

Development of a Green Building Rating System for the Philippines

PHILIPPINE GREEN BUILDING COUNCIL

Concept Document of the Building for Ecologically Responsive Design Excellence (BERDE) Program

A priority program of the Philippine Green Building Council

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1. INTRODUCTION

The world is transforming into a global economy. Presently, the building and construction sector is accelerating in a very rapid pace. The adverse impacts of increased building activity are remarkable in our land, in the air we breathe, on human health, our heritage and overall quality of life.

Globally, the United Nations Environment Programme (UNEP) estimates that the built environment is responsible for 25-40% of energy use; 30-40% of the solid waste generation, and 30-40% of green house gas (GHG) emissions worldwide.

In the Philippines, there is an alarming increase in the environmental impact the built environment creates. The solid waste problem is mounting in the metropolis; an energy crisis is expected in the next few years, and our water resources are fast depleted.

There is an estimated 19,700 tons of solid waste generated everyday¹. The Department of Energy targets to increase the Philippines' current oil and gas reserves from the year 2004 level of 69.5 million metric tons of oil equivalent (MMTOE) to 83.6 MMTOE by 2014 due to increased energy demand. Water borne diseases account to about 30% of all reported diseases from 1996-2000, largely due to improper wastewater management and with only 6 out of 115 Philippine cities having sewerage systems. These figures reflect the current stress in the Philippine environment that needs to be directly addressed.

These negative occurrences are largely due to the tremendous growth presently experienced by the economy and the rapidly increasing construction activity due to increased population in the city centers. The property sector's expansion is fuelled by the demand for new and premium office space required by the business outsourcing industry and by the increased dollar remittances of Overseas Filipino Workers (OFW) that stimulated the accelerated development of more residential condominiums.

2. GREEN BUILDING

Green Building is the practice of designing, constructing, operating, or reusing buildings in an ecological and resource efficient manner. It focuses on the promotion and practice of sustainable

¹ The 2004 National Solid Waste Management Framework prepared by the National Solid Waste Management Commission estimates that about 19,700 tons per day of garbage was generated in 2000 or about 7.2 million tons per year. This is expected to increase to more than 10 million tons per year by the year 2010.

site development, improvement of indoor air quality, use of efficient energy, and improvement of water management, utilization of green materials and the preservation of cultural heritage.

When buildings use less energy it reduces the demand for government to build more power plants. Improved quality of effluents from buildings helps the government maintain cleaner water resources. Improved resource management practices enables businesses to reduce waste generated at job sites, thus, requiring less landfills.

The reduction of the negative impacts associated with building construction promotes the preservation of the natural ecology. It is a major contribution of the business industry in the protection of the environment.

Sustainable building improves the productivity of businesses. Healthier workspaces promote building occupants' comfort and health and boosts employees' morale. As the business industry increases the uptake of sustainable building strategies, they are realizing that first costs are now very competitive. Accessibility to greener building materials, technology and information are accelerating the acceptance of sustainable building. With a mature market ready to embrace sustainable building, businesses will be reaping the marketing benefits that are provided by sustainable building. This enables businesses to maintain competitiveness and improve their bottom-line.

3. GREEN BUILDING RATING SYSTEMS IMPLEMENTED AROUND THE WORLD

Presently, there is an increased uptake in green building practices around the world. Several countries have established rating systems that are used as a benchmark in evaluating the level of sustainability of buildings. They provide identifying marks, plaques and/or certificates that easily inform the public that the claims of a building developer are verified by a third party organization and that the building has passed the rating system. These rating systems continue to evolve to address technological advancement and best practice in green building.

Rating System	Organization	Country
Leadership in Energy and Environmental Design (LEED)	US Green Building Council (USGBC)	United States of America
Building Research Establishment Environmental Assessment Method (BREEAM)	UK Green Building Council (UKGBC)	United Kingdom
Hong Kong Building Environmental Assessment Method (BEAM)	HK Beam Society	Hong Kong
Comprehensive Assessment System for Building Environmental Efficiency (CASBEE)	Japan Sustainable Building Consortium (JSBC)	Japan
Green Star	Green Building Council Australia (GBCA)	Australia
Green Mark	Singapore Building and Construction Authority (BCA)	Singapore
Green Building Index	Pertubuhan Akitek Malaysia (PAM) and the Association of Consulting Engineers Malaysia (ACEM)	Malaysia
SBTool	International Initiative for a Sustainable Built Environment (iiSBE)	Canada
Green Globes	Green Globes	Canada, U.S.

