

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN (LEED) CERTIFICATION IN THE CARIBBEAN

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LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN

WHAT IS LEED

- THE U.S. GREEN BUILDING COUNCIL (USGBC), CO-FOUNDED BY MIKE ITALIANO, DAVID GOTTFRIED & RICK FEDRIZZI IN 1993, IS A **NON-PROFIT TRADE ORGANIZATION** THAT PROMOTES SUSTAINABILITY IN HOW BUILDINGS ARE DESIGNED, BUILT AND OPERATED. USGBC IS **BEST KNOWN FOR THE DEVELOPMENT OF LEED GREEN BUILDING RATING SYSTEMS**



WHAT IS LEED (CONTD.)

LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN

- AN **INDEPENDENT PROGRAM** DEVELOPED BY THE U.S. GREEN BUILDING COUNCIL THAT **PROVIDES BENCHMARKS FOR THE DESIGN, CONSTRUCTION, AND OPERATION OF HIGH PERFORMANCE GREEN BUILDINGS & NEIGHBORHOODS**
- THAT PROVIDES **THIRD PARTY VERIFICATION** OF GREEN BUILDINGS
- LEED CERTIFICATION IS A **GLOBALY RECOGNIZED** SYMBOL OF SUSTAINABILITY ACHIEVEMENT AND LEADERSHIP

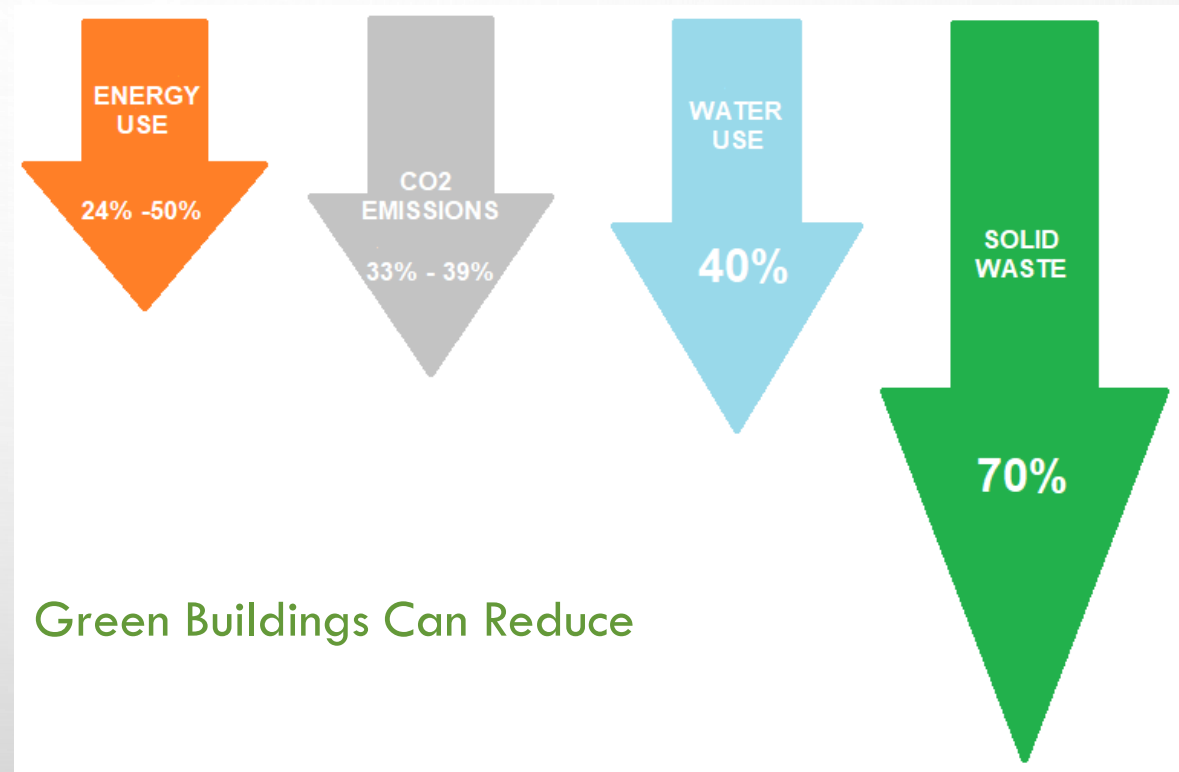


WHY LEED?

