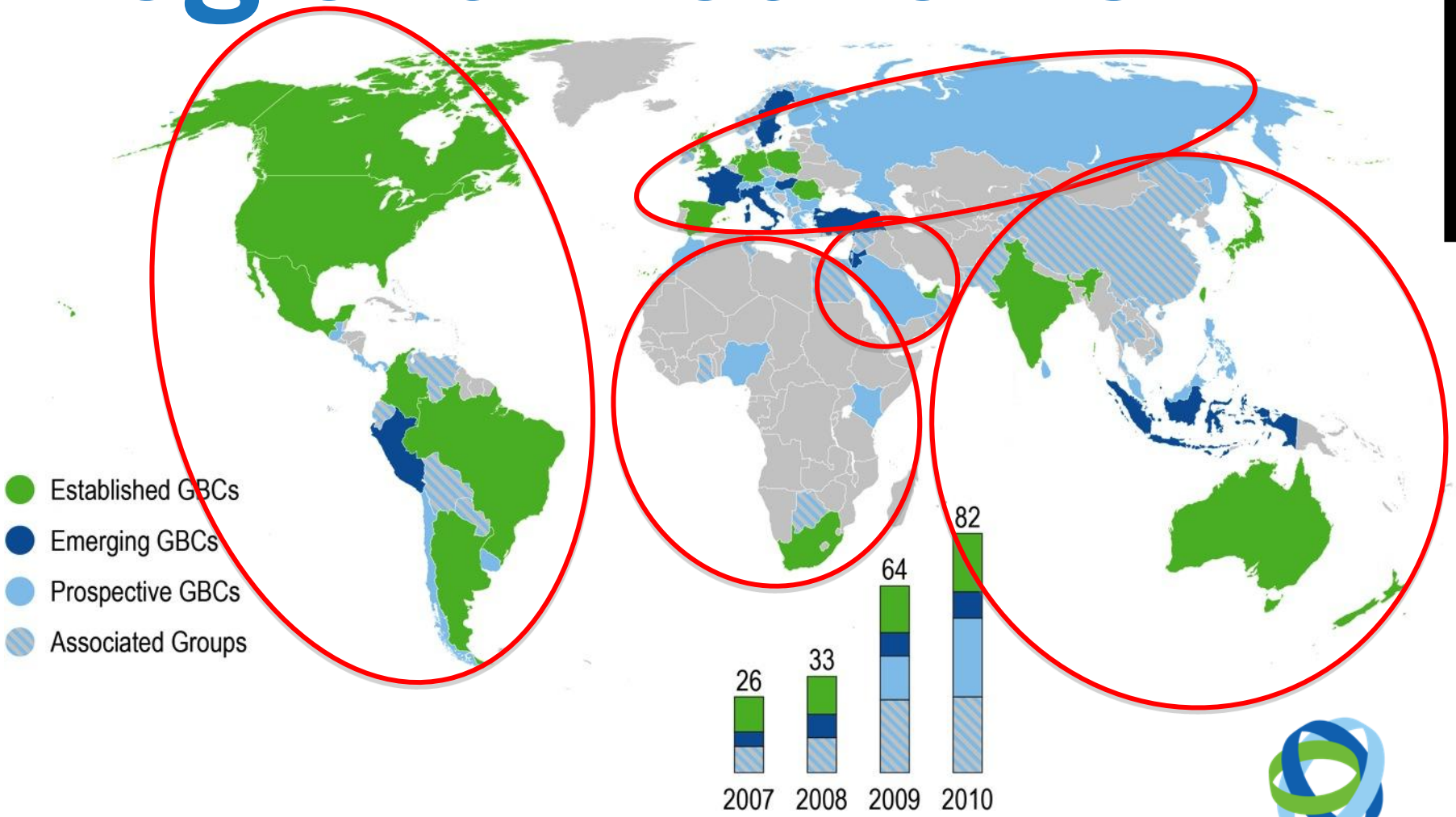
Regional networks



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World Green Building Council

- **Champions** the GBC model
- **Supports** countries to establish GBCs
- **Creates** networking and knowledge transfer
- **Enhances** collaboration
- **Commissions** research
- **Represents** GBCs internationally.

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Asia Pacific Network

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

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Green building
Challenges
in the Asia Pacific

- 1 million move from RURAL to URBAN each week
- 1/3 have no safe drinking water
- 2/3 do not have adequate sanitation

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Green building
Opportunities
in the Asia Pacific

