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# World Green Building Council and market transformation of the global building sector



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**Climate change is one of the greatest challenges of our time and will require global solutions. The building sector, which consumes more than one third of the world's energy and, in most countries, is the largest source of greenhouse gas emissions, is a major part of this problem. Fortunately, this sector can be an even bigger part of the solution, providing some of the most significant and cost-effective opportunities for change. Today, a global network of green building councils (GBCs), guided by the World Green Building Council (WorldGBC), is at the forefront of galvanising action. This coalition of more than fifty national GBCs is guiding the building industry onto a more sustainable path.**

According to the Intergovernmental Panel on Climate Change (IPCC), building-related greenhouse gas emissions could almost double by 2030. However, the IPCC's Fourth Assessment Report has also found that, with proven and commercially available technologies, energy consumption in both new and existing buildings could be cut by an estimated 30–50 per cent without significantly increasing investment costs.

A number of independent studies confirm that buildings certified by green building councils (GBCs) can consume 85 per cent less energy, 60 per cent less potable water, and send 69 per cent less waste to landfill than non-certified buildings. Green buildings are a key aspect of sustainable development and also have important social benefits due to the holistic nature of their design.

Buildings must be central in any post-Kyoto framework, given their unique greenhouse gas abatement potential and the readiness of the global property and construction industries to act. Now is the time to lay the foundations of a low carbon economy, and secure a sustainable environment for generations to come.

## **GLOBAL GREEN BUILDING TRENDS**

In partnership with McGraw-Hill Construction, WorldGBC released a Smart Market Report in 2008 on *Global Green Building Trends* that assessed the market activity, attitudes, motivations and challenges facing the green building movement in different countries and regions. Drawing on WorldGBC's global network of green building market leaders, the survey collected input from over 700 early market adopters in 45 countries.

Key findings of this study include the following:

- ▶ **The green building portfolio:** Within the next four years, 94 per cent of responding firms plan to be building green on at least 16 per cent of their projects, with more than half dedicated to building green on more than 60 per cent of projects.
- ▶ **Market growth:** The fastest growing green building market is in Asia, where the population of firms largely dedicated to green is expected to nearly triple between 2008 and 2013 (from 26 per cent to 73 per cent).
- ▶ **Alternative energy:** By 2013, 78 per cent of all respondents expect they will be using solar power and

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Fifth Town Artisan Cheese factory (Picton, Canada):  
LEED Canada Platinum, CaGBC

62 per cent of North American respondents expect to be using wind power.

- ▶ **Top motivators for green building:** Reducing energy consumption was cited by 89 per cent of respondents as being the top environmental reason for green building, while encouraging sustainable business practices was cited by 90 per cent as being the top social reason, and “doing the right thing” was cited by 42 per cent as being the top business reason.

## DRIVING THE GLOBAL GREEN BUILDING AGENDA

The WorldGBC is committed to accelerating the transformation of the built environment towards sustainability and drives the global green building agenda by facilitating the development of new GBCs, while supporting the work of its current member organisations. To guide efforts on this front, the WorldGBC has developed its mission statement to include the following objectives:

- ▶ To advocate the important role of green buildings in mitigating global climate change;
- ▶ To facilitate effective communication, share best practices, and promote collaboration between councils, countries and industry leaders;
- ▶ To create successful GBCs and ensure they have the resources needed to prosper within their respective markets;
- ▶ To support effective building performance rating tools and promote the development of mandatory minimum standards for energy efficiency in buildings; and
- ▶ To develop the capacity of the next generation of green building professionals by designing a unique internship programme and innovative university-credited course on green building.

GBCs are effective powerhouses of green building activity and raise the profile of green buildings to industry, government and the public within their respective country. GBC activities include training building sector professionals and providing rating tool accreditation, administering green building certification, co-ordinating networking conferences and advocacy events, and working with various levels of government to guide the development of effective policies on sustainability and energy efficiency in the built environment.

GBCs are created in response to various drivers in the marketplace, particularly the increasing understanding

The WorldGBC global network includes green building council representation in the following countries:

**Established (Full) Members:** Australia, Argentina, Brazil, Canada, Emirates, Germany, India, Japan, Mexico, New Zealand, South Africa, Taiwan, United Kingdom, and USA.

**Emerging Members:** Colombia, Israel, Italy, Netherlands, Poland, Romania, Singapore, Spain, Turkey, and Vietnam.

**Prospective Members:** Chile, Costa Rica, France, Greece, Hungary, Indonesia, Jordan, Malaysia, Panama, Qatar, Saudi Arabia, South Korea, Sweden and Uruguay.

