



VIETNAM GREEN BUILDING COUNCIL

“driving towards a sustainable built environment”

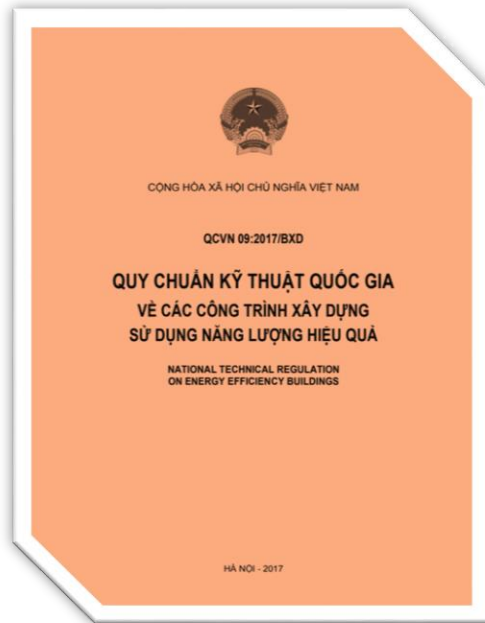




A Review of 2018

“driving towards a sustainable built environment”

DEVELOPMENT OF LOTUS RATING TOOLS



The requirements of **QCVN 09/2017 National Technical Regulation on Energy Efficiency Buildings** have been updated to LOTUS Certification System.

VGBC also translated QCVN 09/2017 into English.

(More info at: vgbc.vn/en/resources)

LOTUS has been updated to **V3** version

Integrating new standards and codes



Refining all criteria and requirements



Enlarging scope of certain credits



Providing clearer explanation where needed

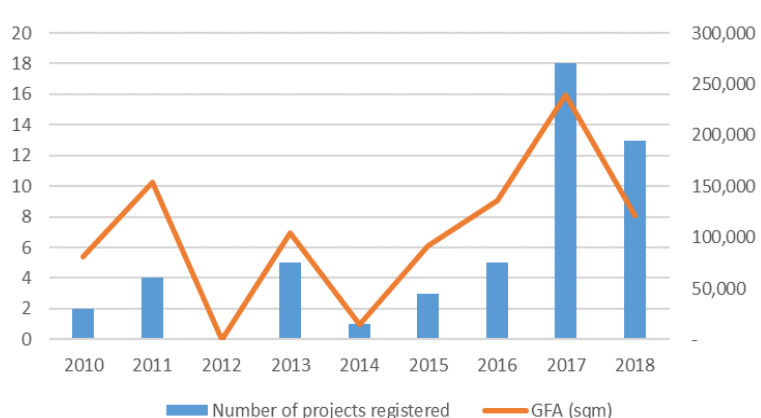


Covering almost all building types and sizes



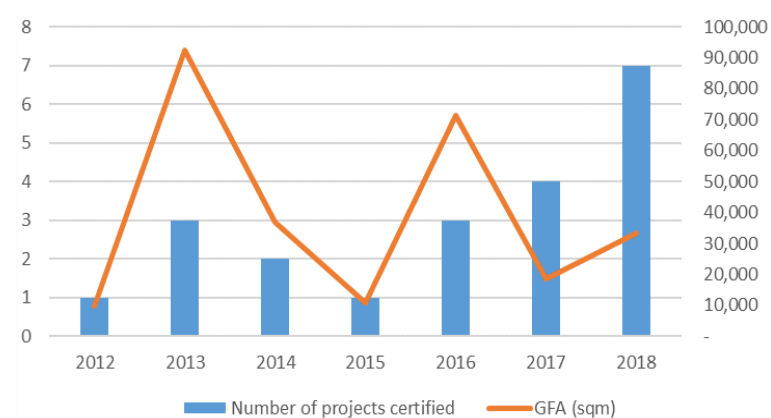
LOTUS PROJECTS

LOTUS Projects (Registered) 2010-2018



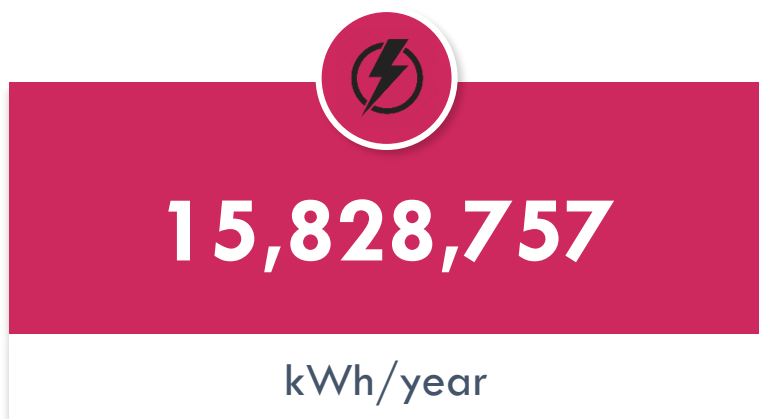
13 new projects registered for LOTUS Certification in 2018

LOTUS Projects (Certified) 2010-2018

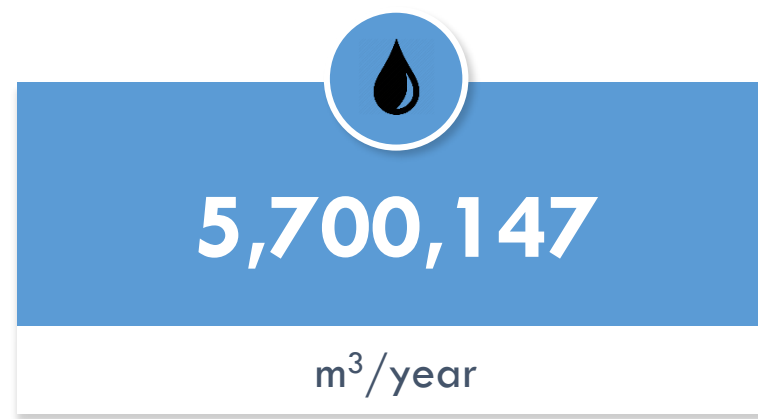


07 LOTUS projects were fully certified in 2018

Projected Energy Savings of all Certified Projects:



