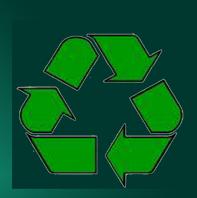
Monograph on





STATUS OF GREEN BUILDINGS IN CITIES OF INDIA









ENVIS Centre on Human Settlements
School of Planning and Architecture
New Delhi - 110002



GREEN BUILDINGS:

Green building is the practice of increasing the efficiency with which buildings use resources — energy, water, and materials — while reducing building impacts on human health and the environment, through better site, design, construction, operation, maintenance, and removal (i.e) the complete **Building life cycle**.



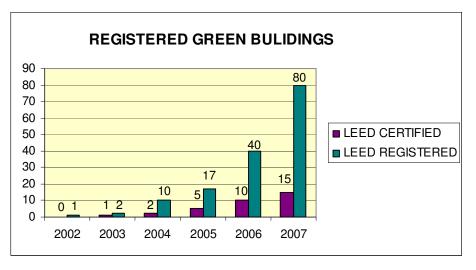


LEED RATING FOR BUILDINGS:

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.

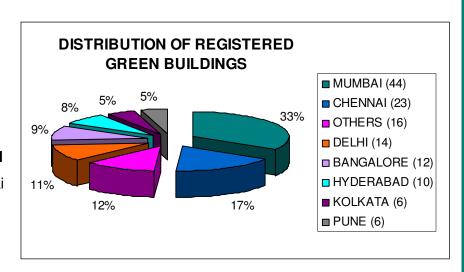
The Leadership in Energy and Environmental Design (LEED-INDIA) is a Green Building Rating System is a nationally accepted benchmark for the design, construction and operation of high performance green buildings. There are 150 LEED registered green buildings and 23 LEED certified green buildings in India.

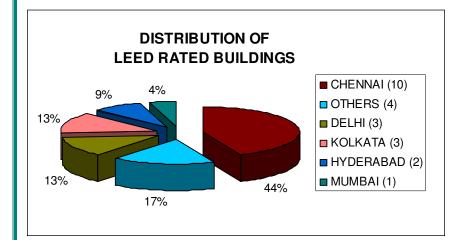
The following graph shows the number of green buildings registered with LEED India during 2002-2007.



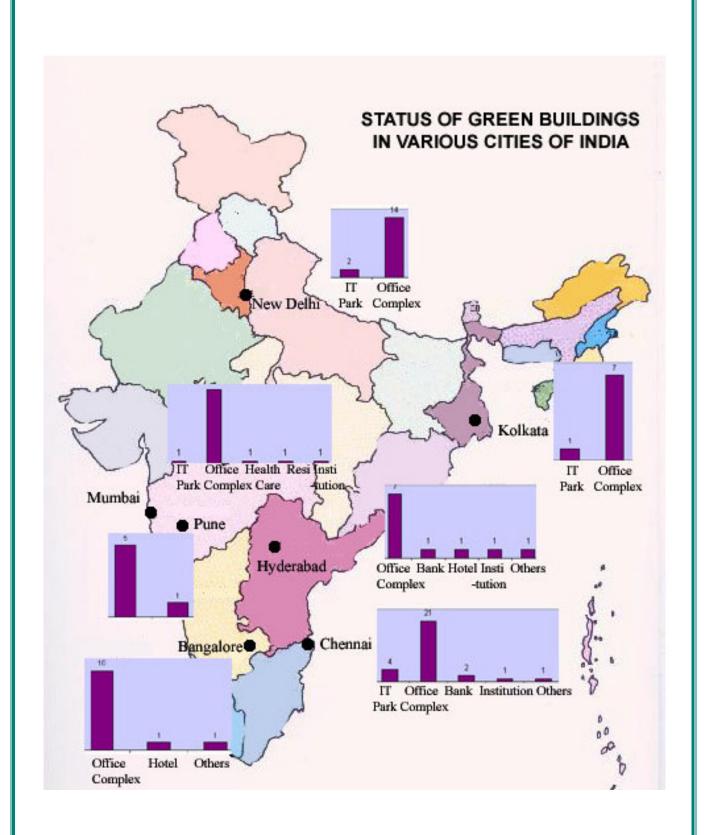
The **LEED registered**

Green buildings are more in Mumbai (44 buildings). But the interesting thing to be noted is that the number of **LEED rated** buildings is the least in Mumbai (1 building) of all cities.





