Green Building Services

Bureau Veritas Korea – Industry & Facilities

Move Forward with Confidence
**Market Trends**

**Zero Energy Buildings by 2025**

The Korean Ministry of Land, Transport and Maritime Affairs has established in 2009 the Guidelines for “Low Carbon Green Growth City” indicating requirements for cities development and urban planning. The plan provides guidelines and set energy consumption targets at the country level, in order to create low carbon green growth cities and to respond to environmental and resource crises.

New construction for residential buildings have been required to cut their energy consumption with the following milestones: **30% reduction by 2012, 60% by 2017**, and to achieve **zero-energy emissions by 2025**. The acquisition of an energy certificate grading energy for residential buildings started to be implemented in 2014.

![Timeline of Energy Efficiency Goals](image)

**Green Building certification in Korea**

In this context, green building certification standards have grown exponentially in the country to demonstrate buildings’ energy efficiency and environmental friendliness.

The Korean label G-SEED was established in 2002; and existing international standards such as LEED are becoming increasingly popular in Korea, notably to allow multinationals to provide **world-class standards** and **improve their branding through green building projects**.

Korean multinationals have been leaders in this trend. **Samsung Green tomorrow** was the **first LEED Platinum project in the country** – and **Naver’s Green Factory** awarded LEED Platinum certification in 2014 with the **highest score worldwide in its category**: LEED for Existing Buildings, Operations & Maintenance (EBOM).
**Green Building Labels globally**

The development of green buildings labels started in the 1990s, with an accelerated growth in the 2000s due to climate and energy concerns. The Green building certification systems are guidelines and assessment systems, designed to **optimize, assess and compare energy & environmental performances of buildings** - originally at country levels, and today at a global level with standards such as LEED and BREEAM. Bureau Veritas provides **audit, assessment and certification services** for green building labels to be applied in each country.

- **LEED®**: Leadership in Energy & Environmental Design
  - Developed by the US Green Building Council
  - 68,000 Projects certified
  - Ratings: LEED® Platinum™, Gold™, Silver™ and Certified™

- **BREEAM**: Building Research Establishment Environmental Assessment Methodology
  - Developed by the UK Building Research Institute.
  - 65,000 projects certified
  - Ratings: Excellent, Very good, Good, Pass

- **CASBEE**: Comprehensive Assessment for Building Environmental Efficiency
  - Developed by the Ministry of Land, Infrastructure and Transport
  - Rating: BEE (Building Environmental Efficiency) = Q / L
  - with: Q (Quality): Q1 Indoor environment, Q2 Quality of services, Q3 Outdoor environment on site,
**LEED Overview**

LEED (Leadership in Energy & Environmental Design) rating systems are developed by the **U.S. Green Building Council (USGBC)**. USGBC is a balanced, consensus-based nonprofit organization with more than 18,000 member companies and organizations representing the entire building industry.

The LEED rating systems are designed for **rating new and existing commercial, institutional, and residential buildings**. They are based on accepted energy and environmental principles and strike a balance between known, established practices and emerging concepts.

Buildings are awarded points based on the extent various sustainable strategies are achieved. The more points awarded the higher the level of certification achieved: The levels of certification are **Certified, Silver, Gold and Platinum**.

- **1. USA** 10,000+ projects
- **2. Canada** 4,000+ projects
- **3. India** 1,657 projects
- **4. China** 1,638 projects
- **5. South Korea** 242 projects

**Top 5 LEED Countries by number of projects**

- LEED projects in 100+ countries
- 6,500+ projects outside USA in 2014
- 25% from the international in terms of floor space
**LEED Credits**

All LEED rating systems have a **100 base points**. The Innovation in Design (or Operations) and Regional Priority credits provide opportunities for up to **10 bonus points**.

The allocation of points between credits is based on the potential environmental impacts and human benefits of each credit with respect to a set of impact categories.

**LEED Categories**

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The rating systems are organized into **8 categories**, as shown on the figure.