**Associated Groups:** Albania, Austria, Bahamas, Belgium, Bulgaria, Cayman Islands, China, Croatia, Czech Republic, Egypt, Georgia, Hong Kong, Kenya, Mauritius, Montenegro, Oman, Paraguay, Peru, Philippines, Russia, Thailand and Venezuela.

of the building sector’s unique potential for reducing global energy consumption and GHG emissions. Furthermore, the growing desire to move towards a low-carbon economy, increased energy efficiency, and holistic sustainable design is largely complemented by the growing recognition of effective building performance indicators. Commonly known rating tools within the global marketplace include:

- ▶ Leadership in Energy and Environmental Design (LEED), developed by the United States GBC;
- ▶ Green Star, developed by the GBC of Australia;
- ▶ Building Research Establishment’s Environmental Assessment Method (BREEAM), developed by the UK-based BRE; and
- ▶ The newly launched DGBN tool, developed by the German Sustainable Building Council (GermanSBC).

## THE WORLDGBC’S GLOBAL NETWORK OF GREEN BUILDING COUNCILS

The strength and breadth of the WorldGBC network of cross-sector leaders has been developed through membership, the promotion of council development, and by engaging direct and indirect stakeholders in the building and construction sectors worldwide.

Over the course of the past seven years since its establishment, the WorldGBC has witnessed outstanding growth in its global network, currently reaching more than 55 countries. Since 2002, there has been a greater than six-fold increase in the total number of national GBCs.

Regional networks have been initiated in Europe, the Asia-Pacific, and the Americas/Caribbean to ensure that developing GBCs can receive market-appropriate assistance from experienced GBCs in their respective region. The Asia-Pacific network was launched on 23 September 2009, and is being co-ordinated under the leadership of the GBCAustralia. The European and Americas/Caribbean networks are currently under development.

To help guide the development of new councils, the WorldGBC has developed an extensive Council Creation Toolkit, a series of resources to help emerging groups,

Deutsche Bank (Frankfurt, Germany): DGNB Gold – Office and Administration Building, GeSBC.



as well as the Council Development Gateway, an online resource-sharing and networking tool that draws from the expertise of more established GBCs.

The annual WorldGBC International Congress brings together GBCs from around the world to network, share resources, and exchange best practices. The Congress also showcases emerging themes in energy efficient green building technology and case studies of exemplary projects and initiatives.

Transparent communication of GBC activities and green building developments is further reinforced through the e-newsletter that is sent biannually to all members and WorldGBC associates. The GBC network serves as a unique means to communicate globally with the building and construction sectors, providing the opportunity to disseminate information quickly and effectively.

## AN INTERNATIONAL POLICY ADVOCATE

The WorldGBC promotes the values of its member GBCs by advocating the unified message of energy efficiency and green building principles at international forums such as the UNFCCC. The WorldGBC Policy Task Force (PTF) was established in September 2008 to develop and implement an international green building advocacy strategy to guide delivery of this message. The PTF is a collaborative initiative which includes representation from the WorldGBC Secretariat and GBCs from Australia, Germany, New Zealand, United Kingdom, and the United States.

The inaugural World Green Building Day was marked on 23 September 2009 – a commemoration dedicated to the advancement of the global green building movement. GBCs from around the world hosted a series of synchronised events on this day to advocate sustainability and energy efficiency in the built environment, while emphasising the important role that green buildings can play in reducing carbon emissions.

The WorldGBC PTF released a series of case studies in November 2009 which showcases global progress in green building. Each case study provides an assessment of the emissions from buildings within that country, an overview of the national government policy on sustainability in the built environment, and a review of that country's GBC's activities, including a summary of the preferred rating tool and estimated carbon savings from application of that tool in the marketplace.

The WorldGBC Policy Task Force is a contributing member to the Sustainable Buildings Construction

Initiative of the United Nations Environment Programme (UNEP SBCI). Over the past year, the PTF has worked closely with the UNEP SBCI Secretariat and members to develop the 'Buildings and Climate Change Industry Call to Action'. This document was created to inform the Parties to the UNFCCC that the global building industry should be a top priority for achieving reductions in energy demand and GHG emissions, and has the full support of the global GBC network.

In March 2009, a Memorandum of Understanding was signed between the UK-based Building Research Establishment (BRE), GBCs in Australia, and the United States and the United Kingdom. The first of its kind, this agreement highlights the collaborative ambition of the parties towards the development of a common carbon metric across BREEAM, LEED, and Green Star rating tools. This metric will allow for measurement of carbon savings from green buildings that are certified by these tools.

The results are also aligned with a more recent collaboration project with UNEP SBCI and the Sustainable Buildings Alliance (SBAlliance), known as the Sustainable Buildings and Climate Index. This index is expected to build a truly worldwide platform, from which a common approach for measuring GHGs in the construction sector can be launched.