Whereas Chennai has the maximum number of LEED Rated Green Buildings (10 Nos.) with 23 LEED Registered Green Buildings.



REGISTERED GREEN BUILDINGS - CITY WISE (IGBC Registered)

CITY	NAME	TYPE OF BUILDING	PUBLIC/PRIVATE
	ITC Green Centre, Gurgaon	OFFICE	PRIVATE
	Wipro Technologies, Gurgaon	OFFICE	PRIVATE
	Spectral Services consultancy Private		
	Ltd, NOIDA	CORPORATE OFFICE	PRIVATE
	North Delhi Power Limited	CORPORATE OFFICE	JOINT VENTURE
	ONGC	OFFICE	PRIVATE
NEW DELHI	Patni Computer Systems Ltd	IT FACILITY	PRIVATE
	Skyline Aviation Pvt Ltd	OFFICE	PRIVATE
	Vipul Limited, Gurgaon	OFFICE	PRIVATE
	Mahindra Lifespace Developers		
	Limited	OFFICE	PRIVATE
	Liberty Whitware Limited	OFFICE	PRIVATE
NEW DELHI	Jawaharlal Nehru Bhavan (Ministry of External Affairs)	GOVT OFFICE	PUBLIC
NEW DELII	Ź		
	Environmental Design Solutions Noida Cyber Park Pvt. Ltd., Noida	OFFICE	PRIVATE
	, , , , , , , , , , , , , , , , , , ,	OFFICE	PRIVATE
	TSI Ventures	OFFICE	PRIVATE
	KLG Systel Limited	OFFICE	PRIVATE
	Advant IT Park Limited	IT SECTOR	PRIVATE
NEW DELHI			
	Grundfos Pumps India Pvt Ltd	OFFICE	PRIVATE
	World Bank building	BANK	PUBLIC
	NEG Micon	OFFICE	PRIVATE
	Rane Institute for Employee	INICTITUTION	DDIVATE
	Development	INSTITUTION	PRIVATE
	Olympia Tech Park	IT PARK	PRIVATE
	Vestas Wind Technology	0==10=	PRIVATE
	L&T ERDC	OFFICE	PRIVATE
	RMZ Millenia Business Park	OFFICE	PRIVATE
	ETL BPO Park	IT PARK	PRIVATE
CHENNAI	ABN Amro Central Enterprise Services Private Ltd.	BANK	PRIVATE
CHEMIA	L&T TC II Building	OFFICE	PRIVATE
	Turbo Energy Limited	OFFICE	PRIVATE
	Urbane Industries	OFFICE	
			PRIVATE
	Chennai Tech park	IT PARK	PRIVATE
	ECCI Info Park	IT PARK	PRIVATE
	AMTI Tech Park Cee Dee Yes Housing and	IT PARK	PRIVATE
	Infrastructure Ltd.		PRIVATE
	Eureka Forbes Institute of Environment	OFFICE	PRIVATE
	Modine Thermal Systems Private Ltd.	OFFICE	PRIVATE
CHENNAI	Ashok Leyland Properties Ltd	OFFICE	PRIVATE
CHEMIA	Ashok Leyiana i Toperties Liu	OFFICE	I INVAIL