Projected Water Savings of all Certified Projects:



Note: Projected savings derived from proposed building compared to baseline model. Actual savings might be different, depending on actual operational schedule, occupancy and usage

TRAINING AND EDUCATION

Developed new Training Courses:

LEED Introduction; LEED for Contractors;
Product Selection & Specification in LEED.

05 courses covering both LOTUS
and LEED Certification Systems



New courses under development:

LEED for Architects; LEED for MEP
Designers; Cost Optimization for
LEED Certification



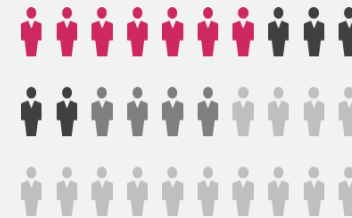
08

Training Events

05 public classes
03 private classes

234

participants



27

new LOTUS APs



GREEN BUILDING SEMINARS



06 Technical Seminars

02 in Hanoi - 04 in Ho Chi Minh City

534 Participants

VGBC MEMBERSHIP PROGRAM



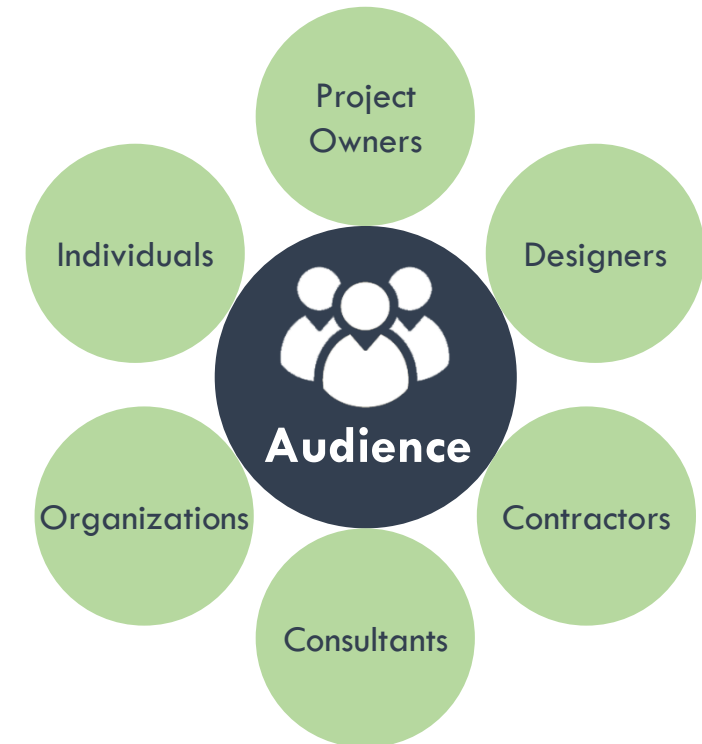
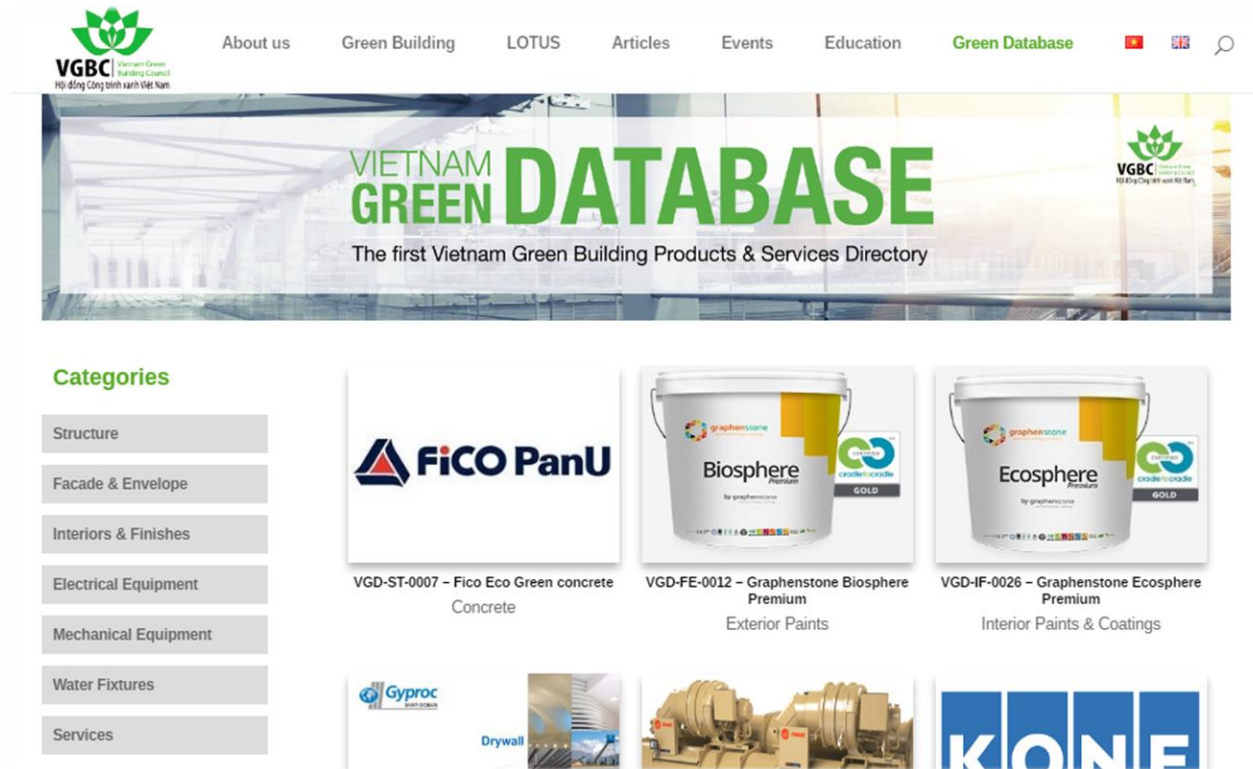
SAMSUNG



