2022

Proposal for providing consultancy services for IGBC Green Homes Certification Services

PROJECT NAME:
LODHA ACME OZONE (TOWER E&F), THANE

PREPARED FOR:

SUBMITTED ON:
NOVEMBER 12, 2022

PREPARED BY:
KAMAL COGENT ENERGY PVT. LTD.
Jaipur I Kolkata I Bangladesh
Kamal Ratan Chambers, 1st Floor, Opp. G. P. O, M. I. Road,
Jaipur-302 001 Phone: 0141-2373184 / 85
www.kamalcogentenergy.com

PROJECT BACKGROUND

Lodha Group is one of the leading real estate developers of India. Now they are helping in design & development of a residential project namely Acme Ozone (Tower E&F) at Thane in Maharashtra. The project have two towers E & F and each tower have 2B+G+3P+34 grades floors. The built up area is **approximately 667,981 SQFT (62,057 SQM).**

Lodha Group is desirous of creating a sustainable environment on the sites. The green building certification is a voluntary program offered by the Indian Green Building Council (IGBC). There are four certification levels namely Certified, Silver, Gold and Platinum.

Certification level	Points (Multi-dwelling units)
Certified	50-59
Silver	60-69
Gold	70-79
Platinum	80-100

Lodha Group has invited Kamal Cogent Energy to support the design team and the owner to complete IGBC Green Homes services. IGBC Green Homes Building scope includes

- IGBC Green Homes Facilitation
- Energy modeling and simulation
- Day Lighting Analysis & simulation

COMPANY INTRODUCTION

Kamal Cogent Energy is an IGBC and USGBC approved Green Building Service provider and has a team of US Green Building Council accredited LEED professionals to provide these services. Also Kamal Cogent Energy is a premier consultant, approved by IGBC. Kamal Cogent Energy is providing such services to several clients in India and abroad. We are currently providing similar services for over 4, 00, 00,000 square feet in India, North America, Middle East, Europe and South East Asia.

We provide plastic advisory services around single use plastic reduction, audits, roadmap development and statutory compliance guidance with PWM rules.

We are a designated ECBC expert architect as well as a TERI GRIHA evaluator and trainer. Kamal Cogent Energy's office building is BEE 3-star rated. We also act as a LEED Reviewer and assessor for USGBC and IGBC projects located worldwide. Kamal Cogent Energy is also having the **LEED PROVEN PROVIDER** certification from USGBC in India. Only 3 companies have this in India.

Kamal Cogent Energy has to its credit the **World's First**[1] **LEED Platinum Hotel under Existing Building category** which is **ITC Maurya at Delhi**. We also have obtained LEED Platinum in v4.0 EBOM for DS Group Head Quarter (576,000 sq feet) at Noida with **104 points** which is the **highest in the world as** of today. We have since obtained USGBC LEED EBOM Platinum rating for four other ITC Group in India. We have obtained **India's First and World's Second LEED v4.0 EBOM** in textile industry which is **Birla Century, Bharuch**. We have also obtained **World's First LEED PLATINUM Data Center in V4.0 which is ITC Data Centre.**

It should be noted that recently we received LEED Platinum for ITC Grand Goa Resort and Spa, Consaulim GOA which is the first resort LEED Platinum in India in v4.0

[1] This has been confirmed in writing by USGBC

Kamal Cogent Energy has been formed to provide comprehensive energy consulting, sustainability, green building, engineering and building commissioning solutions to institutional, commercial and industrial clients. Kamal Cogent Energy is a joint venture between Cogent Energy Inc., USA and Kamal and Company Group, India.

Our international associate, Cogent Energy, is a premier engineering consulting and building commissioning services provider in California. Cogent Energy, which has offices in Northern and Southern California, has worked on a wide spectrum of projects ranging from relatively small consulting engagements to multi-million dollar projects. Cogent Energy Inc., has since merged with EnerNOC Inc.

Our Indian partner, Kamal and Company Group, is a Rajasthan based 1,100 employees' strong business house with interests in automobile trading, non-banking finance, auto coach fabrication, garage equipment manufacturing, apparel export, and higher education and real estate development.