	FLSmidth Pvt Ltd	OFFICE	PRIVATE
	Syntel International Pvt Ltd	IT OFFICE	PRIVATE
	Soundarya Decorators India Pvt Ltd	OFFICE	PRIVATE
	Great Lakes Institute of Management	INSTITUTION	PRIVATE
	Limelight Property Solutions India Pvt	055105	DDIV/ATE
	Ltd.	OFFICE	PRIVATE
	Faery Estates Private Limited.	OFFICE	PRIVATE
	Southern Railway	OFFICE	PUBLIC
	Wipro Technologies	OFFICE	PRIVATE
	Newgen Imaging		PRIVATE
	Tata Consultancy Services Limited	OFFICE	PRIVATE
	Srinivasa Shipping & Property	OFFICE	DDIVATE
	Development Ltd.	OFFICE	PRIVATE
CHENNAI	Kapico Hospitality Private Limited	OFFICE	PRIVATE
	Ambuja – Ecospace (Udayan		
	Greenfield)	IT PARK	PRIVATE
	Technopolis	IT PARK	PRIVATE
	RMZ Ecospace	CAMPUS	PRIVATE
	Confederation of Indian Industry	OFFICE	PRIVATE
KOLKATA	Fort Projects Private Limited		PRIVATE
	Infinity (Benchmark)	IT PARK	PRIVATE
	Synthesis Business Park	IT PARK	PRIVATE
	Srijan Properties Pvt Ltd.	IT PARK	PRIVATE
	Came CNimona O Camana I imitad		DDIV/ATE
	Saraf Nirmaan & Commerce Limited		PRIVATE
KOLKATA	Sarai Nirmaan & Commerce Limited		PRIVATE
KOLKATA	Hiranandani – B G House, Powai	CORPORATE OFFICE	PRIVATE
KOLKATA		CORPORATE OFFICE CORPORATE OFFICE	
KOLKATA	Hiranandani – B G House, Powai		PRIVATE
KOLKATA	Hiranandani – B G House, Powai ONGC	CORPORATE OFFICE	PRIVATE PRIVATE
KOLKATA	Hiranandani – B G House, Powai ONGC Kalpataru Square	CORPORATE OFFICE OFFICE	PRIVATE PRIVATE PRIVATE
KOLKATA	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower	CORPORATE OFFICE OFFICE IT PARK	PRIVATE PRIVATE PRIVATE PRIVATE
KOLKATA	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co.	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE	PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE
KOLKATA	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd.	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE	PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE
	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE	PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE
KOLKATA	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd Mumbai Metro One Private Limited	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE OFFICE	PRIVATE
	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd Mumbai Metro One Private Limited L& T Ltd	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE	PRIVATE
	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd Mumbai Metro One Private Limited L& T Ltd Godrej & Boyce Mfg. Co. Limited	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE OFFICE OFFICE	PRIVATE
	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd Mumbai Metro One Private Limited L& T Ltd Godrej & Boyce Mfg. Co. Limited Reliance Energy Limited	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE OFFICE OFFICE OFFICE	PRIVATE
	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd Mumbai Metro One Private Limited L& T Ltd Godrej & Boyce Mfg. Co. Limited Reliance Energy Limited Asian Health Care	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE OFFICE OFFICE OFFICE HEALTH CARE	PRIVATE PPP PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE
	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd Mumbai Metro One Private Limited L& T Ltd Godrej & Boyce Mfg. Co. Limited Reliance Energy Limited Asian Health Care Shree Ram Urban Infra (Palais Royale)	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE OFFICE OFFICE OFFICE	PRIVATE
	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd Mumbai Metro One Private Limited L& T Ltd Godrej & Boyce Mfg. Co. Limited Reliance Energy Limited Asian Health Care Shree Ram Urban Infra (Palais Royale) Larsen & Toubro Limited,	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE OFFICE OFFICE HEALTH CARE RESIDENTIAL COMPLEX	PRIVATE
	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd Mumbai Metro One Private Limited L& T Ltd Godrej & Boyce Mfg. Co. Limited Reliance Energy Limited Asian Health Care Shree Ram Urban Infra (Palais Royale) Larsen & Toubro Limited, Ahmednagar,	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE OFFICE OFFICE OFFICE HEALTH CARE RESIDENTIAL COMPLEX	PRIVATE
	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd Mumbai Metro One Private Limited L& T Ltd Godrej & Boyce Mfg. Co. Limited Reliance Energy Limited Asian Health Care Shree Ram Urban Infra (Palais Royale) Larsen & Toubro Limited, Ahmednagar, Hosmac India Pvt Ltd.	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE OFFICE OFFICE HEALTH CARE RESIDENTIAL COMPLEX OFFICE OFFICE OFFICE	PRIVATE
	Hiranandani – B G House, Powai ONGC Kalpataru Square Neelakanth Tech Park Mittal Builders Enercon Tower Bellamy Investments & Trading Co. Pvt. Ltd. Flagship Infrastructure Pvt Ltd Mumbai Metro One Private Limited L& T Ltd Godrej & Boyce Mfg. Co. Limited Reliance Energy Limited Asian Health Care Shree Ram Urban Infra (Palais Royale) Larsen & Toubro Limited, Ahmednagar,	CORPORATE OFFICE OFFICE IT PARK OFFICE CORPORATE OFFICE OFFICE OFFICE OFFICE OFFICE HEALTH CARE RESIDENTIAL COMPLEX	PRIVATE PPP PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE PRIVATE

