

Introduction to DGNB



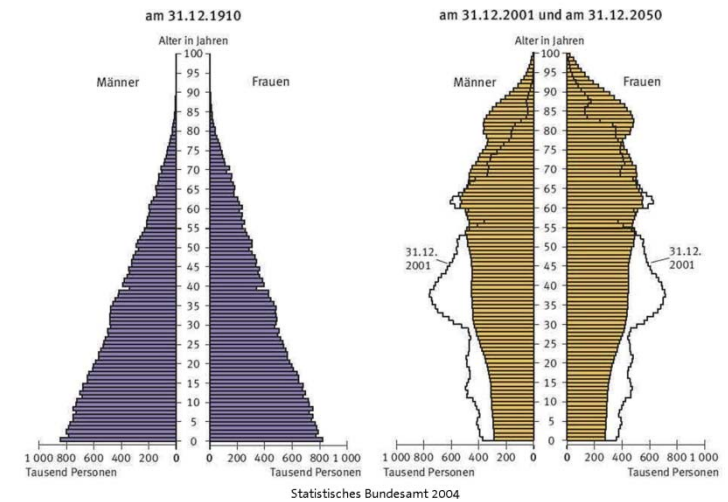
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Global challenges – Urbanization & Urban Sprawl



Global challenges – Demographic Change



Global challenges – Water & Drought



Global challenges – Energy & Resources



Global challenges – Mobility & Congestion



Building industry impacts

17% of fresh water
consumption

Source: UNEP, Information Note (2006)