NAME OF PROJECTS DONE BY KAMAL COGENT ENERGY

• LODHA NSIL, THANE, MUMBAI	650,000 SQFT
• LODHA KOLSHET, THANE, MUMBAI	1,122,546 SQFT
• LODHA TOWER 4, WORLI	1,500,000 SQFT
• LODHA PALAVA SEC-02 COMMERCIAL TOWER	335,500 SQFT
• LODHA CASA BELLA A, PALAVA, MUMBAI	158,000 SQFT
• LODHA CASA BELLA TOWER-B, DOMBIVALI	133, 400 SQFT
• LODHA NCP WADALA, MUMBAI	721,182 SQFT
• LODHA - SUPREMUS PHASE 3	140,000 SQFT
• LODHA – NCP CT05 SUPREMUS	223,06 SQFT
• LODHA CT4	317,127 SQFT
• ITC MARATHA, MUMBAI	660,903 SQFT
• EMBASSY – MANYATA BUSINESS PARK, BANGALORE	10,096,538 SQFT
• EMBASSY – TECH ZONE, PUNE – IGBC PLATINUM	21,50,829 SQFT
• EMBASSY – TECH VILLAGE, BANGALORE – IGBC PLATINUM	19,52,141 SQFT
• RAIL COACH FACTORY, KAPURTHALA	30,57,260 SQFT
• STELAR OSPREY, NOIDA	3,57,092 SQFT
• STELAR SECTOR 142-3, NOIDA	296,244 SQFT
• STELAR SECTOR 127, NOIDA	335,965 SQFT
• STELAR SECTOR 142-5, NOIDA	393,993 SQFT
• SUPERTECH LTD. – NORTH EYE, NOIDA	15,00,000 SQFT
• SUPERTECH LTD. – ORB NOIDA	16,00,000 SQFT
• SHIV NADAR SCHOOL IB NOIDA	50,000 SQFT
• SHIV NADAR SCHOOL, FARIDABAD	420,000 SQFT
• BHARTI WORLDMARK, GURGAON	448,379 SQFT
• ASIAN DEVELOPMENT BANK, DELHI	35,000 SQFT
• THE CONNAUGHT, NEW DELHI	80,000 SQFT
• HONEYWELL INDIA TECHNOLOGY CENTER, GURGAON	155,172 SQFT
• BIRLA ESTATE SEC 65, GURGAON	10,50,000 SQFT
• BIRLA ESTATE SEC 63A, GURGAON	19,43,812 SQFT
• PS ZEN 2	336,000 SQFT
• PS 223 C MANIKTALA ROAD	300,000 SQFT
• PS 36 C/1 CHOWRINGHEE ROAD	72,500 SQFT
• PS – 6 RAWDON STREET	80,000 SQFT
• PS – 2 RUSSELL STREET	100,000 SQFT

Representative experience of Kamal Cogent Energy Pvt. Ltd. is beyond above mentioned projects and has completed more than 100 projects with several corporate clients including ITC, Marriott, Hero MotoCorp, Coca Cola, PepsiCo, Haldiram, Bharti, Mahindra, Eicher, Lodha, Birla Century Textiles etc.

PROPOSAL FOR PROFESSIONAL SERVICES

Kamal Cogent Energy proposes to provide the following professional services:
PART 1: IGBC Green Homes Facilitation
PART 2: Energy Modeling and Simulation
PART 3: Day lighting analysis and Simulation

The scope of work, services included, IGBC requirements and deliverables are explained below.

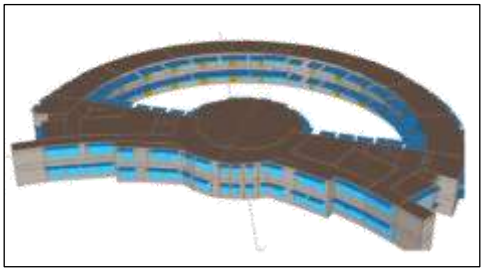
PART 1 – IGBC GREEN HOMES FACILITATION

Lodha Group is desirous of seeking professional support to guide them through the IGBC GREEN HOMES certification process. Kamal Cogent Energy will provide the following services as part of the IGBC GREEN HOMES facilitation.

- Project registration with IGBC (costs to be borne by Client or owner)
- Perform a IGBC GREEN HOMES Feasibility Study to identify the credits to be targeted for final certification
- Conducting IGBC stakeholder meetings to educate the design team regarding green buildings and IGBC guidelines.
- Providing IGBC specific credit-by-credit guidance and feedback to ensure that the project meets the IGBC requirements for the targeted credits. This is a continual process where we will evaluate the design documents (schematic design, design development, construction documents etc.) to check whether they meet IGBC norms or not. If the project documents suggest that the norms will not be met we will provide appropriate guidance and feedback to the pertinent team members.
- Support the design team across all aspects of IGBC including site selection, site development, water efficiency, energy performance, material selection, resource use and indoor environmental quality.
- Provide guidance for including green materials and specifications in construction documents
- Provide guidance for collecting documentation required by IGBC
- Developing and providing necessary templates for the contractor and PMC to log and track credit documentation.
- Review contractor submittals from IGBC acceptability perspective
- Complete IGBC submittal templates and supporting material
- Complete IGBC review submittals, both at design stage and end of construction phase.
- Hand-hold the owner and the design team through the entire IGBC certification process.

