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Green Building Certifications

An international recognition for more sustainable buildings?

The History Of Sustainable Building Certifications

Across the world, governments and businesses are recognizing the value of a voluntary assessment methodology for buildings that are more eco-friendly. That methodology is being called a “green building certification.”

For governments, a recognized ecological certification would be politically safe, cost little, and hold the possibility of reducing energy demand and CO2 emissions from buildings, which are the most energy and resource consuming urban element.

For businesses, voluntary certification would offer a smooth transition from “building-as-usual” to environmentally friendly construction. If management properly calculates the ROI of energy-efficient technologies, company shareholders would probably support their implementation. Large and small companies would also get positive media exposure about their pro-environment measures, thus attracting more clients.

Currently, the most recognized green building certifications are the British Building Research Establishment Environmental Assessment Method (BREEAM) and its American counterpart the Leadership in Energy and Environmental Design (LEED).

Launched in 1990, BREEAM has become an internationally renowned evaluation tool to rate the environmental performance of new and renovated buildings. Initially developed for office buildings, the Building Research Establishment (BRE) has continued the remarkable expansion of BREEAM by tailoring it to houses, schools, hospitals, retail shops, industrial facilities, and others.

The methodology was then adapted to projects outside the UK through the BREEAM International scheme. Since then, BREEAM has achieved a significant market penetration in the UK and worldwide, with organizations

increasingly committing themselves to BRE ratings. Some private developers started conducting BREEAM assessments on all projects as a matter of policy. The UK government now requires minimum levels of certification for most large construction projects.

BREEAM has not been confined to the British Isles. And the BRE, whether directly or indirectly, has contributed to the development of many BREEAM-like tools that are tailored to local climatic and economic considerations. Examples include Singapore’s BEAM, Australia’s Green Star, BREEAM Canada, New Zealand’s Green Home Scheme, and the Hong Kong Building Environmental Assessment Method. Nigel Howard, a key author in the original UK BREEAM, has also managed its US equivalent LEED, which was created by the US Green Building Council (USGBC). LEED, which has been available since 2000, has been customized to various types of buildings and construction types.

In the Middle-East, during the past five years, both LEED and BREEAM have inspired the development of similar national certification schemes, namely the Estidama initiative’s Pearl Rating System in Abu Dhabi and the Qatar Sustainability Assessment System (QSAS). The Lebanon Green Building Council (LGBC) has created a totally different methodology, the ARZ rating system, by taking into account the local context. ARZ is currently only available for existing operational commercial buildings. But the LGBC is looking to expand ARZ to other project types.

Successful Eco-Labels

So what made these sophisticated eco-labels so successful in an industry that is generally seen as highly conventional? Since their inception, BREEAM and LEED have been well-recognized and respected by the construction sector worldwide. This is probably due to a variety of factors, with the most important ones being the schemes’ rigorousness,



independence, flexibility, quality assurance, and economic appeal to businesses.

Both the BRE and the USGBC have invested considerable time and effort in the research and development of their schemes and in consulting experts for best practices in all aspects of construction.

Despite certain minimum requirements, there’s still considerable flexibility. Developers may customize their sustainability strategy depending on the project and its technical and financial constraints to achieve the desired certificate rating. This flexibility is important for making eco-building certifications economically viable because developers have a financial incentive to calculate, prioritize, and pursue the most cost-effective eco-requirements for their specific development.

Finally, the LEED & BREEAM eco-label—by certifying that a building has obtained a certain level and amount of environmental credentials—is an excellent marketing and specification tool for companies that wish to boost their eco-friendly image.

In the case of BREEAM, Cecilia Bågenholm, previously a senior consultant at the BRE, recognized that the scheme’s main success attribute is that it was tailored to be easily accepted by the market. “BREEAM was originally developed to be as simple and understandable as possible, and in-line with what the market would be able to produce

at the time it was developed. Targets were then gradually raised with revised BREEAM schemes, allowing people to improve at a sensible rate,” she said. In addition, when the rating system was first developed, the BRE made sure to involve different stakeholders from the construction industry and closely collaborated with them to obtain actionable feedback before BREEAM’s launch.