LEED-certified buildings are designed to:

- Lower operating costs and increase asset value
- Conserve energy and water
- Reduce harmful greenhouse gas emissions
- Reduce waste sent to landfills
- Be healthier and safer for occupants

LEED also provides a Third party validation of achievement & good public relations (PR)



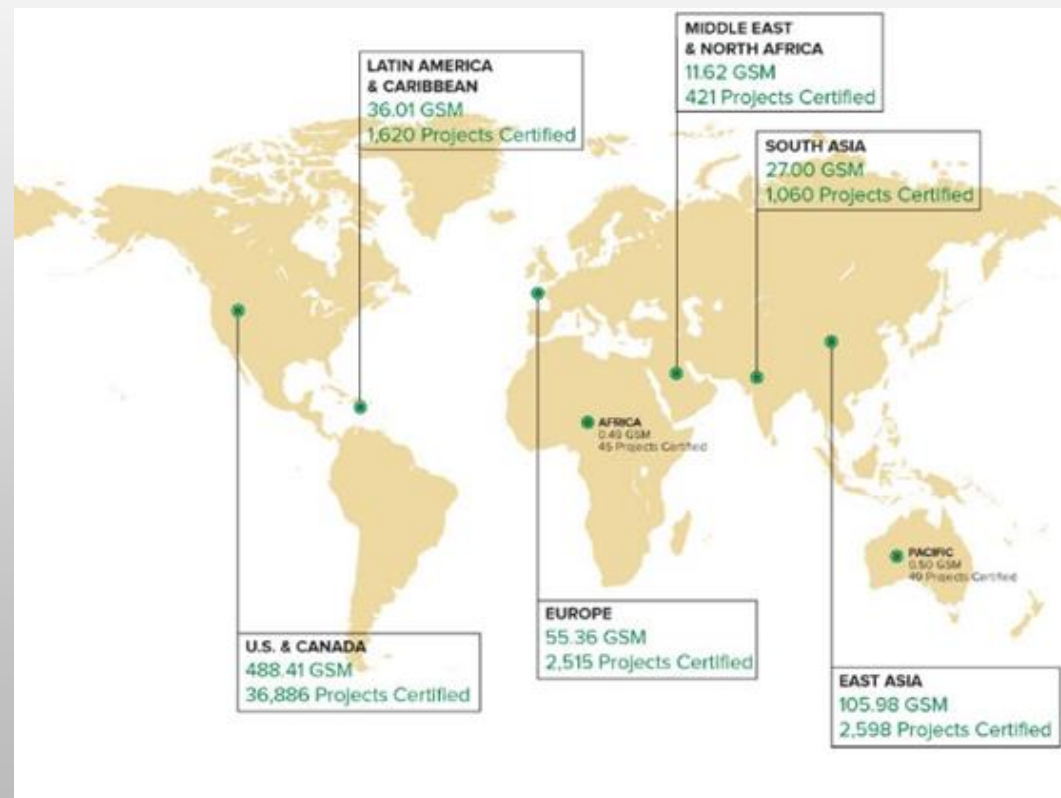
Source: Hussin, Jamilus & Abdul Rahman, Ismail & Memon, Aftab. (2013). The Way Forward in Sustainable Construction: Issues and Challenges. International Journal of Advances in Applied Sciences (IJAAS). 2. 31-42. 10.11591/ijaas.v2i1.1321.

WHY LEED?

LEED IS THE MOST WIDELY USED GREEN BUILDING RATING SYSTEM IN THE WORLD

As of 2018, **96,275 registered and certified projects** in more than **167 countries** and territories.