- $10 billion in 2005
- $40 billion in 2008
- $100 billion forecast for 2013

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Green Building Council
India
70%
Increase in office space by 2030 to
890 million m2
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Green Building Council
Singapore
80%
of existing stock
to be rated under
Green Mark by 2030
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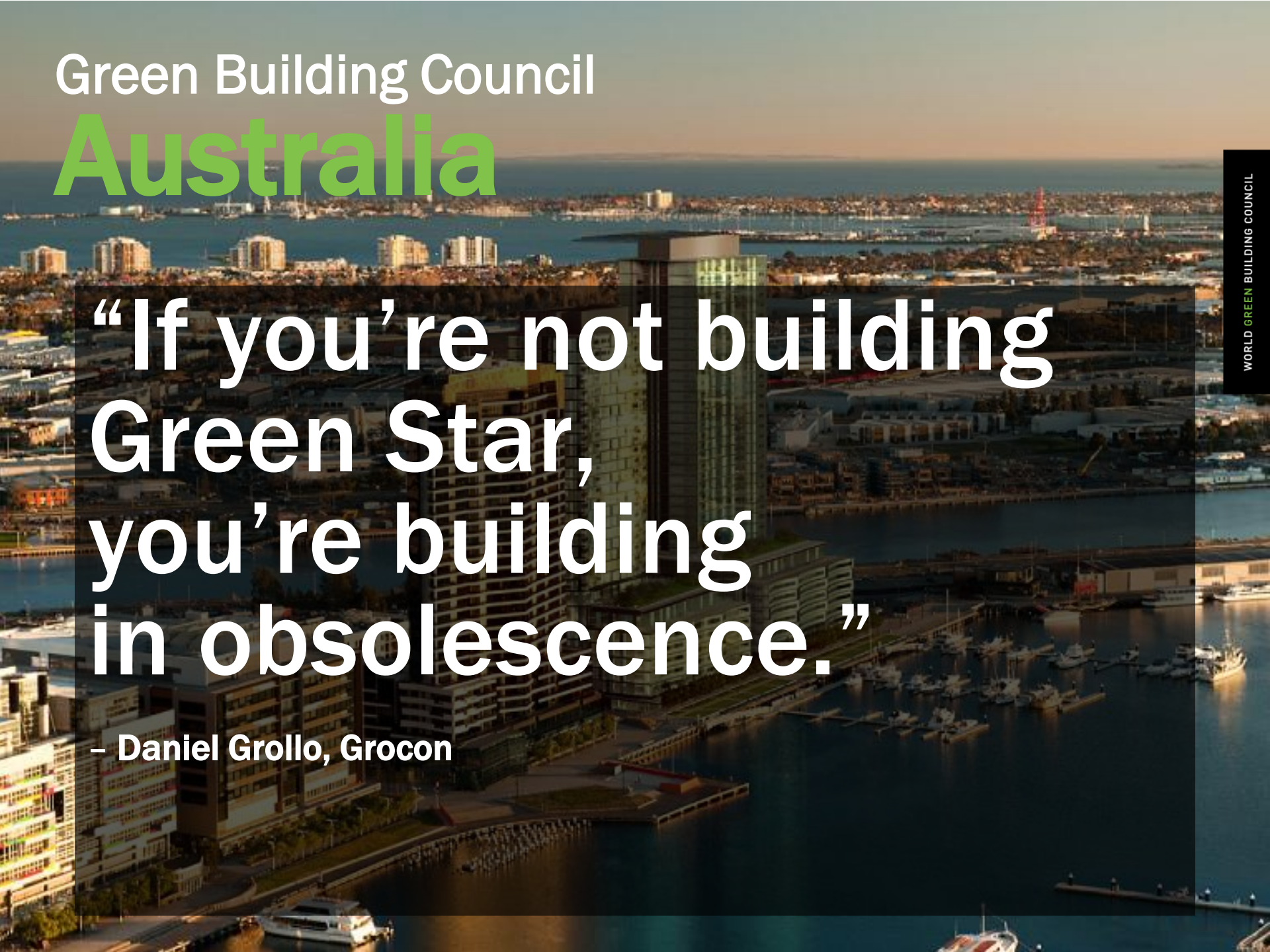