**LEED® Rating Systems**
**LEED - Bureau Veritas Services**

Bureau Veritas offers the following services related to LEED® certification:

- LEED certification consulting & project management
- Energy simulation
- LEED on-site support, on-site training
- Credits review and submission
- Commissioning services
- Energy Star rating
- ASHRAE Level I and II energy audits
- Identification and possible energy measures improvements

**FAQ**

**Can Bureau Veritas grant LEED certification?**

LEED certification can be granted solely by the USGBC. Bureau Veritas acts rather as a trusted third party, providing technical expertise and advice during the design and construction phases.

**How to become LEED certified?**

LEED certification is obtained after document review by the USGBC. Required submissions should document design and construction phases.

**Why Choose Bureau Veritas?**

**Knowledge and network** - Bureau Veritas has expert knowledge and readily available teams to support you at each step and technical requirement of the LEED certification process.

**Personalized service** - Bureau Veritas adapts its services to clients’ needs and helps identify their environmental, health & safety obligations.
LEED in Korea

Over 240 projects are registered in Korea, among which 60 have awarded the LEED certification. It includes the following projects:

- Samsung Green Tomorrow
- NAVEX Green Factory
- Gangnam Finance Center
- ING Tower
- Seoul Finance Tower
- Songdo Convensia
- US Army-Camp Walker
- Mirae Asset Center
- NHN Entertainment Play Museum
- State Towers
- SK Chemical
- DOW chemical
- Coex
Green Rating

Green Rating Alliance is a non-for-profit association launched in March 2011 by a partnership of leading global real estate companies including AEW Europe, Allianz Real Estate, AXA Real Estate, GE Capital Real Estate Europe, ING Real Estate Investment Management, KanAm Grund and LaSalle Investment Management, together with Bureau Veritas.

Green Rating Alliance aims at helping the construction and real estate industries reduce CO2 emissions, waste and reliance on natural resources, as well as urbanisation detrimental to the environment by providing a clear benchmark. The Green Rating Alliance has therefore created the Green Rating tool.

4 Levels of performance:

1 - **Intrinsic**: evaluated according to the building envelope and installation as originally built.
2 - **Potential Intrinsic**: predicted performance versus intrinsic value after limited investments.
3 - **Actual**: assessed based on current occupants and operations.

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**Founding members**

AEW Europe  
Allianz  
CBRE Global Investors  
KanAm Grund  
GE Capital Real Estate Europe  
LaSalle Investment Management

**Other members (as of January 2012)**

Alamo, Bouygues Bâtiment, Cegereal, Drees & Sommer, Elan, IPD, Johnson Controls, Schneider Electric, Socotec, WSP and Yxime
Bureau Veritas Group

Created in 1828, Bureau Veritas is a global leader in Testing, Inspection and Certification (TIC), delivering high quality services to help clients meet the growing challenges of quality, safety, environmental protection and social responsibility.

As a trusted partner, Bureau Veritas offers innovative solutions that go beyond simple compliance with regulations and standards, reducing risk, improving performance and promoting sustainable development.

Bureau Veritas core values include integrity and ethics, impartial counsel and validation, customer focus and safety at work. Bureau Veritas is recognized and accredited by major national and international organizations.

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- Samsung Heavy Industries
- Doosan Heavy I&C
- GS E & C
- Hyundai E&C
- Daewoo Shipbuilding
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- IKEA
- Hermes
- L’Oreal
- Faurecia
- Autoliv
- Naver
- Daelim
- Doosan Heavy I&C
- Samsung LCD
- LG Electronics
- SK Chemicals
- SK Oil
- Oracle Korea
- Kumho Industrial
- Asiana Airlines
- Epson Korea
- Hampyeong Agency
- Sony Electronics Korea
- Bennigan’s
- Shilla Group
- Accor Group
- Asian Kitchen
- Ashley
- Outback Steak
- Pizza Mall
- Rimini
- Garlic & Ginger
- Pain de Papa
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