Table 1. Examples of green building rating systems around the world.

Credits are given to every area/part of the building that shows good environmental performance. These systems are a good way of validating the developer's claims of the good environmental performance of their products. Certified assessors/auditors inspect, evaluate and benchmark the building against a green building rating system to assess the building's level of sustainability. Property brokers are using the results of these rating systems to promote the environmental friendliness of the building, especially if the building achieves an excellent rating. Architects and

engineers are using it as a guide in improving the performance of their designs. Property managers are using it to measure the performance of the buildings, develop action plans, and to monitor and report performance.

4. NEED FOR MEASURING ENVIRONMENTAL PERFORMANCE

In the Philippines, as the market matures into “greener consumers”, architects, engineers, real estate developers, and material suppliers are using “green” credentials to attract the public into buying their products and services. At the moment, these activities continue to confuse the public because a rating system that will enable buyers to verify these claims does not exist.

A green building rating system encourages stakeholders to consider the use of concepts, green building materials and technology at the earliest possible opportunity to increase the chances of getting higher ratings. The Philippines need to have a nationally recognized and industry accepted rating system in order to measure the environmental impact and performance of buildings.

5. THE PHILGBC AND ITS VISION

The Philippine Green Building Council is a national not-for-profit organization that promotes the sharing of knowledge on green practices to the property industry to ensure a sustainable environment. The Council is an alliance of building and construction industry leaders from both the public and private sectors that shall be the non-partisan venue to **develop a nationally accepted and recognized green building rating standard.**

Relevant issues that may affect how a building’s sustainable credentials are to be measured shall be discussed in this program. The Council shall act as a referee in determining the correctness of the claims of project proponents by developing the national green building rating system. It shall be an independent monitoring and verification system that shall serve as a third party certification. This will level the playing field among the building industry players since all claims will be benchmarked against a single rating system. Businesses will use this mark as a recognizable branding tool that will enable buyers to easily identify buildings that are performing environmentally well. The program shall be officially referred to as **Building for Ecologically Responsive Design Excellence Program (BERDE Program).**

6. ORGANIZATIONAL SETUP OF BERDE

The **BERDE Program** shall be administered and implemented by a multisectoral body to ensure a socially and technically balanced green building rating system. The body shall be appointed by the board of the PHILGBC from its members. The PHILGBC may also involve non-member organizations, associations and companies that are essential in the development of the rating system.

- 6.1. BERDE BOARD** (Program Steering Committee) - A Program Steering Committee shall be created, with its members to be appointed by the **PHILGBC Board of Trustees (PHILGBC BOT)**. The Steering Committee shall be referred to as the **BERDE Board**.

The following PHILGBC members, alliance partners and government offices and agencies shall be invited by the **PHILGBC BOT** to be part of the **BERDE Board**.

6.1.1. PHILGBC MEMBERSHIP

- One (1) representative from the Building Professionals’ Network;
- One (1) representative from the Developers’ Network;
- One (1) representative from the Property and Facility Managers’ Network;

- One (1) representative from the Building Industry Suppliers' Network;
- One (1) representative from the Advocacy Network;
- And One (1) representative from the Academic Network.

6.1.2. ALLIANCE PARTNERS

- One (1) representative from the United Architects of the Philippines;
- One (1) representative from the Philippine Institute of Civil Engineers;
- One (1) representative from the Institute of Integrated Electrical Engineers;
- One (1) representative from the Philippine Society of Mechanical Engineers;
- One (1) representative from the Philippine Society of Ventilating Air Conditioning and Refrigerating Engineers;
- One (1) representative from the Energy Practitioners Association of the Philippines;
- One (1) representative from the Solid Waste Management Association of the Philippines;
- One (1) representative from the Council of Deans and Heads of Architecture Schools in the Philippines;
- One (1) representative from the Green Choice Philippines – National Eco-labelling Program;
- And One (1) representative from a Chamber of Commerce.

6.1.3. GOVERNMENT

- One (1) representative from the League of Cities of the Philippines;
- One (1) representative from the Department of Energy;
- One (1) representative from the Department of Environment and Natural Resources;
- One (1) representative from the Department of Science and Technology;
- One (1) representative from the Department of Trade and Industry;
- And One (1) representative from the National Academy of Science and Technology.