More About Eco-Building Certifications

LEED and BREEAM, and all other national sustainability rating systems, are mostly point-based tools: the more eco-requirements are specified and incorporated into a project, the more points are accumulated, and the higher the rating that is ultimately achieved at the end of the construction. The current ratings are described in the table below:

LEED		BREEAM	
Certified	(40 points)	Pass	(30%)
Silver	(50 Points)	Good	(45%)
Gold	(60 Points)	Very Good	(55%)
Platinum	(80 points)	Excellent	(70%)
		Outstanding	(85%)

1st LEED Gold certified building in Lebanon (March 2013)
International College Elementary School.



Top:
2nd LEED Gold certified building in Lebanon (December 2013) Beirut City Centre Mall.
Right:
1st ARZ certified building BLC Bank headquarters.



Construction projects are often complex and involve a wide variety of conditions and constraints that can be conflicting. In many respects, both the LEED and BREEAM schemes provide the design team a structured methodology by seeking improvements on existing national and international requirements and standards. While some think that the schemes are only interested in specific—and sometimes contradictory—issues, they miss the big picture, which is that conducting a green building certification is the perfect opportunity to adopt a holistic approach to construction and to find creative, outside-the-box solutions.

Indeed, those eco-labels seek to promote sustainability for a broad range of categories, and not just on an environmental level, but also on social and economic ones. In effect, LEED has five best practice categories: sustainable sites, water efficiency, energy & atmosphere, materials & resources, and indoor environmental quality; while BREEAM has eight categories: management, health & well-being, energy, transport, water, materials, site ecology & land use, and pollution. Both schemes reward innovative sustainable designs as well as exemplary performance by exceeding some of the requirements. This wide range of issues requires a combined and active involvement of the entire design team, the client, as well as specialist consultants such as ecologists, acousticians, geologists, commissioning agents, and lighting engineers.

As it can be noticed, although building certification is often associated with energy-efficiency, assessed buildings actually have to incorporate many more sustainability solutions and features to attain the minimum achievable rating. For example, the construction industry has traditionally not had a

great track record in protecting and enhancing the on-site ecology. Developers often favor ecologically rich locations—everyone likes to see trees and other environmental features out their window. But they give little thought on how much the development will affect such an area, both on the immediate building site and on the wider area through occupant behavior. But with the BREEAM certification, developers can no longer afford ignoring the ecology. When possible, existing ecological features must be protected and even improved, and any destruction must be mitigated during construction. The biodiversity of a site must also be preserved.

The Local Context

In Lebanon, some environmentally conscious developers have started accepting the importance of preserving biodiversity as much as practically possible. Motivated by pursuing the BREEAM International certification, which dedicates a full section to ecology and land use, they are having ecologists conduct site surveys before any project and are making recommendations on how to enhance a site's ecological value by carefully selecting native plants. Such projects include Yarzé 1674, La Brocéliande, and Beit Misk, all located in ecologically rich areas.

It is not always easy to ensure that the development process is environmentally benign. But it is essential to respect existing site conditions at every work stage, from design to handover, and to take into account the lifetime impact of the building once it becomes operational.

In the absence of specific local environmental legislation and very weak enforcement, the construction industry in Lebanon is slowly warming to various private, institutional, and NGO incentives to promote energy-efficient building techniques and micro-renewable energy technologies, designed to decrease CO2 emissions from a building's heating, cooling, and lighting. Bodies such as LCEC, LGBC, and MAJAL have rightly emphasized designing and retrofitting energy-efficient and water-efficient buildings to lower the environmental impact.

Today, with new financial incentives for sustainable projects, such as the Lebanese Central Bank NEEREA's low-interest loan on energy-efficient and eco-friendly developments, we are seeing more efforts to reduce pollution, minimize energy consumption, and value the environment, while more and more local projects are pursuing the BREEAM, LEED, or ARZ certifications.

To date, four projects have been certified in Lebanon: the BLC Headquarters (first ARZ Bronze certification), the International College Elementary School (first LEED Gold certification), the Beirut City Centre Mall (second LEED Gold certification), and Casa Batroun (first BREEAM Excellent certification and the first Excellent rating in the Middle East).

And we hope to see many more in the near future!

1st BREEAM Excellent certified building in Lebanon and in the Middle-East (February 2014) Casa Batroun.