Green Building Council
Australia
“If you’re not building Green Star, you’re building in obsolescence.”
– Daniel Grollo, Grocon
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Future green cities
Songdu, Korea
30%
less water
66%
fewer emissions
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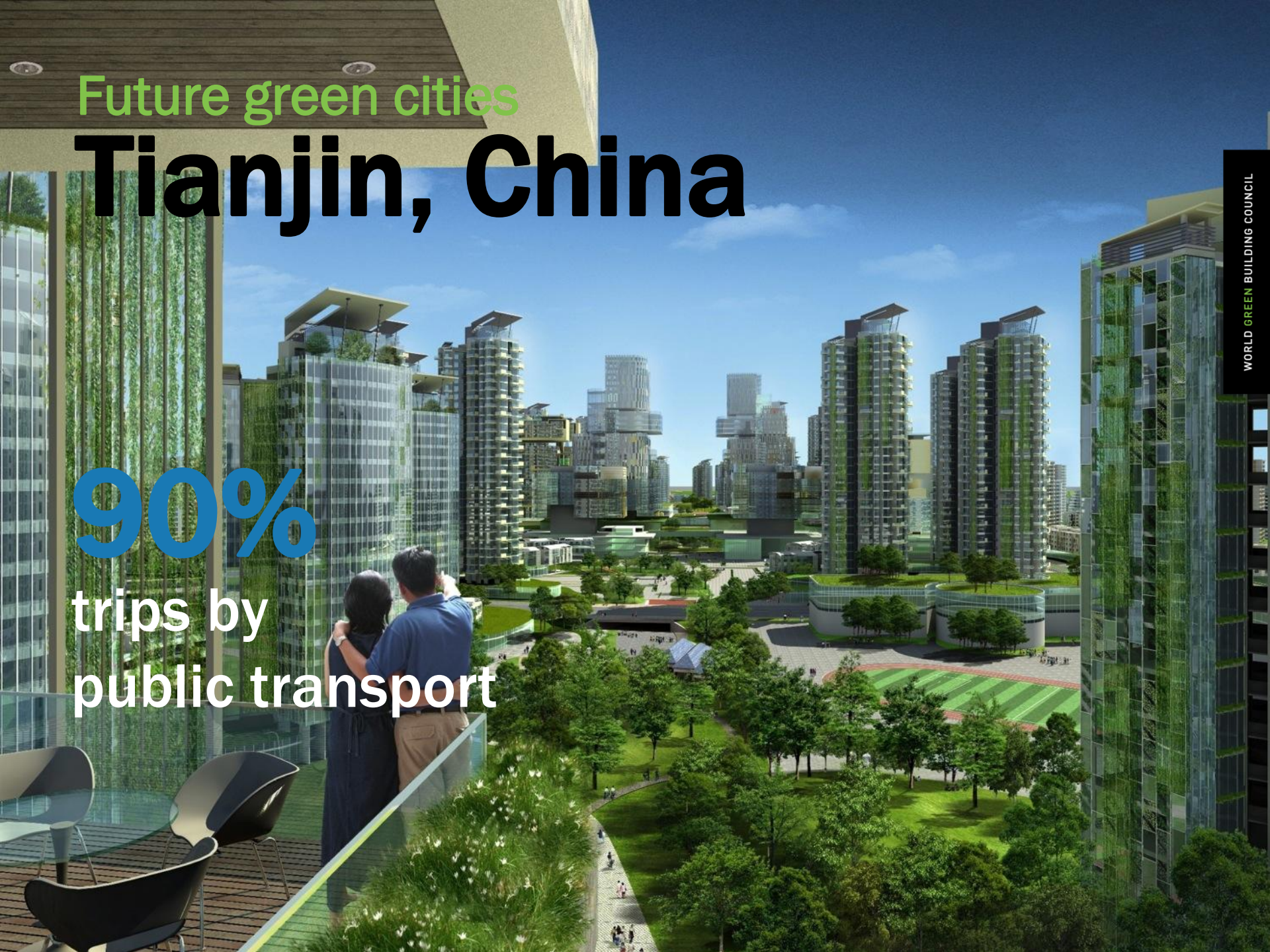
Future green cities