USGBC invests more than **\$30 million annually** to maintain, operate and improve LEED and its customer delivery.



Source: <https://www.usgbc.org/articles/us-green-building-council-announces-top-10-countries-and-regions-leed-green-building>

BUILDING CERTIFICATION

LEED RATING SYSTEMS

Building Design & Construction (BD+C)	Commercial Buildings
Interior Design & Construction (ID+C)	
Operations & Maintenance (O+M)	
Homes	Residential
Neighborhood Development (ND)	Mixed-use Development

LEED for New Construction & Major Renovations addresses design construction activities for both new buildings and major renovations of existing buildings, which includes major HVAC improvements, significant envelope modifications, and major interior rehabilitation.

LEED for existing Buildings helps maximize the efficiency of your operations while minimizing the impact on the environment

LEED for Core & Shell can be used for project where the developer controls the design and construction of the entire core and shell base (e.g., mechanical, electrical, plumbing and fire protection systems) but has no control over the design and construction of the tenant fit-out.

LEED for commercial interiors is the recognized system for certifying high-performance green tenant spaces that are healthy, productive place to work, are less costly to operate and maintain

LEED for Homes promotes the design and construction of high-performance homes—energy efficient, resource efficient and healthy for occupants. A home that achieves LEED certification has been designed to maximize fresh air indoors, minimizing exposure to air-borne toxins and pollutants. It also has the potential to use 20-30% less energy.

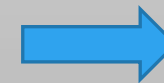
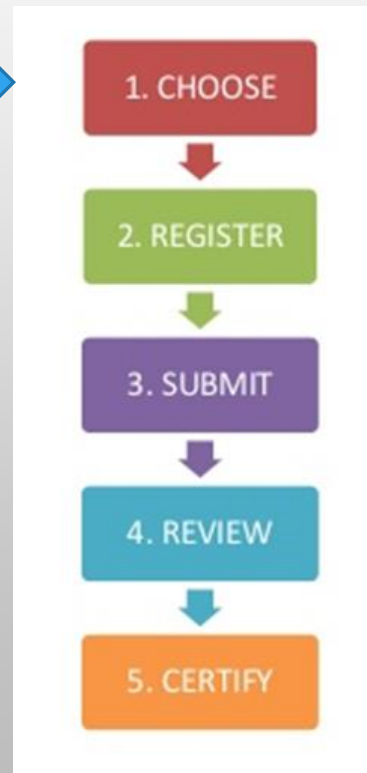
LEED of neighborhood contributes towards thoughtful neighborhood planning can limit the need for automobiles and their greenhouse gas emissions. Mixed-use development and pedestrian-friendly streets encourage walking, bicycling and public transportation

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HOW TO ACHIEVE LEED



BUILDING CERTIFICATION

How does LEED work?

Projects must satisfy all LEED prerequisites and earn a minimum 40 points on a 110-point LEED rating system.

The number of points the project earns determines its level of LEED certification