PART 2: ENERGY MODELING AND SIMULATION

This includes performing a whole building 3D simulation of the existing design. The energy performance of the design building will be compared to the IGBC reference case (per ASHRAE 90.1) to document the performance of the proposed design vis-à-vis IGBC reference building. Provide recommendations to optimize energy performance of envelope, fenestration, HVAC, plug loads and lighting end-uses.
This service will include the following items

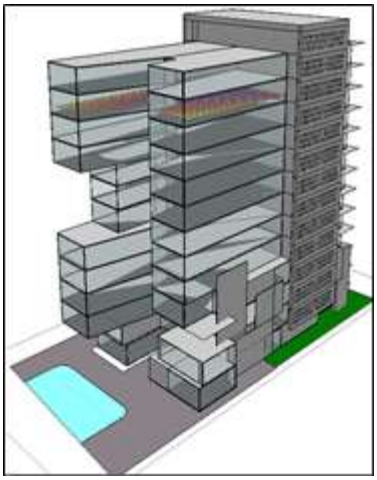


1. Whole Building 3D energy simulation including:
    - DOE 2 based (eQuest) whole building

simulation
- Documenting of performance relative to ASHRAE reference
- Completion of IGBC documentation for EE P2
- Completion of IGBC documentation for EE c2
- Draft and Final report providing results of energy simulation

2. Basic assessment and understanding of the architectural and constructional Philosophy along with the overall objective of the project
3. Data collection of the required inputs for the En-Opt Program
    - Schedules of occupancies, holidays, lighting, equipment usage, etc.
    - All constructions material details and specifications
    - Details of windows, glazing, fenestration, etc.
    - Details of lighting, equipment power density, etc.
    - Basic HVAC details like type of system, power consumption, air cooled, water cooled, etc.
    - Details of other energy requirements like hot water, outside lighting etc.
    - Any other specific energy saving or conservation measures that you may want to incorporate
4. 3-D modeling of the building as per the software requirement and all relevant data entry into the En-Opt Software Program
5. Bench marking the energy requirement for the Base Case for minimum compliance energy levels as per ASHRAE 90.1-2010 Standard for Buildings and i for New Construction Buildings.
6. Developing Energy Efficiency Measures to better the minimum compliance energy levels as indicated above
7. In the process of developing Energy Efficiency Measures, we help in selection of various inputs like walls, roofs, glazing, air conditioning equipment, lighting controls, etc
8. Iterating the energy simulation for the building to arrive at optimum energy Consumption
9. Putting together all Energy Efficiency Measures for the proposed building Design
10. Arriving at the proposed case energy consumption results

PART 3: DAY LIGHTING ANALYSIS AND SIMULATION



The 3-D model of project building is developed in commercially available software to explore opportunities for further development and refinement of the natural and artificial lighting design to create effective, efficient, and optimized lighting systems. Optimize the architectural design or shape of the building to ensure maximum utilization of available daylight. Validate the artificial lighting design and avoid overdesign. Economic feasibility of adapting lighting controls such as day lighting, occupancy sensors and dimmers etc. Artificial lighting and daylight simulation is also utilized to check the uniformity level of the light in the space which is then used to validate the location and spacing of the light fixtures as well as the distance between them. The service will include:

1. Basic assessment and understanding of the architectural and constructional philosophy along with the overall objective of the project
2. Data collection of the required inputs for the Software Programme:
    - Auto CAD Drawings (Plan, Elevation & Section) and Rendered Image
    - Constructions material details and specifications with respect to day lighting.
    - Details of windows, glazing, fenestration, etc.

3. 3D modeling of the building as per the software requirement.
4. All relevant data entry into the Software Programme.
5. Analyze Day lighting level in the interior space of the existing design and submission of Design Report.
6. Alternative is worked out for the interior space to arrive at optimum openings to get good day lighting inside and submission of Alternative Report.
7. Submission of the Daylight report.

DELIVERABLES

The following deliverables will be provided under this proposal:

PART 1 – IGBC Green Facilitation

- IGBC Green Homes Building tracking templates and sample submission plans
- IGBC Green Homes Building submittal templates and supporting material
- Complete IGBC Green Homes review submittals

PART 2 & 3 – Whole Building 3D energy simulation and Day lighting including

- IGBC Green Building energy compliance documents for EA p2 and EA c2
- Report of energy analysis
- Day Lighting analysis

PROJECT COST AND SCHEDULE

Kamal Cogent Energy proposes to perform the tasks listed in the preceding section on a lump sum basis for the following fees. Work under this Agreement will be provided on a lump sum basis, and billed as per below table.

Sr. No	Task	Total Area	KCE Fee (INR)*	Rating
1.	Energy Modeling & Simulation	**Approx. 667,981 Sqft.**	**Rs. 240,000/- Plus GST**	IGBC GH Platinum Rating
2.	Daylight Analysis & Simulation			
3.	IGBC Green Homes Facilitation			
4.	RETV analysis		**Rs. 25,000/-per Tower Plus GST**	

**The fee is referred from Lodha Mulund East for IGBC Green Homes certification and* GST will be extra

PAYMENT TERMS
FOR IGBC Green Homes Certification

1. Project Registration – 20%
2. On completion of Daylight model & Energy model – 20%
3. On Pre-certification submission with IGBC – 20%
4. On Pre-certification rating by IGBC – 20%
5. Award of final rating by IGBC – 20%

FOR RETV

1. On submission of RETV Analysis report at per project – 100%

ASSUMPTIONS

The proposal is based on the following assumptions:

1. Total statutory IGBC fees (Registration, Pre-Certification / Final Certification) will be extra and shall be paid by client to IGBC directly.
2. Direct Expenses (meals, stay, taxi, economy class air-fare) to-from Jaipur/Project site shall be borne by client for our Engineers.
3. GST will be extra as applicable.