65 members at the end of 2018

VGBC GREEN DATABASE

95 products listed on greendatabase.vgbc.vn at the end of 2018



Whether you are working on a LOTUS project or you are looking for products and services to improve your building, you can use the Green Database to find the best solutions available.

RAISING AWARENESS & **ADVOCACY**

VGBC continued to work with Ministry of Construction on green building policies during a series of consultation workshops.

The main talking points during the consultations between VGBC, Ministry of Construction, and other stakeholders:



GREEN BUILDING ADVOCACY

1. Legal framework for green building



2. Green building requirements for public projects



3. Incentive programs for green building



OTHER ACTIVITIES

VGBC supported and sat as Judge on:

- Vietnam Property Awards 2018
- Ashui Awards 2018
- World Green Building Council APN Awards 2018
- INSEE Prize 2018



DODGE DATA & ANALYTICS

World Green Building Trends 2018

Thanks to VGBC's support, Vietnam was one of 2 markets in Southeast Asia (along with Singapore) being featured in *Dodge Data Analytics World Green Building Trends Market Survey*

VGBC sat on Focus Group Discussion on Energy Efficiency and Green Building, submitting report to the **36th ASEAN Ministers on Energy Meeting (AMEM)** in Oct 2018 in Singapore



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VIETNAM GREEN BUILDING COUNCIL

“driving towards a sustainable built environment”



WHAT IS A GREEN BUILDING?



Minimize negative environmental impacts over the whole building life cycle



Efficient use of resources (energy, water, materials, etc.)



Healthy indoor environment for occupants



Green One UN House

LOTUS Platinum



Vietnam Moc Bai Factory

LOTUS Certified



Pou Chen Green World Kindergarten

LOTUS Silver



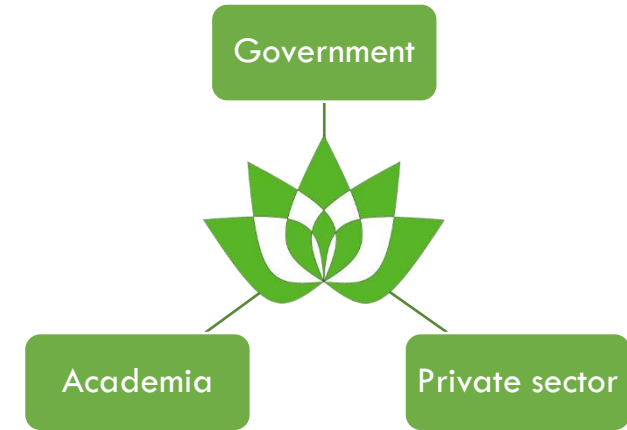
Big C Nha Trang Commercial Center

LOTUS Silver

ABOUT VGBC

VGBC is a project of Green Cities Fund, a non-profit organization incorporated in California, USA.

Our mission is to be the focal point for academia, government and the private sector to promote a more sustainable and adaptive built environment.



Main Focuses

- 1 LOTUS Development and Certification
- 2 Training and Education
- 3 Raising awareness
- 4 Green Database

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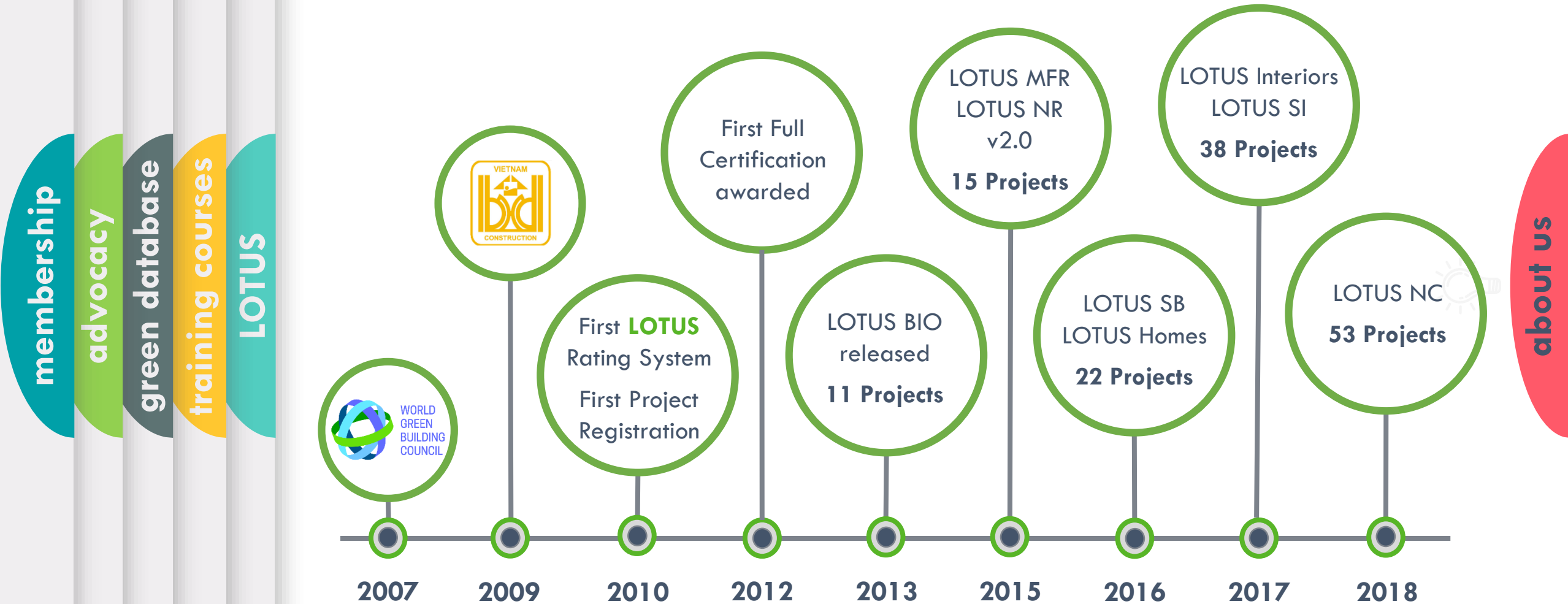
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VGBC MILESTONES