## HELPING GOVERNMENTS MEET THEIR EMISSIONS TARGETS

Although GBCs are industry-led, they also collaborate with government bodies to assist with the development of sustainability policies for the built environment. GBCs around the world regularly meet with government officials in order to strengthen the green building agenda, as can be seen in the following examples:

- ▶ ArgentinaGBC often participates in seminars on climate change and sustainable development, organised by the City of Buenos Aires;
- ▶ As a result of GBCAustralia's collaboration with all tiers of government, Green Star for publicly owned or tenanted buildings is now mandated in a number of states and 11 per cent of commercial office space in central business districts is Green Star certified;
- ▶ Following BrasilGBC's collaboration with the Rio de Janeiro municipal government, the city has advanced its reference criteria for public building construction and retrofits. The group is also working with the cities Sao Paulo and Vitoria to develop better policies and green building incentives;
- ▶ Following the recent development of the GermanSBC's DGNB rating tool, the German government has mandated that it be exercised for all federal government buildings;
- ▶ MexicoGBC has participated in the Mexican government's Development Committee, towards the development of both the national 'Sustainable Low-Income Housing Programme' and the national 'Green Mortgage Scheme'; and
- ▶ The GBC of South Africa recently launched its first rating tool, which the South African government is seriously considering mandating for all new government offices.

5 Green Star – Office Design V1 certification, NZGBC.

- ▶ The United Kingdom government has accepted the UKGBC's recommendation of initiating a target for all new non-domestic buildings to achieve zero carbon status from 2019, and is also strongly considering UKGBC's recommendation to develop a Roadmap for Sustainable Building in the UK.

## COLLABORATION IS KEY

The WorldGBC is a global leader in advocating energy efficiency and green building technology and is actively collaborating with numerous other organisations to further drive market transformation of the building sector. The WorldGBC's Global Partners Initiative brings together leaders from industry and government towards building a framework for effective collaboration and resource sharing. Global Partners support the mission and offer valued support which further drives the green building agenda. Industry partners include Philips Lighting, Colliers International, and McGraw-Hill Construction. The Toronto and Region Conservation Authority (TRCA), housed within Toronto, Canada's Living City Campus, has been instrumental in developing the capacity of the WorldGBC Secretariat.

A partnership is being developed with the Government of Canada Department of Foreign Affairs and International Trade (DFAIT), towards greening Canadian foreign embassies and consulates. The Canadian Embassy in Washington, DC, will be the first to be retrofitted with renewable energy technology and energy efficiency improvements. Next projects include the Canadian Embassies in Tokyo, Japan and London, England.

The WorldGBC is also partnering with the United Nations Environmental, Scientific, and Cultural Organization (UNESCO) Chairs Project, a global network of universities committed to research on renewable energy strategies and energy efficiency in the built environment.

## BUILDING TOWARDS A SUSTAINABLE AND LOW-CARBON FUTURE

Looking ahead to the emerging challenges of climate change and the transition to a low-carbon economy, care must be taken to ensure that buildings are not only sustainable but are also adaptable to a new global climate.

The WorldGBC is working to transform the 'business as usual' approach to building and construction, transitioning instead towards the commonplace implementation of sustainability and energy efficiency in the built environment. The vision is to drive the global green building agenda and ensure that buildings around the world contribute to the climate change solution.

We now look to the delegates to the 2009 Conference of the Parties to openly recognise the potential for green buildings to deliver significant emissions savings and energy reductions. The next steps that are needed on the path to a low carbon and sustainable future are strict medium-term energy efficiency and GHG emission targets, the foundations of which will hopefully emerge from the December UNFCCC meetings. As is evident, the building sector is committed and ready to assist all levels of government in meeting these targets.



### Author

Tony Arnel is Chair of both the World Green Building Council (WorldGBC) and the Green Building Council of Australia (GBCA). He is also Victoria's Building and Plumbing Commissioner. As a founding Director of the GBCA, Tony has influenced the national sustainability debate, firstly with his work with the City of Melbourne, particularly in the areas of energy efficiency and water conservation. More recently, Tony has been instrumental in delivering the 5 Star housing energy and water standard, the implementation of new residential and commercial sustainability standards into the national building code, and the accelerated uptake of Green Star rating tools for buildings. He is a Life Fellow of the Australian Institute of Architects, a member of the Planning Institute of Australia and a qualified company director.

### Organisation

The World Green Building Council (WorldGBC) was established in 2002 to foster the development of a union of national councils around the world, whose mission is to accelerate the transformation of the built environment towards sustainability. WorldGBC is working to transform the 'business as usual' approach to building and construction through advocacy, educating the next generation of professionals and driving the development of the global green building council network.

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