Tianjin, China



90%

trips by public transport

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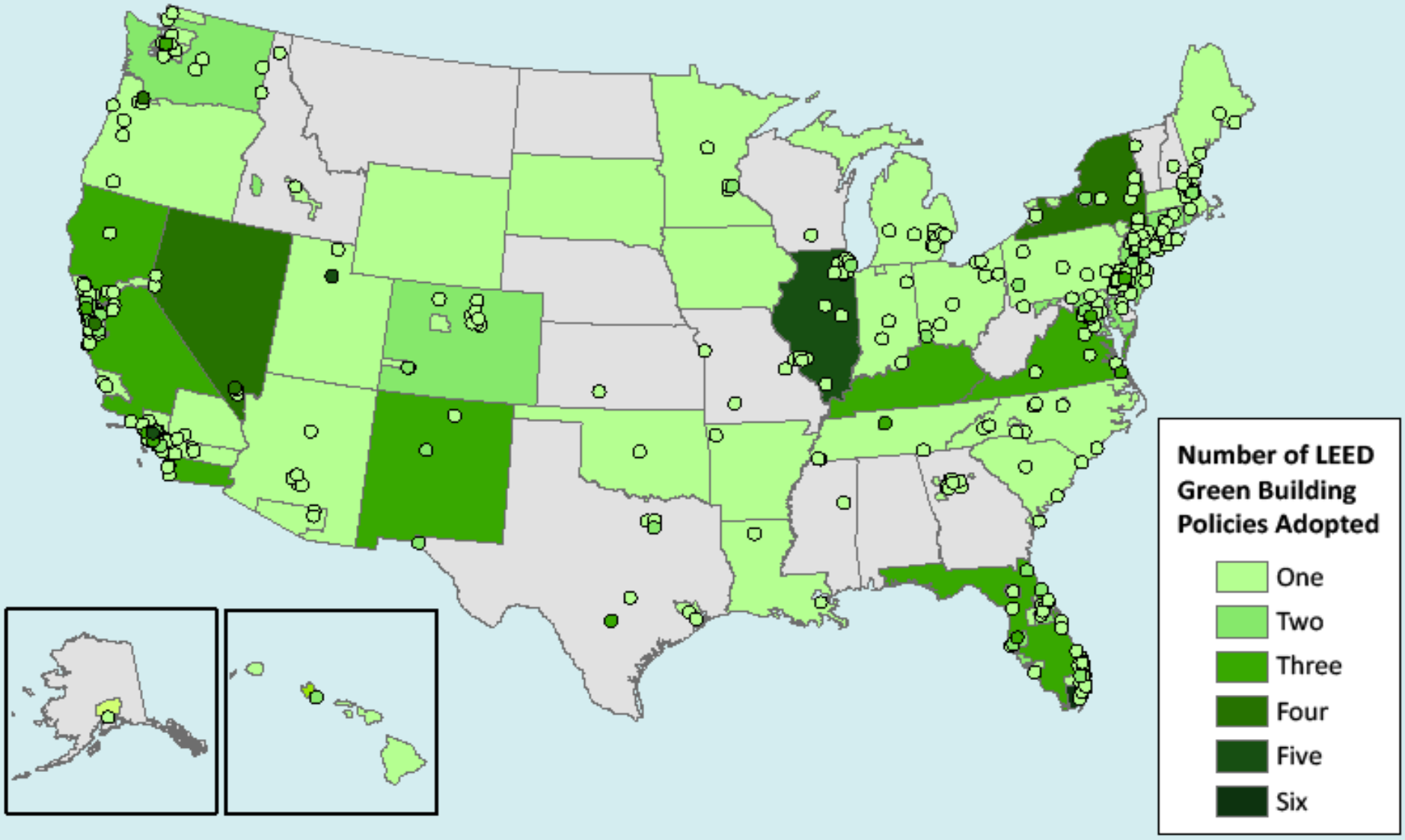
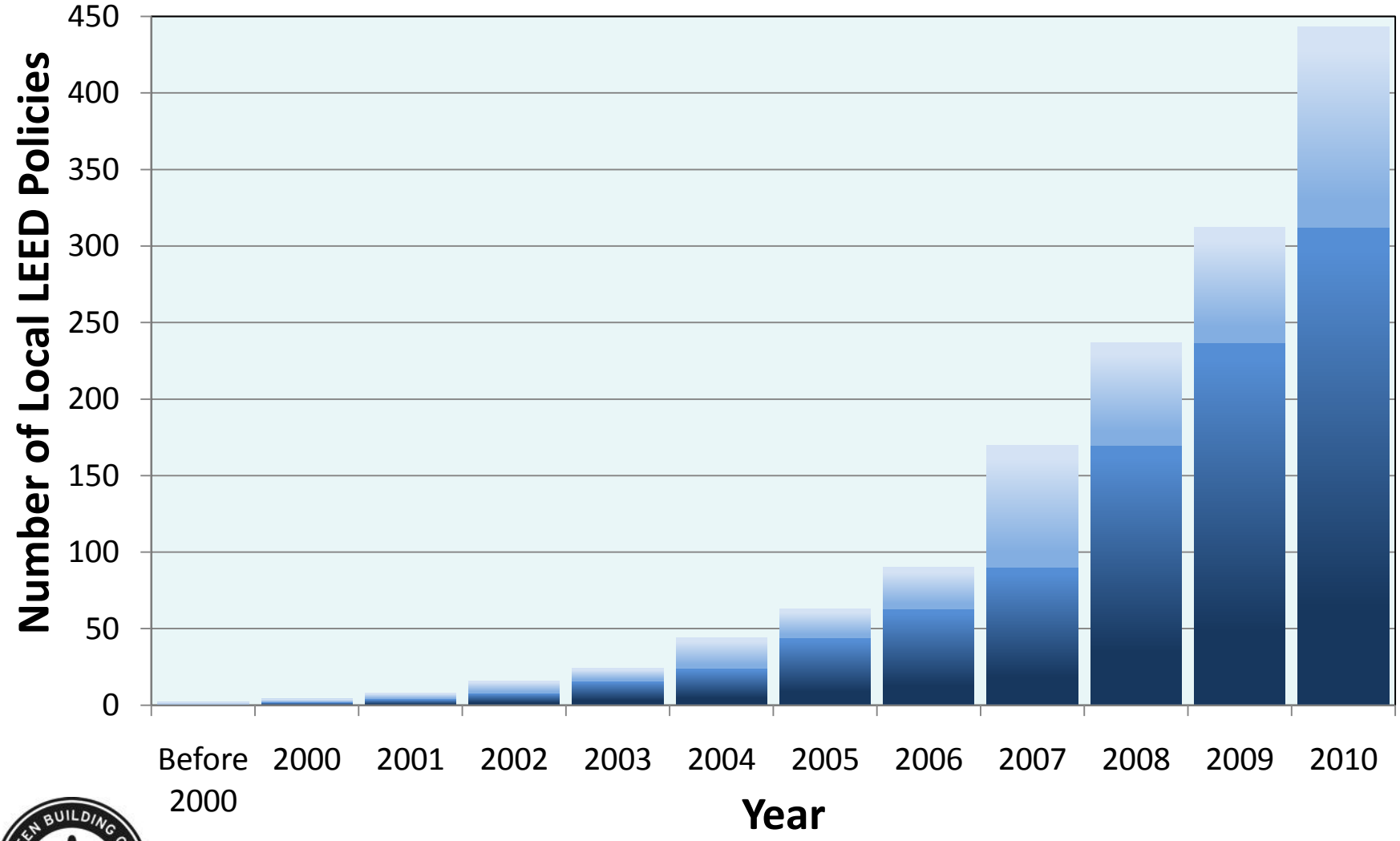
USA

Number of LEED Green Building Policies Adopted by 2010 in U.S. Cities, Counties and States



Number of LEED Green Building Policies Adopted in U.S. Cities and Counties by Year



As of September, 2010.