MEMBER OF WORLD GREEN BUILDING COUNCIL

The WorldGBC Asia Pacific Regional Network is an active platform where GBCs come together to learn more from each other, share experiences and explore further opportunities for regional collaboration.

ASIA PACIFIC NETWORK

OUR GREEN BUILDING COUNCILS

8359
MEMBERS

4808
CORPORATE

3551
INDIVIDUALS



Australia



Hong Kong



India



Indonesia



Japan



Kazakhstan



Korea



Malaysia



New Zealand



Pakistan



Philippines



Singapore



Sri Lanka



Chinese Taipei



Vietnam

BENEFITS AS GBC MEMBERS

MEMBERSHIP

MARKET POSITIONING

CERTIFICATION

QUALITY ASSURANCE
MARKETACCESS FOR GREEN SOLUTIONS

TRAINING

CAPACITY DEVELOPMENT
SHARING OF LATEST TRENDS

EVENTS

NETWORKING OPPORTUNITY

PROJECT
SPONSORSHIP

THOUGHT LEADERSHIP
& INFLUENCE



WORLD
GREEN
BUILDING
COUNCIL

Key focus areas:

- ✓ Rating Systems
- ✓ International Support
- ✓ Industry Recognition

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ENDORSEMENT OF THE MINISTRY OF CONSTRUCTION

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“ Research and further develop and promote application of LOTUS green building rating system in accordance with Vietnam’s specific conditions and new development. ”



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MoU for Cooperation between Ministry of Construction
and Vietnam Green Building Council, 2013

LOTUS CERTIFICATION SYSTEM



Certification systems in Asia

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WHAT IS LOTUS?

- **LOTUS** is a set of voluntary green building certification systems developed by the Vietnam Green Building Council (VGBC)
- LOTUS is a point-based system, similar to other green building certification systems such as LEED (USA) and Green Mark (Singapore)
- LOTUS differs in specific categories and credits, reflecting the priorities required by climatic and urban conditions in Vietnam
- LOTUS is best suited for projects in Vietnam by incorporating Vietnamese building codes and construction practices

Pou Chen Green World Kindergarten
LOTUS Silver (2013)



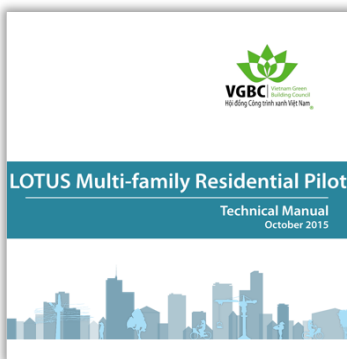
Green One UN House - LOTUS Platinum (2017)

LOTUS CERTIFICATION SYSTEM

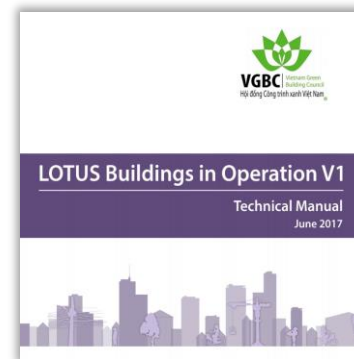
LOTUS Certification System currently includes 7 rating systems



LOTUS Non-Residential
LOTUS NR



LOTUS Multi-family Residential
LOTUS MFR



LOTUS Buildings in Operation
LOTUS BIO



LOTUS Homes



LOTUS Small Buildings
LOTUS SB



LOTUS Interiors



LOTUS Small Interiors
LOTUS SI

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LOTUS CERTIFICATION PROCESS

LOTUS Certification is a formal process to independently validate that a project has achieved the environmental performance according to the corresponding LOTUS rating system.

Projects pursuing LOTUS certification are awarded points across several categories, such as energy and water use, health and comfort, waste and pollution, etc. Based on the number of points achieved, a project can earn one of 4 LOTUS rating levels: **Certified**, **Silver**, **Gold** and **Platinum**.