Four Certification Levels



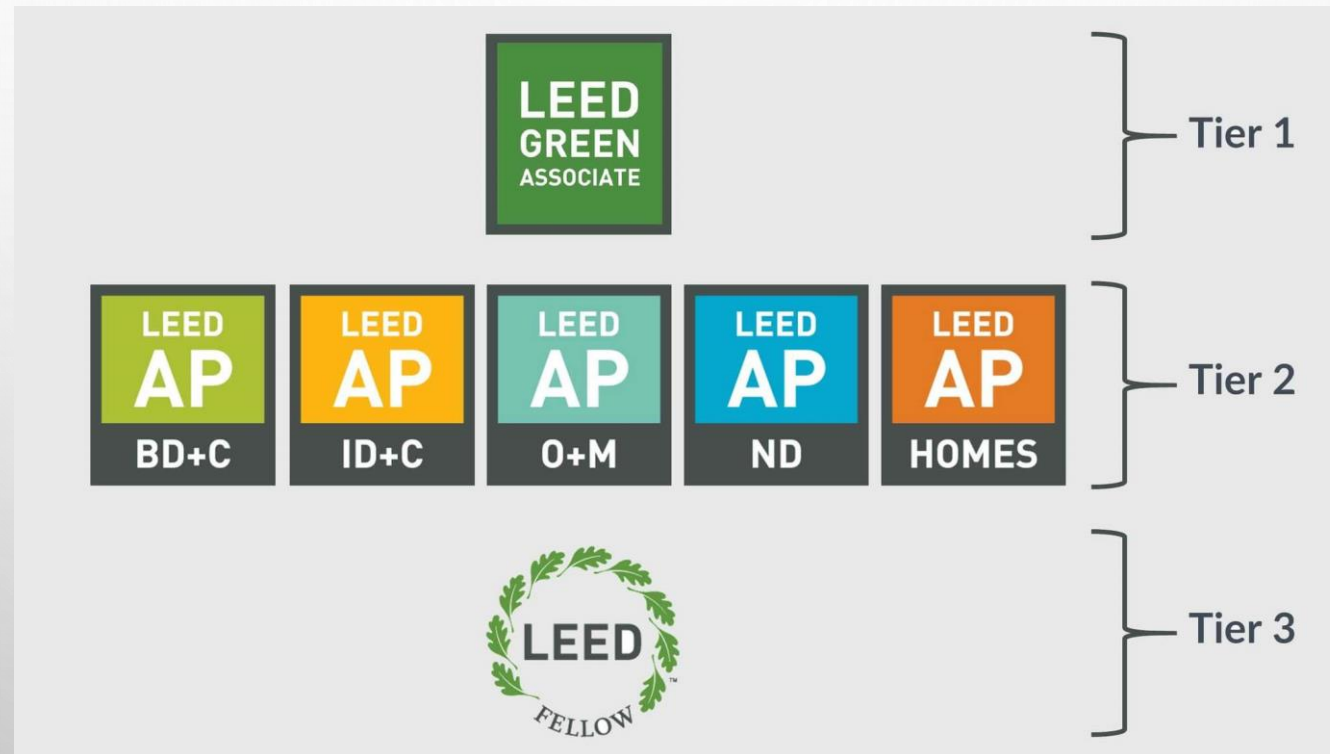
ACCREDITATION LEVELS

LEED Green Associate

A foundational professional credential signifying core competency in green building principles.

LEED AP with specialty

An advanced professional credential signifying expertise in green building and a LEED rating system.



LEED Fellows are LEED APs who have acquired significant technical knowledge and **skills and** they have a history of exemplary leadership, impactful commitment, service, and advocacy in green building and sustainability.

LEED PROJECTS IN CARICOM STATES

LEED Projects in full member Caricom states		LEED Projects in associate member Caricom states	
2	Antigua and Barbuda	0	Anguilla
4	Bahamas	6	Bermuda
3	Barbados	58	Cayman Islands
2	Belize	5	British Virgin Islands
0	Dominica	1	Turks & Caicos
0	Grenada		
2	Guyana		
14	Haiti		
1	Jamacia		
0	Montserrat		
0	St Kitts		
3	St Lucia		
0	Saint Vincent and the Grenadines		
1	Suriname		
5	Trinidad and Tobago		
Total	37	Total	70