UK GREEN BUILDING COUNCIL

Our mission is to dramatically improve the sustainability of the built environment, by radically transforming the way it is planned, designed, constructed, maintained and operated.

UK

The Climate Change Act 2008 makes the UK the first country in the world to have a legally binding long-term framework to cut carbon emissions. It also creates a framework for building the UK's ability to adapt to climate change.

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UK

Residential

- 2016 Zero Carbon
- The Green Deal

Non-Residential

- Targets for non domestic buildings from 2019
- A non-domestic refurbishment strategy being developed, including a trajectory for minimum standards and financial incentives, with the support of industry

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Canada

The Living Building Challenge is a program initially launched by the Cascadia Green Building Council and has quickly become the most advanced green building rating system in the world.

The 20 Imperatives of the LIVING BUILDING CHALLENGE℠

Site
Restoring a healthy coexistence with nature

01 Limits to Growth
Eligible sites include greyfields or brownfields that are not on or adjacent to sensitive ecological habitats, prime farmland, or within the 100-year flood plain. Landscape may only be native and/or naturalized species planted to support succession.

02 Urban Agriculture
All projects must integrate opportunities for agriculture appropriate to the scale and density of the project using its Floor Area Ratio as the basis for calculation.

03 Habitat Exchange
For each hectare of development, an equal amount of land must be set-aside for thriving ecosystems.

04 Car Free Living
Each new project should contribute towards the creation of walkable, pedestrian-oriented communities.

Water
Creating water independent sites, buildings and communities

05 Net Zero Water
One hundred percent of occupants' water use must come from captured precipitation or closed loop water systems that are appropriately purified without the use of chemicals.

06 Ecological Water Flow
One hundred percent of storm water and building water discharge must be managed on-site and integrated into a comprehensive system to feed the project's demands.

Energy
Relying only on current solar income

07 Net Zero Energy
One hundred percent of the project's energy demand must be supplied by on-site renewable energy on a net annual basis.

Health
Maximizing physical and psychological health and well being

08 Civilized Environment
Every occupiable space must have operable windows that provide access to fresh air, views, and daylight.

09 Healthy Air
The project must take precautionary measures to maintain a nourishing indoor environment.

10 Biophilia
The project must be designed to include elements that nurture the innate human attraction to natural systems and processes.

Materials
Endorsing products and processes that are safe for all species through time

11 Red List
The project cannot contain any of the listed worst-in-class materials or chemicals that are ubiquitous in the building industry.

12 Embodied Carbon Footprint
The project must account for the total footprint of embodied carbon from its construction and projected replacement parts through a one-time carbon offset

13 Responsible Industry
The project must advocate for the creation and adoption of third-party certified standards for sustainable resource extraction and fair labor practices.

14 Appropriate Sourcing
The project must incorporate place-based solutions and contribute to the expansion of a regional economy rooted in sustainable practices, products and services.

15 Conservation + Reuse
All projects teams must strive to reduce or eliminate the production of waste during design, construction, operation, and end of life in order to conserve natural resources.

Equity
Supporting a just, equitable world

16 Human Scale + Humane Places
The project must be designed to create human-scaled rather than automobile-scaled places, so that the experience brings out the best in humanity and promotes culture and interaction.

17 Democracy + Social Justice
Reasonable steps must be taken to ensure that all people, regardless of background, age and socioeconomic class, can benefit from the externally focused infrastructure created by the project.

18 Rights to Nature
The project may not block access to, nor diminish the quality of, fresh air, sunlight and natural waterways for any member of society or adjacent developments.

Beauty
Celebrating design that creates transformative change

19 Beauty and Spirit
The project must contain design features intended solely for human delight and the celebration of culture, spirit and place appropriate to its function.

20 Inspiration and Education
Educational materials about the performance and operation of the project must be made public to share successful solutions and to motivate others to make change.

Living Building Challenge℠ is a philosophy, advocacy tool, and certification program that addresses development at all scales. It is comprised of seven performance areas: Site, Water, Energy, Health, Materials, Equity, and Beauty.

At the International Living Building Institute, we believe that providing a compelling vision for the future is a fundamental requirement of reconciling humanity's relationship with the natural world.

a visionary path to a restorative future.