40%
Certified



55%
Silver



65%
Gold



75%
Platinum

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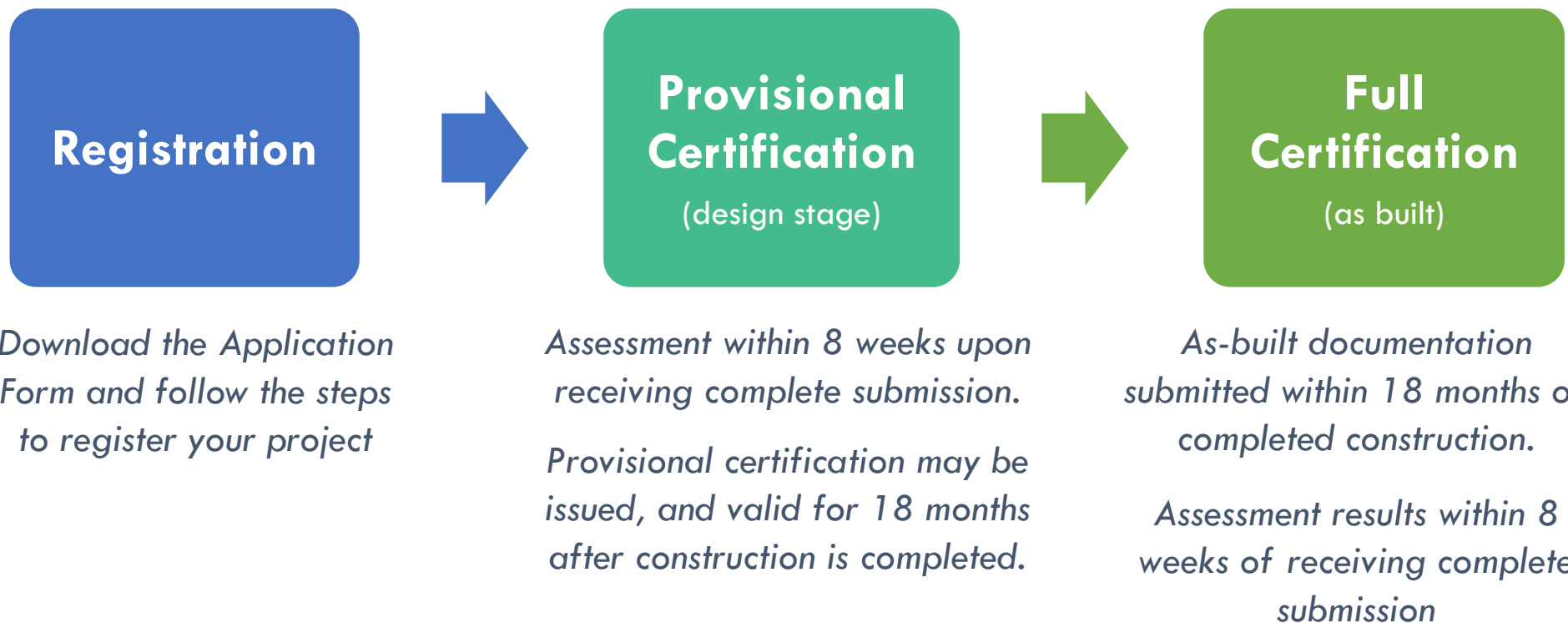
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LOTUS CERTIFICATION PROCESS

The following process is applied to new construction projects (Multi-Family Residential & Non-Residential). Smaller projects (GFA < 2500 m²) can have shorter timeline through a streamlined certification process.



LOTUS Full Certification is valid for 5 years conditioning on submission of annual energy and water consumption data. Certification can be renewed after 5 years.

The project is encouraged to apply for LOTUS BIO Certification.

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LOTUS PROJECTS IN NUMBERS

21

PROJECTS WITH
FULL CERTIFICATION
(as of 01/2019)

32

PROJECTS
UNDER PROCESS
OF CERTIFICATION*
(as of 03/2019)

* Including 08 projects certified at
Provisional Stage



021-NR-2.0-NC – Dong Phu Cuong
Garment Factory



003-NR-2.0-MR – Green One UN House



002-NR-P-NC – Vietnam Moc Bai JSC
Factory



017-NR-2.0-NC – HCMC Labour Cultural
Palace



026-NR-2.0-NC – TNG Vo Nhai Factory



015-NR-2.0-NC – British International School
EYFS

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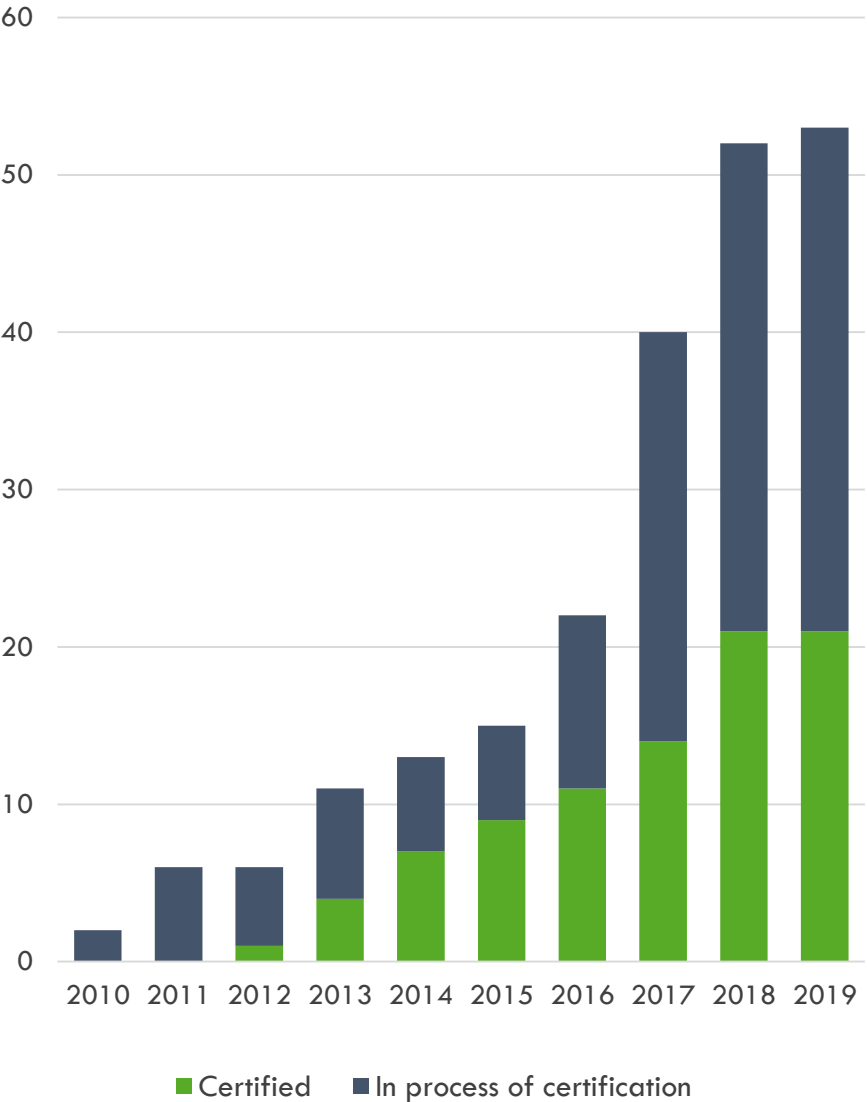
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THE GROWTH OF LOTUS