The **BERDE Board** shall deliberate on the merits of the rating system, as presented and endorsed by the Technical Working Group. The **BERDE Board** shall vote on the rating system and decide if the Draft is ready for Balloting to be conducted during a PHILGBC General Membership Meeting especially called for this purpose. Once passed, the rating system shall be forwarded to the **PHILGBC BOT** for approval and implementation.

- 6.2. BERDE DEVELOPMENT TEAM** (Technical Working Group) - The Technical Working Group shall be selected from the PHILGBC membership based on expertise and experience on the different issues of the built environment. They shall be formed to conduct research and development work related to the development of BERDE. The Technical Working Group shall be known as The **BERDE Development Team**.
- 6.3. SPECIAL COMMITTEES** – These committees may be formed to address specific issues that may arise during the development of BERDE. The work of the **Special Committees** shall be assembled, collated, reviewed and integrated to the working draft of BERDE by **BERDE-DT**. The members of the **Special Committees** are specialists in their respective fields of study and shall serve as advisers to the **BERDE-DT**.
- 6.4. BERDE SECRETARIAT** (Administrative Support Staff) - An administrative support staff shall be formed and organized by the **PHILGBC Board of Trustees** as part of the PHILGBC Secretariat, whose work shall focus on supporting the administrative requirements of **BERDE**. This group shall be referred to as **BERDE Secretariat**.

7. PROGRAM MOBILIZATION

The PHILGBC, along with its supporting partner institutions and organizations, shall be setting up the BERDE Secretariat that shall assist in administering the program. Administrative support staff and consultants shall be hired on a case to case basis as the BERDE Program develops. The BERDE Secretariat shall assist and support in the fund campaign work of the PHILGBC.

8. PROGRAM OF ACTIVITIES

- 8.1. ROUNDTABLE DISCUSSIONS WITH STAKEHOLDERS (First Set)** - Roundtable discussions and workshops shall be conducted, led by BERDE-DT with the PHILGBC General Membership and various interest groups. The discussions will be designed to gather information on efficiency and conservation of energy and water; sustainable site selection; utilization of greener materials; solid waste management; improvement of indoor environment; preservation of cultural contexts and building operations and management.

The Roundtable Discussion participants shall be invited to submit documentation on best practices, position papers and relevant researches as their contribution to the development of BERDE. Organizations shall be invited to have their projects piloted using BERDE as its green building guidance and rating system.

- 8.2. PREPARATION OF FIRST DRAFT OF BERDE** - The BERDE-DT shall conduct additional research on existing best practices in the field of green building rating systems, on green building design, construction methodology, material and equipments resource utilization and availability, operating and maintenance processes, and the consequent environmental and social impacts of said activities. Existing Philippine environmental laws, rule and regulations affecting the design, construction and maintenance of buildings shall be complied and reviewed. Information gathered during the first set of Roundtable Discussions shall be reviewed and evaluated and be made part of BERDE. The evaluation criteria for BERDE shall be drafted by BERDE-DT. Consultation meetings and focus group discussions with experts, academics, and industry shall be held on a per need basis. The First Draft shall be published and released to the public to further solicit comments and suggestions.

- 8.3. ROUNDTABLE DISCUSSION WITH STAKEHOLDERS (Second Set)** - To ensure that the different issues and concerns on implementing BERDE in the different regions in the Philippines are addressed, a second set of Roundtable Discussions shall be conducted in the National Capital Region, Luzon, Visayas and Mindanao. The BERDE Draft shall be presented to stakeholders to further solicit comments. During the discussion, the usability of the system shall be discussed and the BERDE Draft, along with a Usability Survey Form shall be distributed to architecture and engineering firms, contractors, developers, regulatory agencies, material suppliers, utility companies and property management firms.

BERDE is further reviewed with the help of these stakeholders, who may provide constructive criticism to better improve the performance and design of BERDE. Companies and organizations who volunteered to pilot BERDE shall also be part of the discussions. Issues and concerns regarding the piloting of projects may be raised during the discussions. The First Draft of BERDE shall be released to the public to further solicit comments.