LEED PROJECTS IN ST. LUCIA

Harbor Club Hotel
LEED BC+D V3



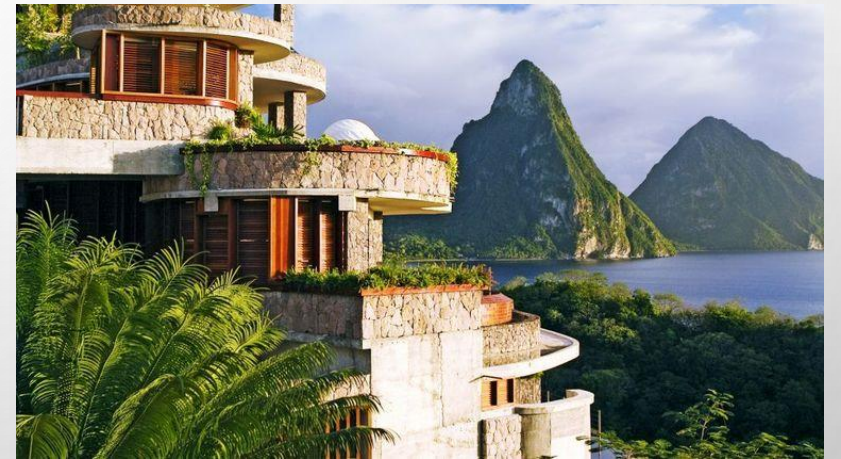
LEED Registered

Harbor Club Dive School
LEED BC+D V3



LEED Platinum Certified

Jade Mountain Hotel
LEED BC+D V2



LEED Gold Certified

HARBOR CLUB DIVE SCHOOL



The Dive School is approximately 15,000 square feet in area and consists of three buildings. It is a PADI 5-Star IDC (Instructor Development Center) with the following facilities:

- 2 classrooms
- 1 storage room to hold 50 – 70 sets of dive equipment
- 1 compressor room with a compressor unit which is able to fill 40 dive cylinders simultaneously
- Locker, shower and toilet facilities (male and female)
- Retail Dive Shop
- 5 Rental Shops
- A dive pool 15m x 3m with a depth of 3.5m
- Owners residence



LEED Platinum Certified
LEED BC+D V3
Platinum 81/110

HARBOR CLUB DIVE SCHOOL



LEED Platinum Certified
LEED BC+D V3
Platinum 81/110



Energy & Atmosphere

Energy Performance
31/35 pts



Water Efficiency

Smart use and reuse water
10/10 pts



Materials & Resources

Using sustainable materials &
reducing waste
2/14 pts



Indoor Environmental Quality

Indoor air quality & access to natural
light & views
10/15 pts



Sustainable Site

Minimizing effect on
ecosystems water
resources
22/26 pts



Regional Priority

Geographic environmental
priorities
4/4 pts



Innovation

2/6 pts

HARBOR CLUB DIVE SCHOOL

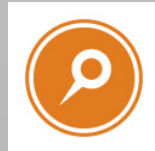
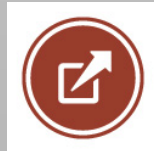


Green Design Features:

- Low efficient glazing (reduces on the heat gain transmitted through the glass).
- Most of the building materials finishes have high recycle content, low VOCs (volatile organic compound) and high solar reflective index (SRI). These include: floor finishes, wall finishes, paints, roofing materials (Enviroshake) etc.
- LED lighting; will be saving and reducing energy consumption by approximately 40% using LED light fixtures
- Occupancy Sensors: lightings have sensors to reduce energy consumption. Sensors on fixtures (washroom fixtures).



LEED Platinum Certified
LEED BC+D V3
Platinum 81/110



HARBOR CLUB DIVE SCHOOL

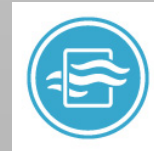
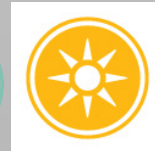
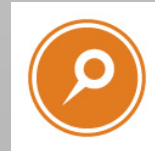
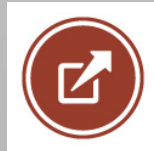


Green Design Features (Con't):

- Photovoltaic (PV) Solar Panels; will be generating approximately 40,000 Kilo watt-hours which supplements electricity and help reduce grid energy consumption.
- 5 large reuse water tanks/ rainwater water tanks in the basement of the Dive School, reduce the fresh water intake of the building. Totaling 92,550-gallon, water from these tanks are used to flush toilets, do laundry and for irrigation.
- Toilets: are energy efficient- low flush (average 1.28GPF).