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GREEN BUILDING TRAINING COURSES

VGBC organize monthly training courses, workshops and webinars to build capacity for building industry professionals.

VGBC training courses cover both LOTUS and LEED Certification Systems:



1. **Introduction to Green Building** - Introducing basic concepts of green buildings, laying the foundation for learners before taking higher-level training courses on specific certification systems
2. **LOTUS Foundation** - Introducing the basic concepts of LOTUS, main categories & credits, best practices and some case studies
3. **Fundamentals of LEED** - Introducing the basic concepts of LEED, main categories & credits, best practices and some case studies
4. **Material selection and specification for LEED** - An advanced-level course for architects working on green projects or product manufacturers and suppliers looking to penetrate the green building market
5. **LEED for Contractors** – Addressing the issue of cost estimate, product specification and related credits for a contractor in a project pursuing LEED or LOTUS

 [view detailed information of training courses](#)

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LOTUS AP EXAM

CREDENTIAL FOR GREEN PROFESSIONALS

Individuals have to pass the LOTUS AP Exam to become LOTUS Accredited Professional (LOTUS AP).
Study materials, handbook will be provided upon registration.

BENEFITS

- ✓ Differentiate yourself from competition
- ✓ Demonstrate your commitment to sustainable development
- ✓ Assist in achieving 1 point for your LOTUS project
- ✓ Be advertised on the VGBC website (*Directory of LOTUS APs*)
- ✓ Free entrance to all VGBC events

FORMAT

- ✓ Computer based, open book exam
- ✓ Multiple choice questions (**61 questions in 120 minutes**)

PASS MARK

- ✓ Minimum **75%** of total points

REGISTRATION

- ✓ Fee: **1,100,000 VND** per attempt (VAT inclusive)
- ✓ Email: education@vgbc.vn
- ✓ Hotline: 0987.378.721