- 8.4. PREPARATION OF SECOND DRAFT OF BERDE** - Inputs from the Second Roundtable Discussions and comments generated from the public release shall be incorporated to working draft of BERDE by the BERDE-DT. Rules for the certification process and the balloting procedures shall be formulated by the BERDE-DT and be submitted and endorsed to the BERDE Board for approval. The Second Draft of BERDE shall be presented to the BERDE Board for approval for Balloting to be conducted during a PHILGBC General Membership Meeting especially called for this purpose.
- 8.5. BALLOTING** - A PHILGBC General Membership Meeting shall be held specifically for the Balloting of BERDE. If the BERDE Draft passes in accordance with the Balloting Procedure, as approved by the BERDE Board, it shall be declared by the BERDE Board as an official release of BERDE. The official release of BERDE shall be endorsed by the BERDE Board to the PHILGBC Board of Trustees for final approval and implementation.

9. CAMPAIGN ACTIVITIES

- 9.1. AWARENESS CAMPAIGN** - The PHILGBC will conduct a massive information campaign to increase the awareness of the public and private sector on BERDE. The Council will utilize all types of information dissemination platforms such as the television, print (newspaper and magazines), and radio and internet media to further inform the public about BERDE.

In order to better promote the BERDE Rating System, a training team composed of the BERDE-DT shall conduct an orientation-seminar for highly urbanized cities and municipalities to encourage the use of BERDE and orient them on how to use the rating system.

- 9.2. LAUNCHING OF THE BERDE PROGRAM** - The BERDE Program shall be launched by the PHILGBC, together with building industry sector partners and government during Building Green 2009. The BERDE Program launch and Building Green 2009 will be managed by a Special Committee of BERDE appointed by the PHILGBC Board.
- 9.3. LAUNCHING OF THE BERDE GREEN BUILDING RATING SYSTEM** - BERDE shall be launched by PHILGBC with industry partners and government. Benefits gained by companies and organizations that piloted BERDE shall be highlighted. The progress on the uptake of BERDE shall be reported during this event and the public shall be invited to adopt and utilize BERDE in their projects. Industry shall also be invited to continually contribute to the development of the BERDE Program to further improve the performance of the rating system.
- 9.4. MARKET DEVELOPMENT PROJECT** - A Special Committee shall be formed to initiate meetings with financial institutions and the government sector and explore possibility of creating incentive schemes for proponents of green buildings. Simultaneously, an information campaign shall be conducted, targeted at consumers, to explain the benefits of greener buildings. These events shall be designed to create interest and awareness and is expected to stimulate the uptake of green buildings.

10. FUND CAMPAIGN

The PHILGBC shall launch an industry-wide fund campaign to address the financial requirements of the development of BERDE. BERDE-DT shall be conducting information drives with emphasis on why we need to support the development and implementation of our own rating system. Information on

BERDE shall be distributed to companies and development agencies whose goals are aligned with the objectives of BERDE. With the increase of concern on the protection of the environment and climate change, organizations and companies are expected to contribute to BERDE as part of their Corporate Social Responsibility goals.

The **BERDE-DT** shall be drafting a Fund Campaign Plan that will serve as a guide for fund raising activities related to the development of BERDE. The Fund Campaign Plan shall be executed upon approval of the **PHILGBC Board of Trustees**.

11. TRAINING OF BERDE PROFESSIONALS

A Special Committee shall be formed to develop the training module of BERDE. The public shall be invited to enrol in the training program and its graduates shall be referred to as BERDE Professionals. The BERDE Professionals shall serve as project assessors and consultants for the delivery and implementation of BERDE. The BERDE Training Program shall be part of the funding mechanism of BERDE.

12. COOPERATION TOWARDS SUSTAINABILITY – A PHILGBC CULTURE

The PHILGBC is banking on the commitment of a wide stakeholder base to develop the national rating system. The establishment of a strong link among the professional sector, business community, the academe and government is envisioned to integrate the ideas and aspirations of the whole community in creating a holistic solution in addressing the nation's environmental challenges.

The BERDE Program is PHILGBC's vision in being the catalyst for the consolidation of the various sustainability initiatives of its members and partners. The program is expected to be a vital tool that will assist the whole community in addressing the environmental priorities and challenges of the country.

For further information, visit us on the internet at <http://philgbc.org> or contact the Philippine Green Building Council National Secretariat at secretariat@philgbc.org.