Source: www.zib.de/clasen/media/first_waves.jpg

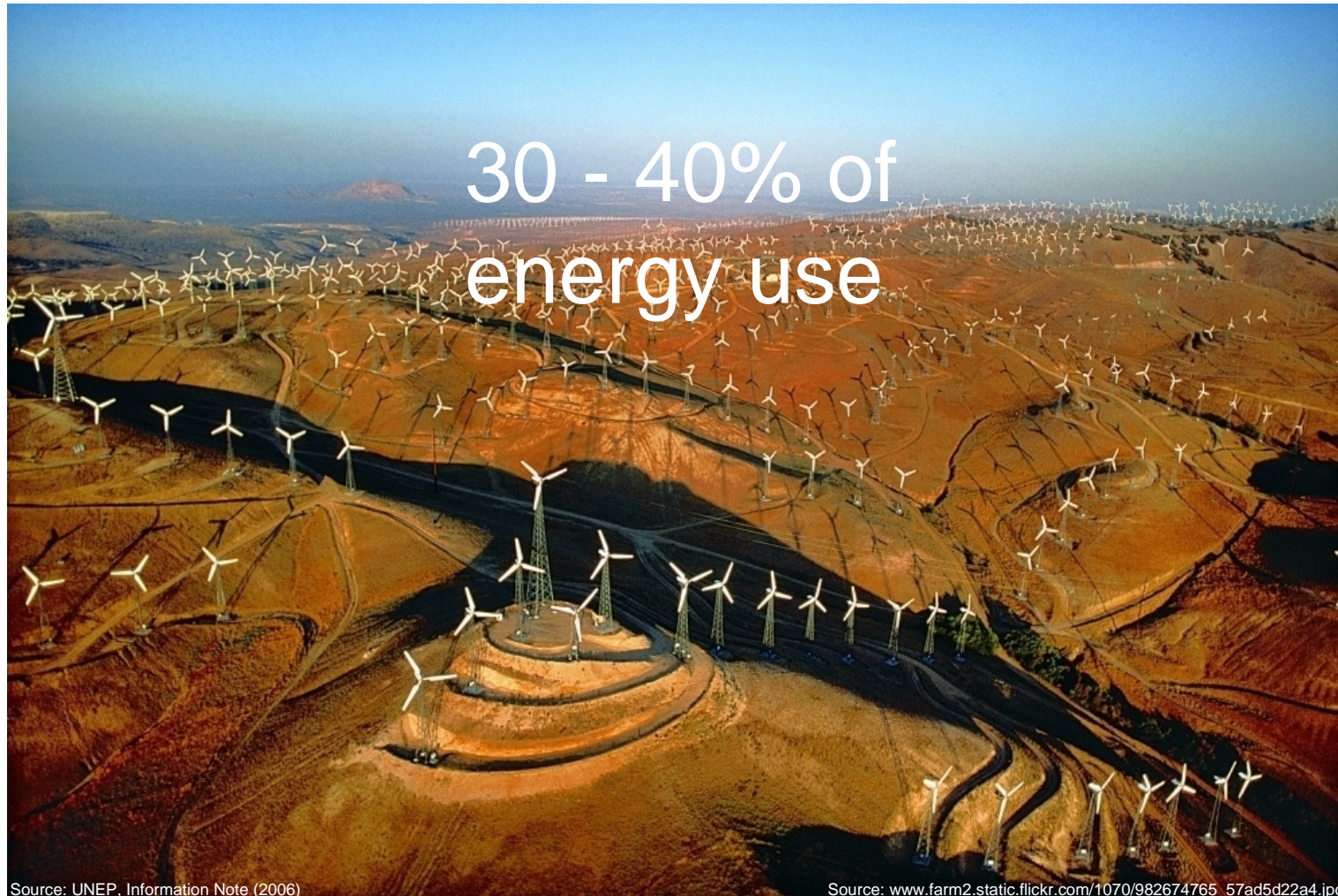
Building industry impacts



Building industry impacts



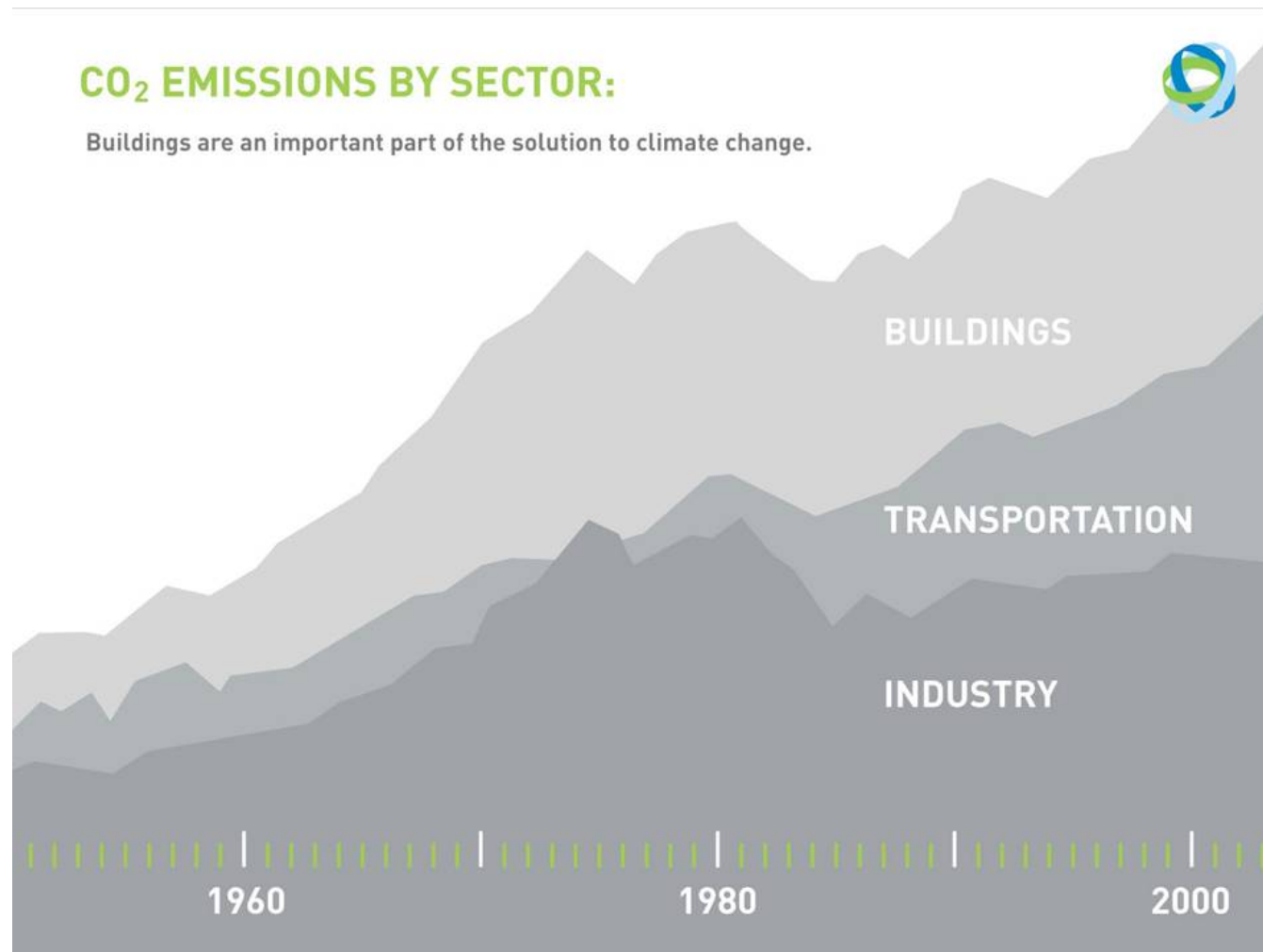
Building industry impacts



Building industry impacts



How can these problems be solved?



Source WorldGBC (2010)

How can these problems be solved?

EU steps towards more Sustainability in the Building Industry

- EU aims for an integrated life cycle oriented approach in the building industry with regards to sustainability (ecology, economic, social)
- Norms to introduce LCA for buildings and products in an advanced state
- Requirements on climate change and resource management will be **legally binding**
- Construction Product Regulation (CPR) replaces Construction Product Declaration (CPD)



How can these problems be solved?

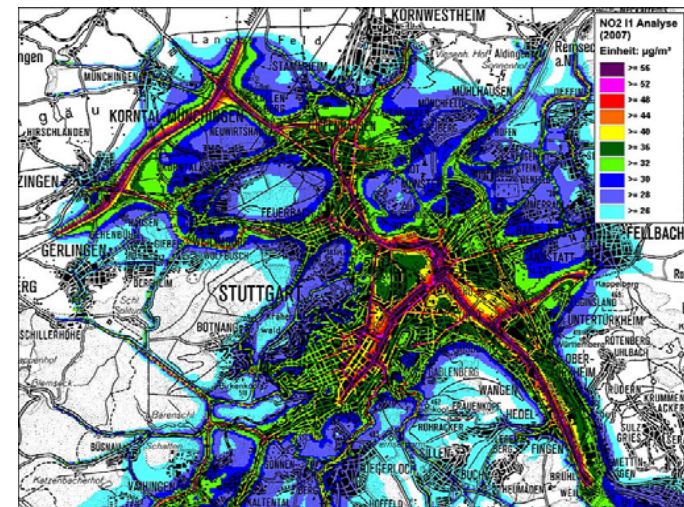
- **CEN/TC 350 – Sustainability of Construction Works**
 - CEN/TC 371 on Energy Performance of Buildings Directive (EPBD)
 - Basic Work Requirements (e.g. BWR7 „Sustainable use of natural resources“ or BWR3 „Hygiene, health and the environment“)
- **prEN 15978 „Building Assessment“** (e.g. thermal performance)
- **prEN 15804 „Environmental Product Declarations“** (e.g. thermal insulation products)



Added value of sustainable buildings

Environmental benefits:

- Energy-efficiency
- Saving of natural resources
- Use of renewable resources
- Significantly reduction of CO2 emissions
- Lower carbon footprint
- Less impact for biodiversity



NO2-Analyse-2007-kl.gif

Added value of sustainable buildings

Economic benefits:

- High rent increase potential
- Low operating costs
- Decreased risk of vacancy
- Better value stability
- Increased user productivity



Added value of sustainable buildings

Socio-cultural and functional benefits:

- Improved user wellbeing
- Higher user satisfaction
- Improved thermal, visual and acoustic comfort
- Optimal indoor quality
- Overall healthier environment – no „sick building syndrome“



How to measure sustainability?



How to measure sustainability?