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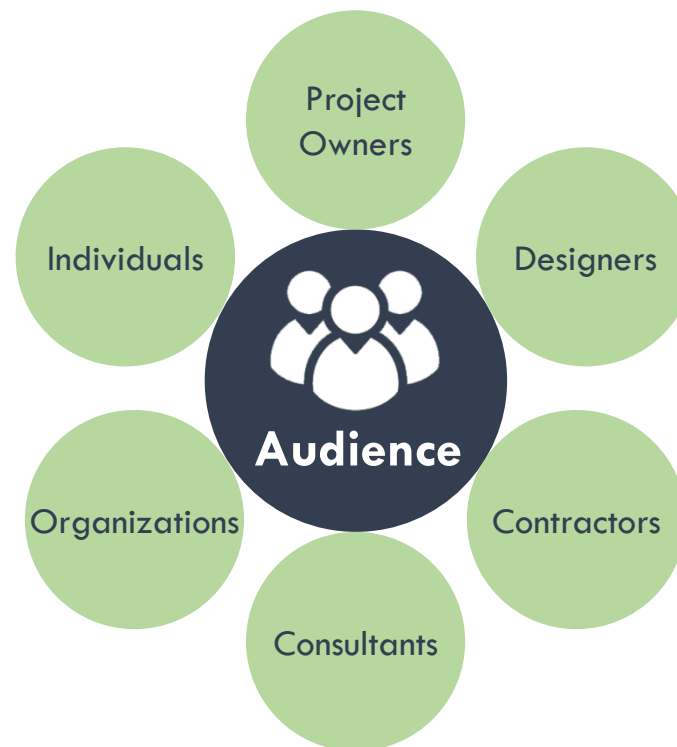
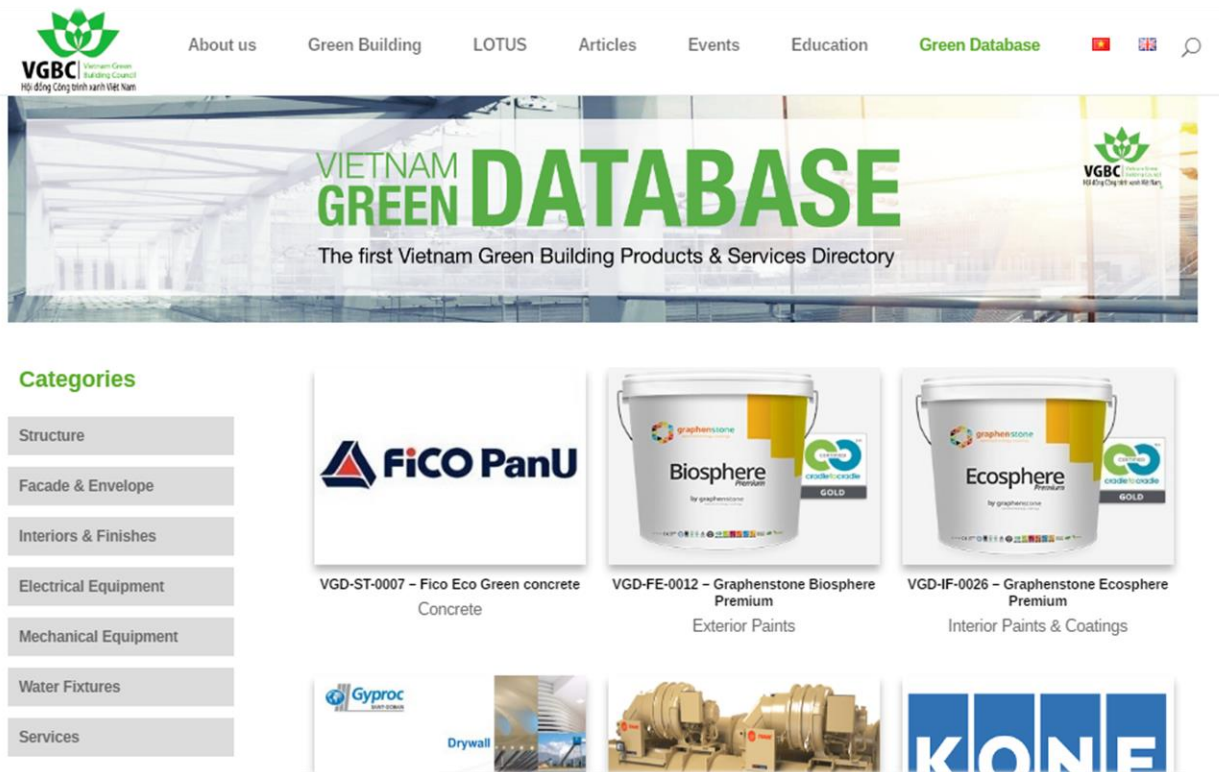
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VGBC GREEN DATABASE

Whether you are working on a LOTUS project or you are looking for products and services to improve your building, you can use the Green Database to find the best solutions available.



greendatabase.vgbc.vn

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RAISING AWARENESS & ADVOCACY EVENTS

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Initiatives

- Green Homes Challenge
- Green Offices Challenge
- Green Schools Challenge



Advocacy

- Legal framework for green building certification
- Financial and non-financial support for green buildings
- Competitions and awards for green buildings



Networking Events

- VGBC Annual Conference
- Member-exclusive events
- WorldGBC Green Building Week

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MEMBERSHIP BENEFITS

	PLATINUM	GOLD	SILVER	REGULAR
ANNUAL MEMBERSHIP FEE (VND, 10% VAT INCLUDED)	63,200,000	31,600,000	19,800,000	9,900,000
Free seats at VGBC training classes	04 per class	03 per class	02 per class	01 per class
Logo on Membership Directory	Extra Large Logo	Large Logo	Medium Logo	Small Logo
Logo on VGBC Home Page (vgbc.vn)	Yes	Yes	Yes	---
Opportunities to stand for election and participate in VGBC committees	Yes	Yes	Yes	Yes
Rights to use VGBC logo on marketing materials	Yes	Yes	Yes	Yes
Free listing of products or services on Green Database	Yes	Yes	Yes	Yes
Discount on fee for on-demand training courses	40%	30%	20%	10%
Preferential rates to join events organized by VGBC or VGBC Partners	Yes	Yes	Yes	Yes
VGBC Membership Certificate	Yes	Yes	Yes	Yes



05 PLATINUM MEMBERS



SAMSUNG

63 VGBC Members

(as of March 2019)



18 GOLD MEMBERS



63 VGBC Members

(as of March 2019)

14 SILVER MEMBERS



63 VGBC Members

(as of March 2019)

26 REGULAR MEMBERS

1. Arcadis Vietnam
2. B+H Architects Vietnam
3. Indochine Engineering
4. Ocean Cooling Tower Sdn Bhd.
5. Bry-Air (Malaysia) Sdn. Bhd.
6. Cty TNHH SXVL&XD Vinh Hai
7. Vietnam Investment Consulting & Construction Designing JSC (CDC)
8. Dragon Capital
9. FDC Investment Construction & Real Estate
10. Tuan Le Construction
11. Vuong Hai Corporation
12. CC1-Mekong
13. Bosch Vietnam
14. Quoc Viet Technology & Solution Company
15. Lap Nguyen Corporation
16. New Era Block Tile JSC
17. Sonacons Construction
18. Unicons Investment Construction Co., Ltd.
19. Kirby South East Asia Co., Ltd.
20. NN Service & Trading Co., Ltd
21. Tan Phat Long Engineering Corporation
22. Gritone Co., Ltd.
23. DBplus
24. Sol Asia Property Co., Ltd
25. Dang Viet Electromechanical Corporation
26. CBRE Vietnam

63 VGBC Members

(as of March 2019)