LEED Platinum Certified
LEED BC+D V3
Platinum 81/110



ON-GOING LEED PROJECT IN ANTIGUA & BARBUDA

BOGGY PEAK INTERPRETATION CENTER

Location: Christian Valley, Antigua.

Architect: CJC+ Associates: (268) 724-0873



Part of the “Sustainable Pathways: Protected Areas & Renewable Energy” (SPPARE) Project, Executed by the Department of Environment (DOE) Antigua & Barbuda, Implemented by United Nations Environment Program and Funded by the Global Environment Facility.

ON-GOING LEED PROJECT IN ANTIGUA & BARBUDA

LEED Design features include:

- **Silt fencing** established to adhere to Sustainable Site requirements.
- **Water harvesting and power consumption** designed to have the project run **off grid**.
- **Energy modeling** was done.
- **LED lighting**
- Building painted white along with the roof sheets to maximize radiation reduction.
- **Low flush and flow fixtures.**
- Garbage separated for Recycling at the source.
- Parking to **accommodate electric vehicles**. Community Parking area with shuttle located within 10 key service areas.
- **Local procurement of materials.**



LEED, or Leadership in Energy & Environmental Design, is a green building certification program that recognizes best-in-class building strategies and practices. To receive LEED certification, building projects satisfy prerequisites and earn points to achieve different levels of certification. Prerequisites and credits differ for each rating system, and teams choose the best fit for their project.

5 Rating systems

BD+C

BUILDING DESIGN + CONSTRUCTION
 New Construction
 Core & Shell
 Schools
 Retail
 Healthcare
 Data Centres
 Hospitality
 Warehouses & Distribution

ID+C

INTERIOR DESIGN + CONSTRUCTION
 Commercial Interiors
 Retail
 Hospitality

O+M

OPERATION + MAINTENANCE
 Existing Buildings
 Data Centres
 Warehouses & Distribution
 Hospitality
 Schools
 Retail

ND

NEIGHBOURHOOD DEVELOPMENT
 New land developments
 Land Redevelopment
 Residential
 Mixed Use
 Commercial
 Industrial

HOMES

HOUSES + UNITS
 Single Homes
 Low Rise Multi Unit
 Mid Rise Multi Unit

Credit Categories

Each rating system is made up of a combination of credit categories.

Within each of the credit categories, there are specific prerequisites projects must satisfy and a variety of credits projects can pursue to earn points. The number of points the project earns determines its level of LEED certification.



INTEGRATIVE PROCESS
 Encouraging cross discipline collaboration



LOCATION & TRANSPORTATION
 Access to variety of transport and/or credit for constrained sites



MATERIALS & RESOURCES
 Using sustainable materials & reducing waste



WATER EFFICIENCY
 Smart use and reuse of water



ENERGY & ATMOSPHERE
 Energy Performance



SUSTAINABLE SITES
 Minimising impact on ecosystems & water resources



INDOOR ENVIRONMENT
 Indoor air quality & access to natural light & views



INNOVATION

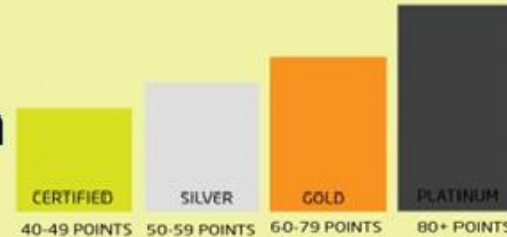


REGIONAL PRIORITY
 Geographic environmental priorities



LEED is administered by the US Green Building Council. For information on the scheme go to www.usgbc.com

4 Certification Levels



3 Accreditation Levels



HOW CREEBC CAN ALIGN WITH THE LEED

Regional LEED Steering Committees (RLSC)

- Europe RLSC
- Middle East RLSC
- **Latin America And The Caribbean RLSC**
- Africa RLSC
- Greater China RLSC
- Asia Pacific RLSC

Each RLSC is an **integrated group of volunteers** charged with **prioritizing and overseeing LEED technical development** activities in its **respective global region**.

THANK YOU