		I	
	ACC Limited	OFFICE	PRIVATE
	Johnson Diversey India Pvt Ltd.	OFFICE	PRIVATE
	Indiabulls Properties Pvt. Ltd.	OFFICE	PRIVATE
	Lodha (i-THINK) campus	IT PARK	PRIVATE
	Logitech Park, Mumbai	OFFICE	PRIVATE
	Lodha (Apollo Mills Compound)	OFFICE	PRIVATE
	TMCB 2, Mumbai	OFFICE	PRIVATE
	GMS Construction Co. Pvt Ltd.	OFFICE	PRIVATE
	K Raheja Universal Private Limited	CORPORATE OFFICE	PRIVATE
	K Raheja Corporation	CORPORATE OFFICE	PRIVATE
	SKM Fabrics (Andheri) Limited,	OFFICE	PRIVATE
	Intime Properties Pvt. Ltd.	OFFICE	PRIVATE
	Sundew properties Pvt. Ltd.	OFFICE	PRIVATE
MUMBAI	GMS Construction Private Limited	OFFICE	PRIVATE
	HCC Real Estate Limited	OFFICE	PRIVATE
	Lodha Developers Private Limited	OFFICE	PRIVATE
	Lodha Excellus	OFFICE	PRIVATE
	Keystone Realtors Private Limited	OFFICE	PRIVATE
	Mahindra Lifespace Developers		
	Limited	OFFICE	PRIVATE
	Neelkanth Urban Developers Pvt Ltd	OFFICE	PRIVATE
	Akruti City Limited	OFFICE	PRIVATE
	Mahindra Lifespace Developers Limited	OFFICE	PRIVATE
	Aqualine Properties Pvt. Ltd	OFFICE	PRIVATE
	Gigaplex – Airoli	OFFICE	PRIVATE
	Ivory Property Trust, Kalina C &D	OFFICE	PRIVATE
	Shree Ram Infrastructure Ltd.	OFFICE	PRIVATE
	Serene Properties Pvt. Ltd.	OFFICE	PRIVATE
MUMBAI			
	IMTMA	EXHIBITION & CONVENTION CENTRE	PRIVATE
	Vikas Telecom Limited		PRIVATE
	Hozman Property Management Private		
	Ltd. Hotel	HOTEL	PRIVATE
	RMZ Corp,Whitefield	OFFICE	PRIVATE
	Wipro Technologies	CORPORATE OFFICE	PRIVATE
	Motorola India Pvt Ltd	OFFICE	PRIVATE
BANGALORE	Bearys Global	OFFICE	PRIVATE
	GE India Technology Centre	OFFICE	PRIVATE
	RMZ Esplanade	OFFICE	PRIVATE
	Tata Xylem Building	OFFICE	PRIVATE
	Interface	OFFICE	PRIVATE
BANGALORE			
HYDERABAD	Hyderabad Institute of Technology and	INSTITUTION	
CTATIC	TIVUCIADAU HISHIUIC OF TECHNOLOGY AND T	CHI STILL STOR	