www.ilbi.org

INTERNATIONAL LIVING BUILDING INSTITUTE℠

carbon

in the built environment

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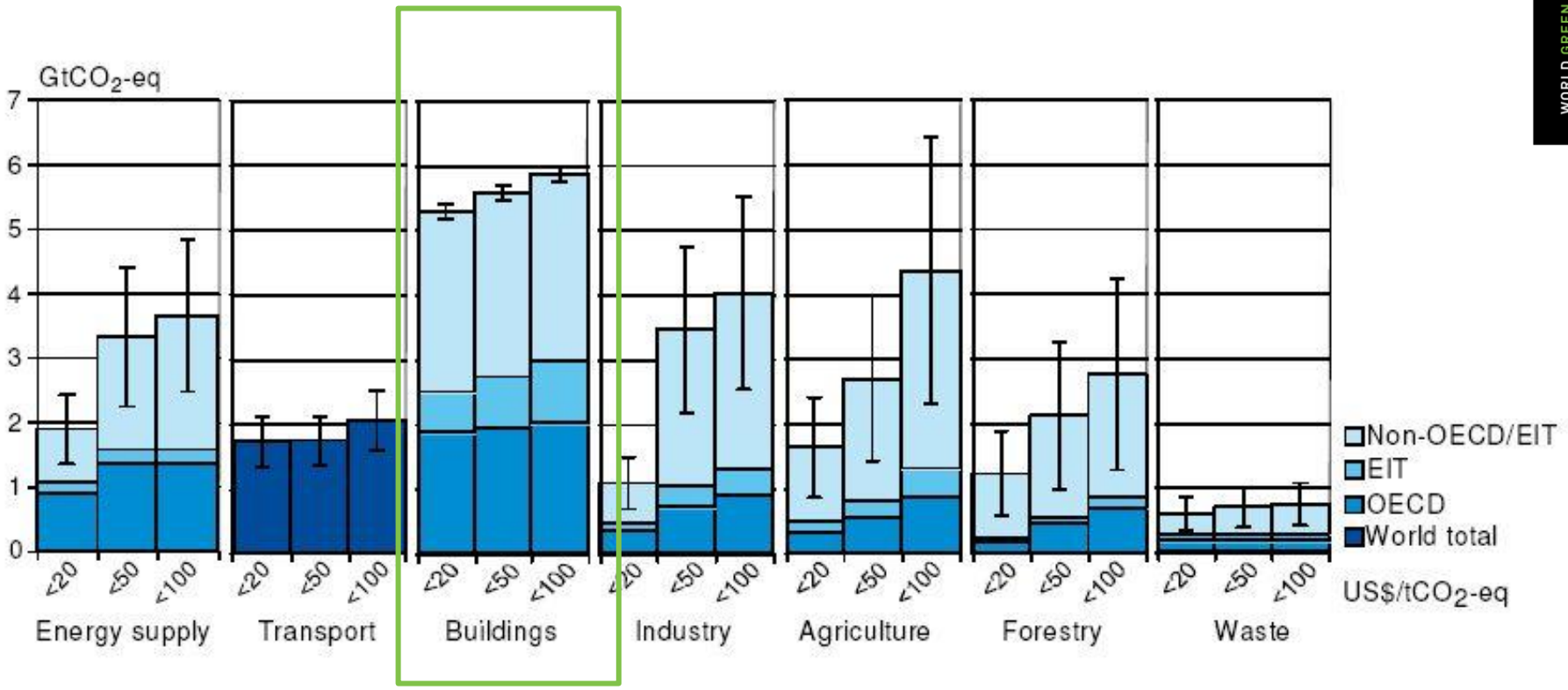
From industrial to

Energy Revolution

Intergovernmental Panel on Climate Change

Most Opportunity



Buildings

Challenges

- Lack of consistent measurement
- Lack of data
- Dispersed industry
- Developers don’t have long term stake in operation of buildings
- Varying standards

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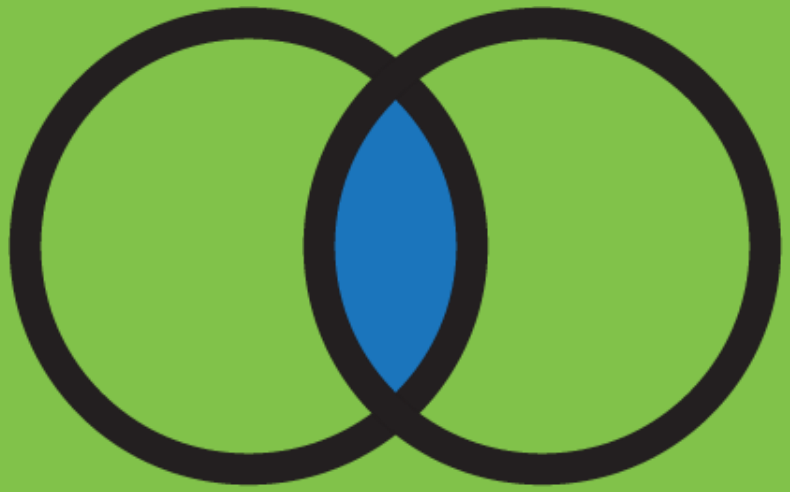