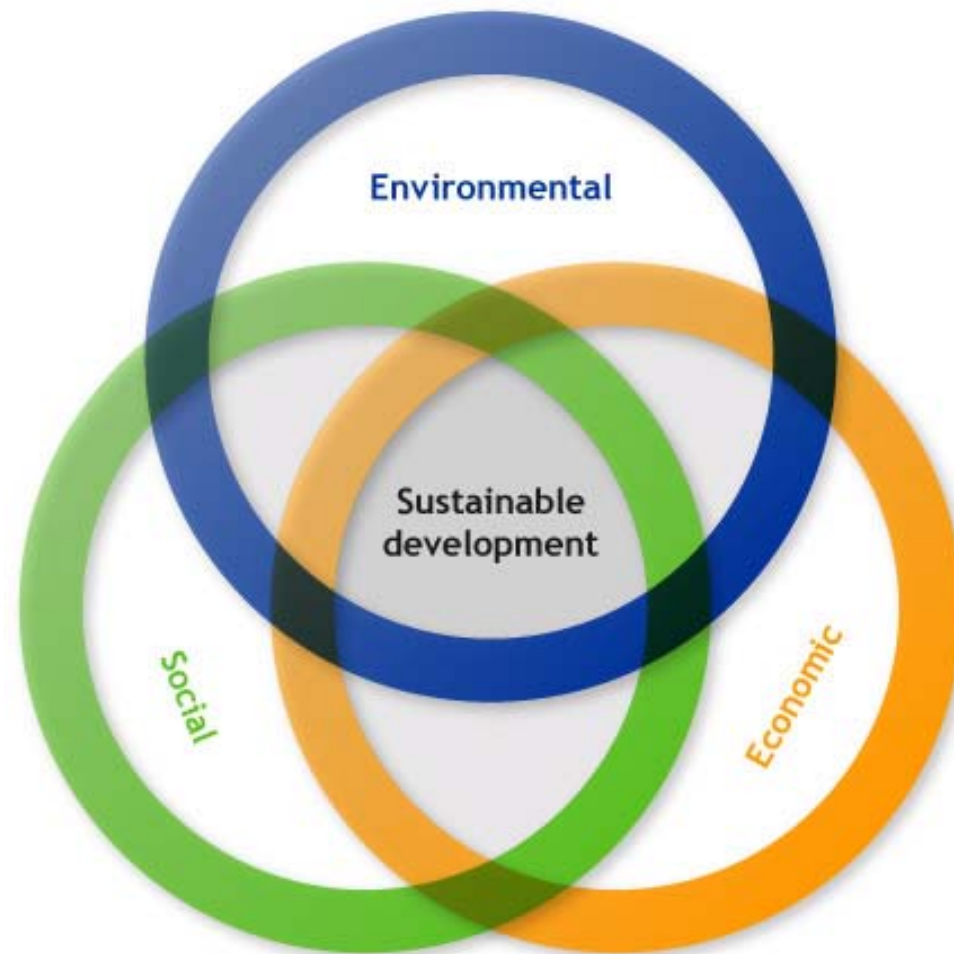
International

- DGNB
- LEED
- BREEAM
- ...

National

- Green Star (Australia)
- CASBEE (Japan)
- HQE (France)
- ...

How to measure sustainability?



Source „Introduction to Sustainability in the Built Environment“ Course – UKGBC
Mohan Munasinghe (1993) – Triple Bottom Line (Planet, People, Profit)

How to measure sustainability?

Green Building

- First-generation systems
- Evaluation of the „GREEN“ performance of the building
- Focus on ecology and energy-efficiency
- Based on **one** of the three pillars of sustainability



vs.

Sustainable Building

- Second-generation system
- Holistic building evaluation with LCA and LCC
- „More than GREEN“ – Optimum in ecology and economy
- Based on all **three** pillars of sustainability