	Management		
	CII – Sohrabji Godrej Green Business		
	centre	OFFICE	JOINT VENTURE
	Hyderabad International Airport	PASSENGER TERMINAL	JOINT VENTURE
	ICICI Tower	OFFICE	PRIVATE
	Hyderabad Urban Development		
	Authority	OFFICE	
	Tata Chemicals	LABORATORY & OFFICE	PRIVATE
	Microsoft	IT OFFICE	PRIVATE
	Sundew properties Pvt. Ltd.,	OFFICE	PRIVATE
	HSBC	BANK	PRIVATE
	Indu Projects Limited,	OFFICE	PRIVATE
	Lake Plaza Hotels (park)	HOTEL	PRIVATE
	Pocharam (Serene Properties Pvt. Ltd.)	OFFICE	PRIVATE
HYDERABAD			
	Commerzone	OFFICE	PRIVATE
	Indian Railway Institute of Civil		
	Engineering	INSTITUITON	PUBLIC SECTOR
	Kirloskar Brothers Limited	OFFICE	PRIVATE
	Wipro Limited	OFFICE	PRIVATE
	New Consolidated Construction	OFFICE	DDIV/ATE
	(Thermax)	OFFICE	PRIVATE
PUNE	Suzlon Energy Ltd	OFFICE	PRIVATE
FORE	Royal Engineering College,		
	Ahmedabad	INSTITUTION	
	Wipro technologies, Kochi	OFFICE	PRIVATE
	LIC Office, Shimoga	OFFICE	PUBLIC SECTOR
	IGP Office, Gulbarga	OFFICE	PUBLIC SECTOR
	ONGC, Dehradun	CORPORATE OFFICE	PRIVATE
	Aquamall Water Sol, Dehradun	OFFICE	PRIVATE
OTHERS	TCS, Trivandrum	OFFICE	PRIVATE
_	TCS, Bhubaneshwar	OFFICE	PRIVATE
	VESTAL, Visakhapatnam	OFFICE	PRIVATE
	•	DIAMOND POLISHING	
	Minestone Green Diamonds, Navsari	UNIT	PRIVATE
	ABN Amro, Ahmedabad	BANK	PRIVATE
	Burt Hill Design Pvt. Ltd., Ahmedabad	OFFICE	PRIVATE
	Hozman Property Management Private	DECORE	DD11/4.TT
	Ltd.Resort, Coorg	RESORT	PRIVATE
	Cethar vessels, Trichy Karnataka State Police Housing	OFFICE	PRIVATE
OTHERS	Corporation Ltd., Gulbarga	OFFICE	PUBLIC SECTOR
O III LIIO	Corporation Ltd., Outdarga	OI I IOL	I ODLIG GLOTOR

TERI GREEN RATED BUILDINGS:

TERI – GRIHA is a Green building rating system by TERI INDIA to facilitate design, construction, operation and evaluation of environment friendly buildings. The following is the list of green buildings rated by TERI under TERIGRIHA:

- 1. Hitkarini college of Engineering and Technology, Jabalpur.
- 2. Residential Building for ITC Limited, Kolkata.
- Earth System & Environment Science Engineering Building, Indian Institute of Technology, Kanpur.
- 4. Triburg Headquarters, Gurgaon, M/s Uchit Holdings Pvt. Ltd. Mehrauli, New Delhi.
- Bengal Shristi Infrastructure Development Limited, Kolkata.
- 6. The Doon School, Dehra Dun.
- 7. Office of Public Works Department, Nashik.
- 8. Suzlon Energy Limited, Pune.
- 9. Delhi Public School, Aligarh.
- 10. Fortis hospital, New Delhi.



Doon School, Dehra Dun



Picture above: ITC Green Centre, Gurgaon

SOURCES:

- www.igbc.in
- www.cii.org
- www.architectureweek.com
- www.austrade.gov.au/Greenbuilding-to-India
- www.teriin.org