Partnerships

UNEP-SBCI WORLDGBC SB ALLIANCE INDUSTRY GOVERNMENT

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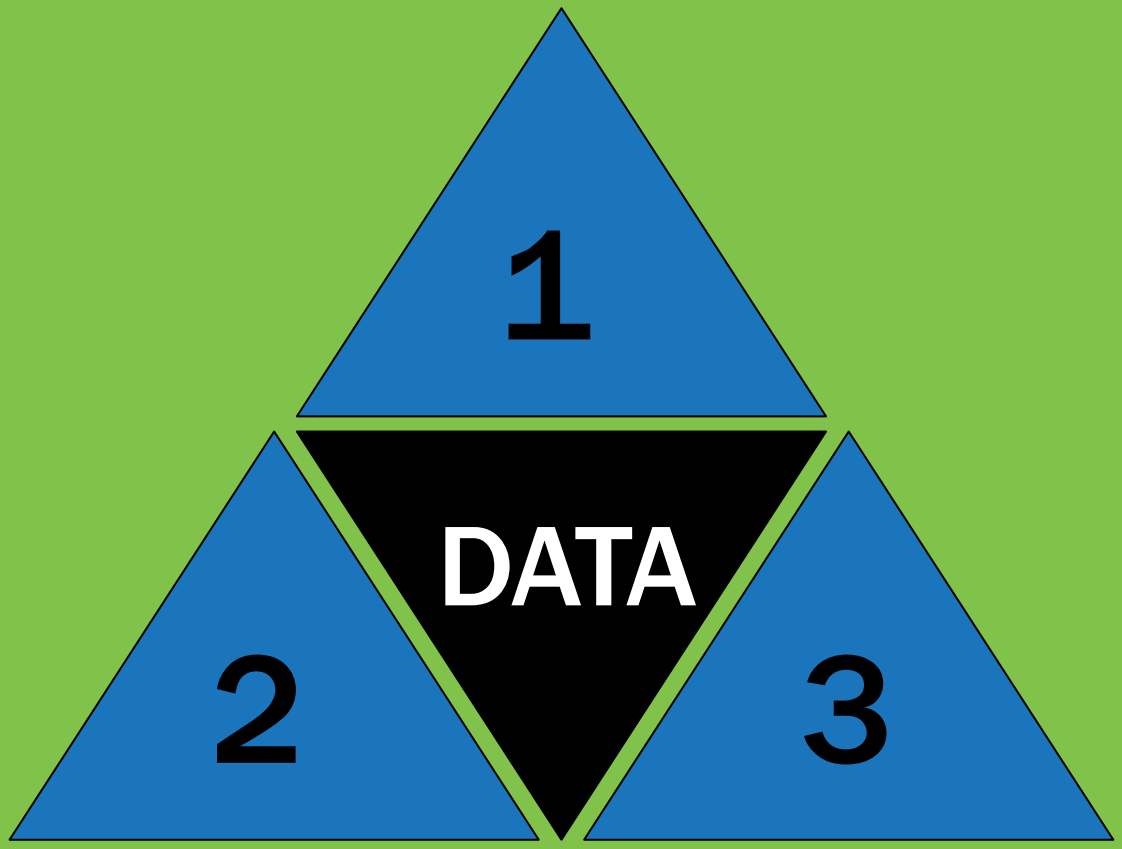
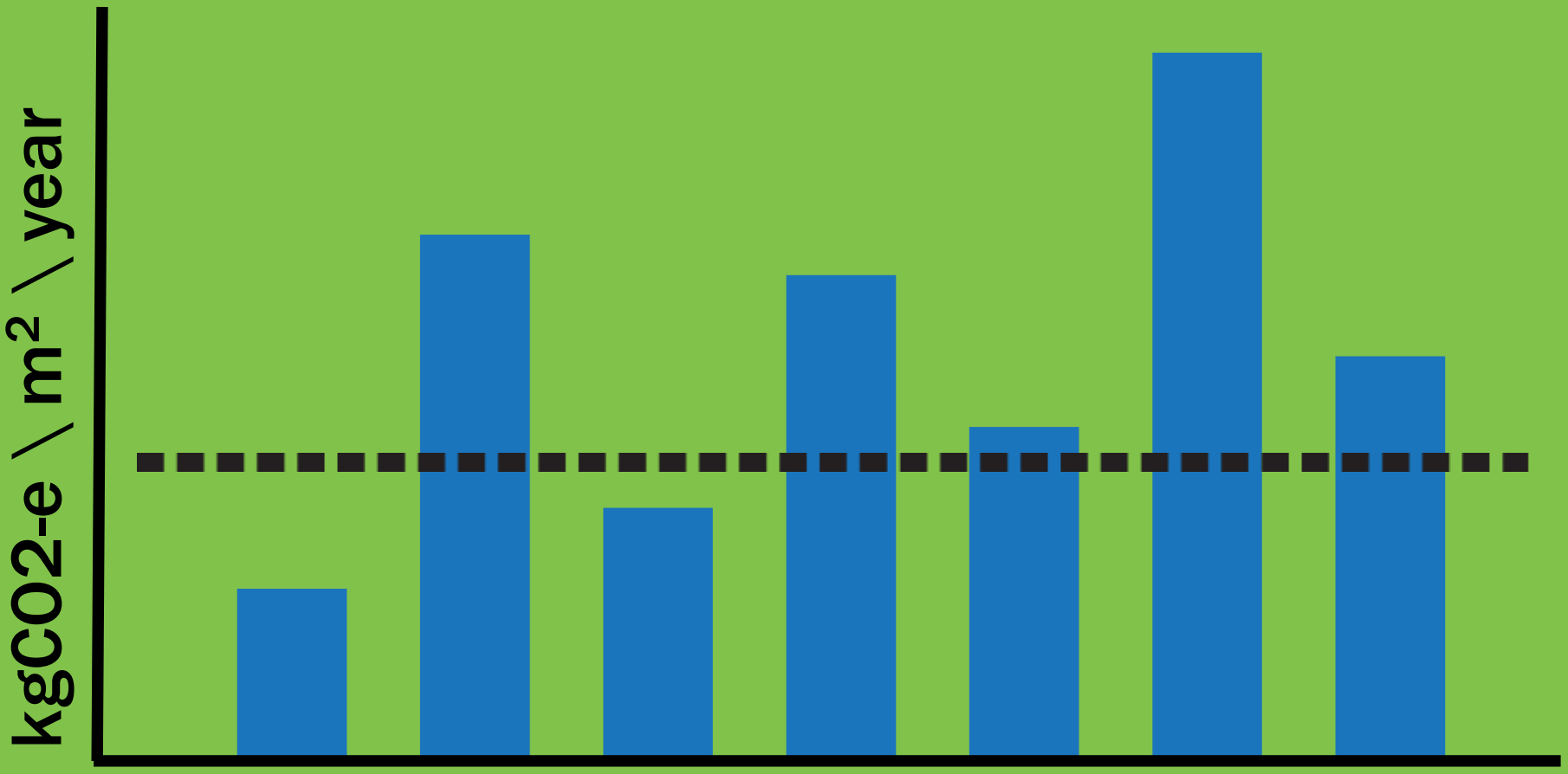