Skyline Tower, Munich

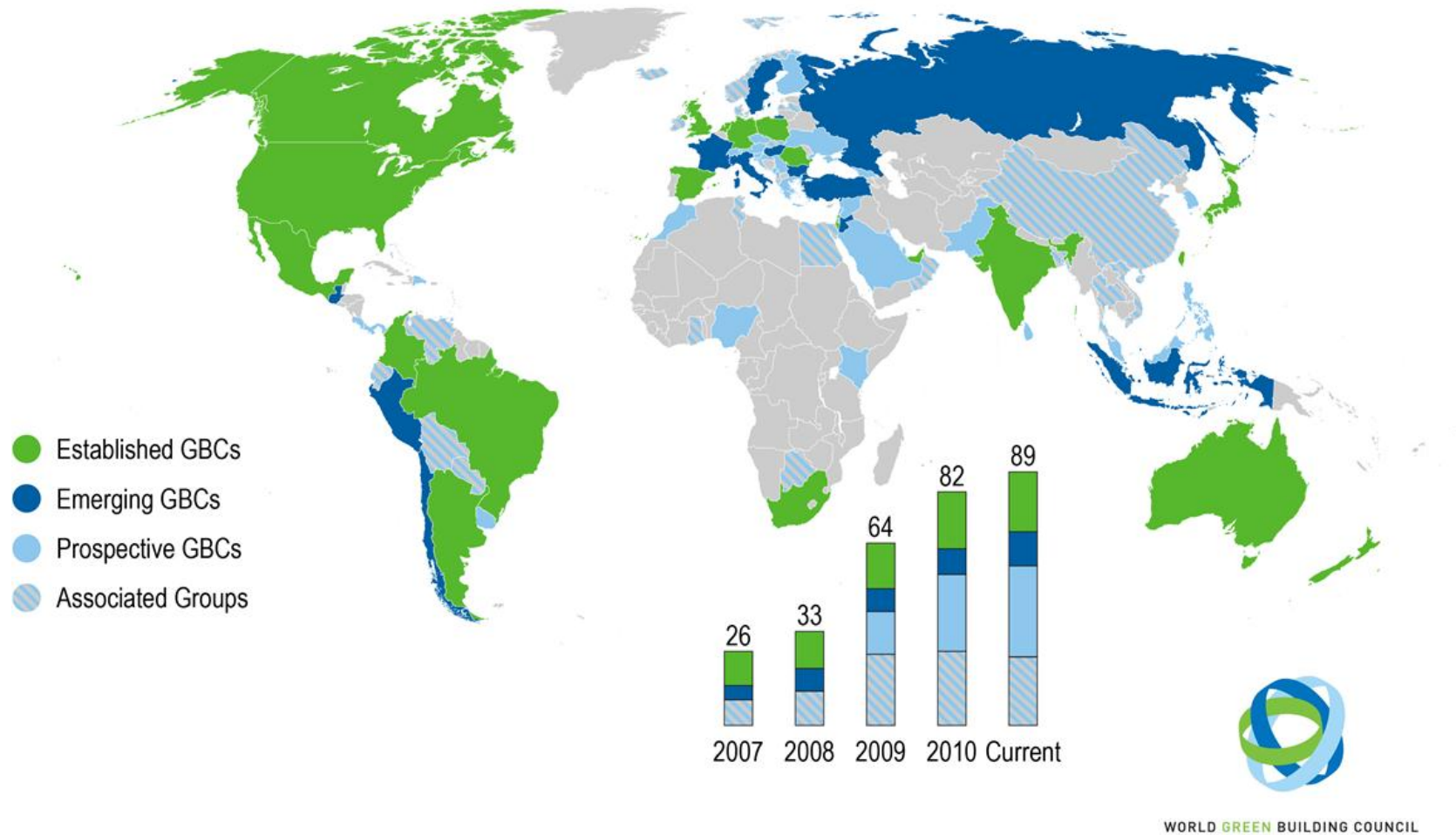
How to measure sustainability?