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Appendix #1

VGBC EVENTS 2019



- **TRAINING: LEED for Contractors** – Addressing the issue of cost estimate, product specification and related credits for a contractor in a project pursuing LEED or LOTUS
- **TRAINING: LEED for Manufacturers & Suppliers** - An advanced-level courses for architects working on green projects or product manufacturers and suppliers looking to penetrate the green building market
- **WORKSHOP: Understand Water credits in LEED & LOTUS** - An overview of how LEED v4 and LOTUS v3 address water issues
- **WORKSHOP: Conceptual Energy Modeling** - When conceptual energy modeling should take place; Understanding energy modeling language and process; How to use conceptual energy modeling to make decisions
- **WORKSHOP: Façade analysis at early Design stage** - Understanding Sun, shadow & insulation; Shading optimization; Daylight analysis; Ventilation studies; Case studies
- **WORKSHOP: Daylighting fundamentals** - Daylighting basics, strategies; Daylighting analysis methods; Daylighting application in LEED, LOTUS; Case studies
- **WORKSHOP: Thermal comfort – Applying ASHRAE 55 to green buildings** - Building envelope and its impact on occupant comfort; Using air movement in air-conditioned spaces
- **WORKSHOP: Energy efficiency – Applying ASHRAE 90.1 to green buildings** - Overview and key concepts; How to comply; Examples and cases
- **SEMINAR: Green School** - Introduction to LOTUS SB (for Small buildings); Biophilic design and schools; Ventilation and indoor air quality for schools; Daylighting for schools
- **SEMINAR: Bridging the gap between design, construction, operations and maintenance** - Why do new constructions often not performed as predicted?; What O+M considerations should be taken during design?; Introduction to integrative process; Design strategies for occupant engagement
- **SEMINAR: VRF system optimization** - Various types of VRF systems; VRF energy improvement opportunities; Applications and examples
- **SEMINAR: Sustainable interiors** - Component of sustainable interiors; Introduction to LOTUS Interiors; Case studies and best practices
- **SEMINAR: Passive design** - Impact of climate on design; Passive design principles; Passive cooling techniques
- **SEMINAR: Sustainable HVAC** - Using Air movement in air-conditioned buildings; High-performance chiller plant design; Related green building standards

TRAINING COURSES

L101 (BEGINNER): INTRODUCTION TO GREEN BUILDING

This one-day introduction course provides knowledge of the evolution of green buildings, the concepts of sustainability in buildings, and the principles, best practices and components that distinguish green buildings from conventional buildings

TRAINING AGENDA

- Concept of green building
- Green building development, market and trend
- Design, build and operate green building
 - Passive design
 - Essential elements in green building design
 - Construction site management in green building
 - Operating a green building: energy, water, waste, occupant behavior
- Integrated design process (IDP)
 - Concept of IDP
 - Traditional process vs. Integrated process
- Introduction to LEED and LOTUS
 - Comparison between LEED and LOTUS
 - Selection of LEED and LOTUS for building
- Q&A



TRAINING COURSES

L201 (INTERMEDIATE): LOTUS FOUNDATION

Define green building & the role of certification system; Understand the intents, goals & strategies for LOTUS Credits; Differentiate LOTUS and other rating systems; Understand the costs related to green certification; Foundational training for LOTUS AP Exam.

TRAINING AGENDA

- Green building & sustainable development: *Green building definitions; regional trend & recent developments in Vietnam*
- Fundamentals of LOTUS rating systems
- Energy: *Passive design and building envelope*
- Energy: *Active systems design*
- Energy Modeling
- Water conservation and efficiency in buildings
- Health and comfort in buildings
- Environmental protection: *Non-baked materials & rapidly renewable materials; Construction waste management; Urban heat island effect; Stormwater management*
- Differentiating LOTUS and LEED
- Identifying costs related to green certification



TRAINING COURSES

L202 (INTERMEDIATE): LEED FUNDAMENTALS

*Providing knowledge of the foundational concepts of LEED green building certification systems;
Introducing the LEED BD+C v4 categories and requirements;
Giving updates on Vietnam green building market.*

TRAINING AGENDA

- Introduction to USGBC, GBCI and LEED certification system
- LEED Rating system, adaptation and rules, MPR
- LEED Certification process and fee
- Categories in LEED BD+C v4
 - Overview of category
 - Point allocation in category
 - Related disciplines
- Vietnam market update
 - LEED Projects in Vietnam
 - Cost and benefits
 - Market information
- Quiz (30')
- Q&A



TRAINING COURSES

L301 (ADVANCED): LEED V4 - UNDERSTANDING PRODUCT SELECTION AND SPECIFICATION

An advanced-level course for architects working on green projects or product manufacturers and suppliers looking to penetrate the green building market.

TRAINING AGENDA

- Impacts of building materials and products
- Contribution of materials in LEED v4 certification systems
- LEED Categories and Credits
- Materials & Resources – MR
- Indoor Environmental Quality – EQ
- Sustainable Sites – SS
- Water Efficiency – WE
- Energy & Atmosphere – EA
- Q&A



TRAINING COURSES

L302 (ADVANCED): LEED V4 - FOR CONTRACTORS

An advanced-level course for contractors working on green projects or looking to penetrate the green building market.

TRAINING AGENDA

- Role of contractor in a LEED project
- Repartition of LEED points and prerequisites
- Credits/Categories related to Contractor
- Sustainable Sites – SS
- Material & Resources
- Energy & Atmosphere – EA
- Indoor Environment Quality
- Other contractor's supports to LEED project team
- Q&A





VIETNAM GREEN BUILDING COUNCIL

FOR FURTHER INFORMATION, PLEASE CONTACT:

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Education & Training: education@vgbc.vn

General enquiries: info@vgbc.vn or visit: www.vgbc.vn

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