1. DECISION MAKING / 2. REPORTING / 3. MONETISATION

SET A BASELINE



Buildings

NO BENCHMARK = NO VALUE

Building Baselines

- Globally consistent calculation methodology
- Aggregated data – type/location/energy supply
- Targets can be set against baselines
- Methodology can be used for CDMs

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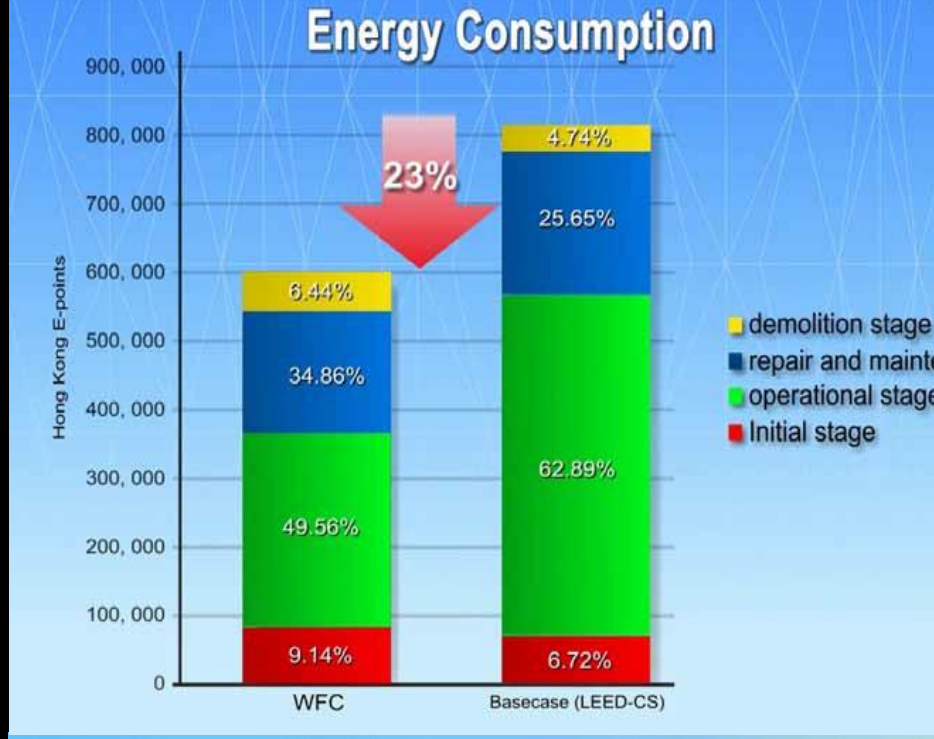
Principles of

CDM

- Estimate carbon reduction
- Track and report *actual* reduction
- Trade carbon credits



CDM

Kuyasa Project
South Africa

United Nations'

CDM Projects

ONLY

14: 4,500

PROJECTS

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Common Threads

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Communities

USGBC Community Works to Rescue and Rebuild Haiti

As soon as disaster struck, the USGBC community has been committed to helping the people of Haiti rebuild and recover from the devastating earthquake of January 2010.

From our early work with the William J. Clinton Foundation to the current, USGBC-led initiative Project Haiti - which is working to build a LEED-certified orphanage in Port au Prince - you have helped to address the critical humanitarian needs of a country in crisis.

We can't rebuild a country overnight, but we can commit ourselves to doing everything we can - today.

Below are a few examples of how you are helping rescue and rebuild Haiti.

USGBC, AIA, Architecture for Humanity Partner to Rebuild Sustainable Communities

In June 2010, USGBC and the American Institute of Architects (AIA) announced their support for an Architecture for Humanity Sustainable Design Fellow, who will help play a critical role in rebuilding the infrastructure in Haiti that was demolished in the devastating earthquake. The qualified desig professional selected will make a two-year commitment to work directly with community members on the ground in Architecture for Humanity's Rebuilding Center based in Port-au-Prince, Haiti.

Integration

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Business Case

IPD Green Property Investment Index – Aus/NZ
Shows Green Star property out performs non rated assets

Co-Star - USA
Shows rated buildings achieve higher rents, higher occupancy, lower operating costs, higher prices per m2

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Performance

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