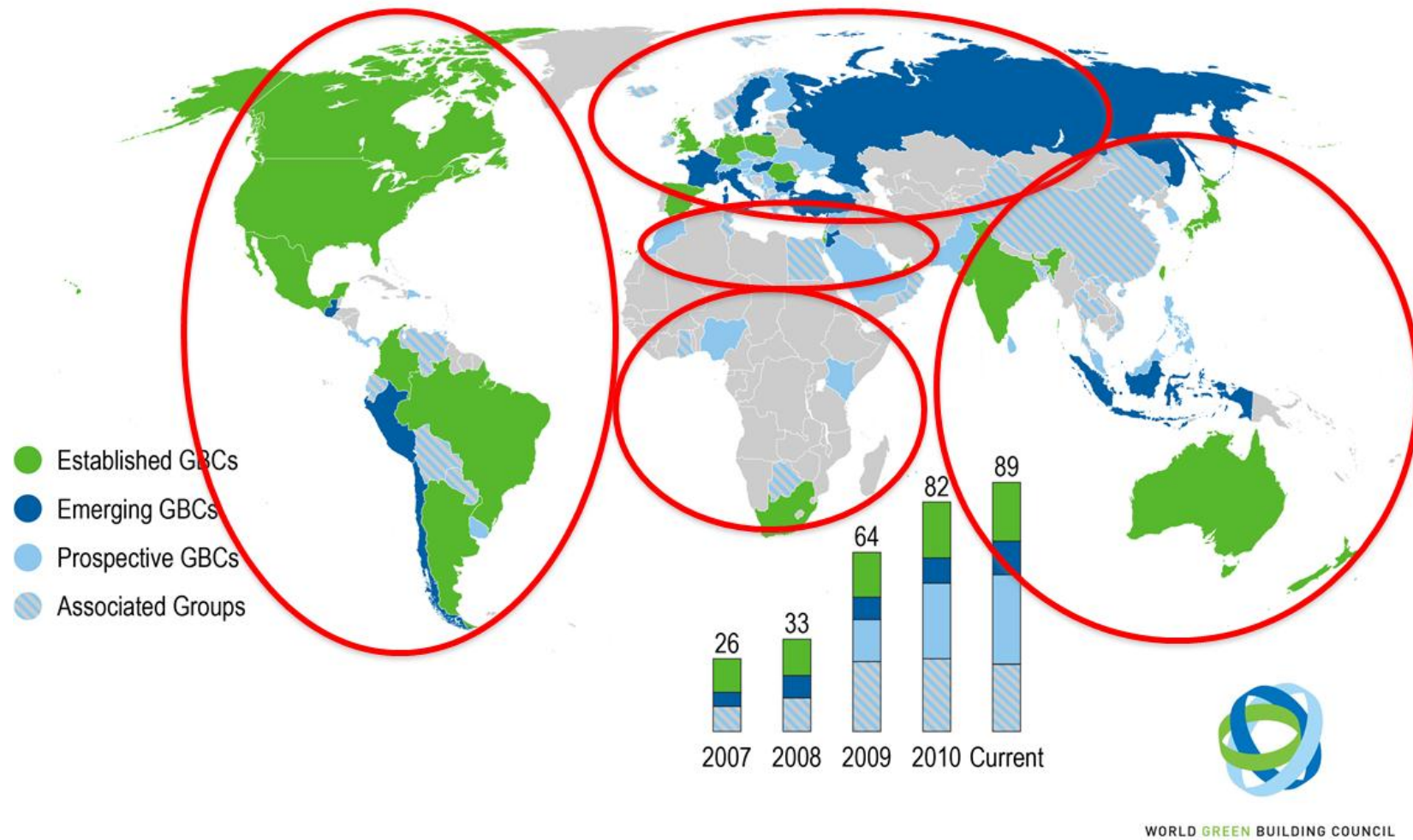
DGNB role and tasks

- NGO and NPO
- German Sustainable Building Council
- Raises awareness and strengthen society's sense of sustainability
- Leverages the added value of sustainable buildings
- Educates DGNB Consultants and Auditors

DGNB within the WorldGBC – A global movement



DGNB within the WorldGBC – Regional Networks



European Regional Network – A growing network

As a network of green building councils we:

- Lead business-driven change
- Define a common language for green building
- Educate and train professionals
- Demonstrate the value of green building to the govern
- Work with the European Commission
- Facilitate leadership networks
- Drive the transition to a sustainable built environment



WORLD **GREEN** BUILDING COUNCIL
Europe Regional Network



The DGNB Partners' Network - Goals

- Adaptation and implementation of the DGNB System in various countries
- Establishment of an International Board to ensure a high quality level and knowledge transfer (DGNB Academy) across the different countries
- Direct application in countries that do not have their own specific adaptation of the DGNB System
- Further development of the DGNB System towards an European and global certification system for a better comparability of international projects

The DGNB Partners' Network

Cooperation Agreement:

- Austria
- Bulgaria
- China
- Denmark
- Hungary
- Switzerland
- Thailand



Memorandum of Understanding:

- Brazil
- Czech Republic
- Greece
- Italy
- Russia
- Slovenia
- Spain
- Turkey



EU / Research Projects – OPEN HOUSE

- Development and implementation of a common European transparent assessment methodology for sustainable buildings, implementing the existing ones, by establishing a uniform approach able to emerge collectively in an open way across EU.
- OPEN HOUSE methodology is based on existing European standards:
 - CEN/ TC 350, ISO TC 59/SC17
 - EPBD Directive and its national transpositions
 - Methodologies for assessing building sustainability at international, European and national level



EU / Research Projects – CONSTRUCTION21

- First trans-European Platform to inform and communicate about sustainable construction:
 - Best case studies
 - Thematic communities
 - News on green/sustainable building topics
 - Experts as users and moderators
 - Construction material database
- Supported by the European Union through the Intelligent Energy Europe program



EU / Research Projects – PPP Projects

- Public-Private Partnerships between the private sector and the state to
 - participate and contribute to projects that benefit developing countries
 - provide specific expertise and support companies to promote sustainable development in partner countries
 - make available their network of contacts
- Role of DGNB in collaboration with PE INTERNATIONAL, energydesign, Werner Sobek, DEKRA Industrial, WiN=WiN in **Ukraine, China and Brazil**:
 - organisation of DGNB Trainings
 - know-how transfer
 - adaptation of DGNB Certification System



DGNB Academy

- Provides specific know-how for implementing sustainable aspects by planning, construction and operation of buildings
- For any professional working in the planning and construction industry
- For those countries without specific adaptation of the DGNB System



VZ-Gold-Waterhouses residential building, Hamburg



Thyssen Krupp Headquarters, Essen

DGNB Academy – Modular structure



DGNB
Consultant



DGNB
Auditor



DGNB Academy – Qualifications

- **DGNB Consultant**

- Basic knowledge of DGNB System
- No audit of building projects

- **DGNB Auditor**

- Central role from the planning phase to completion and certification
- Link between DGNB and project team
- Deep knowledge of DGNB system, its certification process and documentation



Mundsburg Tower, Hamburg

DGNB Academy – Training contents

Module 1a „Basic Knowledge“	Module 1b „Criteria Knowledge“	Module 2 „DGNB Auditor“
<ul style="list-style-type: none">▪ Process and Assessment Methodology of the DGNB Certification System▪ Sustainable Architecture▪ Efficient Building Technology▪ Harmful Substances▪ Building Envelope	<ul style="list-style-type: none">▪ Basic Knowledge on LCA▪ Basic Knowledge on LCC▪ Practical Exercises	<p>Workshops on a pilot project, and consequent submission of project-related documentation, based on the DGNB Documentation Guidelines</p>

DGNB Navigator

- Provide exact product information on a datasheet according to DGNB criteria
- Verified and reliable information for DGNB conformity inspection
- Holistic decision support: Environmental and social aspects aside pure technical and monetary criteria
- Achieve transparency and show producer responsibility for their products



Benefits

Clear orientation for producers

- Well-structured database, providing information on relevant sustainability aspects and data for producers
- Documentation of product quality from a sustainability perspective
- Strong positioning of producers in the sustainability sector

Full transparency for architects, planners and auditors

- Simple access to all product information relevant for DGNB
- Directly applicable for DGNB certification
- Transparent presentation in form of product data sheets

DGNB Navigator – Manufacturer and supplier

- Alwitra GmbH & Co. Klaus Göbel
- BASF SE
- Bauforumstahl e.V.
- Monier Braas GmbH
- Deutsche Amphibolin Werke v. R. Murjahn Stiftung & Co. KG
- Cobiax Technologies GmbH
- Durach GmbH
- Paul Geißler GmbH
- Gemeinschaft umweltfreundlicher Teppichböden e.V.
- JACKON Insulation GmbH
- Kalzip GmbH
- Lindner AG
- LK Luftqualitaet AG
- Panraumsysteme GmbH
- Schüco International KG
- Sika Deutschland GmbH
- TOUCAN-T Carpet Manufacture GmbH



THANK YOU!

www.dgnb-international.com
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