



GR+IA TROPHY

For more information contact:
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GRIHA Trophy

Introduction

Global warming has resulted from rising average atmospheric temperatures, which has caused a series of changes in the Earth's climate and weather systems. As humans continue to release heat-trapping greenhouse gases (GHG) into the atmosphere, these changes continue to accelerate. Carbon dioxide (CO₂) is the most important anthropogenic greenhouse due to its abundance. This gas also has the ability to linger in the atmosphere for thousands of years.

CO₂ emissions can come from both natural and man-made sources. On the one hand, the exhalation by most multicellular living organisms in the animal kingdom (including humans) involves the release of CO₂ and leads to the natural source of CO₂ emissions. On the other hand, many man-made activities contribute to CO₂ emissions such as transportation, mining, power generation, urbanization, etc.

The building sector encompasses all the processes from construction through operation of built environments, up to its occupancy and maintenance stage. The building sector's boom in expansion has had a tremendous direct and indirect influence on the environment. The use of non-renewable energy resources, poor building design and a lack of sustainable thinking in urbanization have all stymied CO₂ emissions.

The construction industry utilizes a huge quantity of non-renewable energy and emits a significant amount of CO₂ emission into the environment. Buildings account for around 39% of annual global



CO2 emissions. Also, according to reports, the building industry accounts for more than a third of overall energy consumption in both developed and developing countries. As a result, CO2 emission reduction efforts are critical. To encourage CO2 emission reduction, energy conservation planning and the execution of methods to decrease potential emissions should be highlighted.

A green building can reduce carbon emissions during the operation of the building. It is important to understand how the occupancy and use of buildings and infrastructure impact carbon emissions from a building. In fact, it is estimated that a major percentage of the carbon impact in terms of energy consumption can be reduced during the design stage of the project. Therefore, incorporating appropriate design strategies, natural lighting and shading can greatly decrease the overall carbon footprint of the project.

Design Brief

The Corporate Office for Mentor Graphics in Noida has to be redesigned into 150-bedded general hospitals using adaptive reuse techniques ensuring carbon footprint reduction.

Requirements:

- IPD: 60 wards, 34 twin rooms, 20 Single rooms and 20 ICU beds
 - 4 Operation theaters: 500 Sq. Ft. for each
 - Pre-post: 10 beds
 - Administration: 2000 Sq. Ft.
 - Laundry & Kitchen: 2000 Sq. Ft.
 - Emergency department: 6 beds
 - OPDs- 24 rooms: min 120 Sq. Ft.
 - Diagnostics: CT – 1, MRI – 1, X-ray – 1, and ultrasound room – 1
1. Design development highlighting an iterative approach and integration of strategies.
 2. Design concept highlighting the climate responsive and passive/ active features of the proposal.
 3. Design concept highlighting water and waste management strategies.
 4. Design concept highlighting strategies for improving occupant comfort and wellbeing, universal accessibility, safety and security, environmental awareness and social impact.



5. Area statement and zoning plan highlighting passenger movement and any sustainable strategies if incorporated.
6. Building layout plans and Site layout plans with details.
7. Detailed LCA calculations with concept notes of strategies adopted (Use of software such as One Click LCA, Gabi, SimaPro, etc. is desirable).
8. The submission should include -
 - Site plan and layout plan
 - Concept plan, Plans, Elevations, and Sections
 - Views, perspectives, and any other means may be used to explain the design proposal.
 - Building Design Simulations
 - Carbon footprint calculations for the following sections:
 - Energy
 - Water
 - Waste
 - Transportation
 - Social
 - Lifestyle

Location	Mentor Graphics, 2, Sector 142, Noida, Uttar Pradesh
Site Area	2.70 Acres
Heights	Basements – 4.5m, Ground floor- 4.5m, all floors- 4.2m

Site Plan



The Google location of the site can be accessed through the link below:
<https://goo.gl/maps/LLH8dEqzL1h4k7Wy9>

SUBMISSION REQUIREMENTS

The submission shall be done in 2 stages, in the following manner:

Stage 1:

- The project should be expressed within a maximum of 12 A2 size sheets.
- Authentication Letter
- Declaration Letter

Stage 2:

- A presentation (PowerPoint/pdf/any other audio-visual format) of NOT more than 15 slides or a running time of 5 minutes.
- Walkthrough of 2-3 minutes
- Editable format of the sheets.

JURY PROCESS

The evaluation shall be done in 2 stages, in the following manner:

- **Stage 1:** Closed jury of all valid entries, declaration of the shortlisted entries.
- **Stage 2:** Open jury with online presentation of already submitted sheets and presentation by the shortlisted entries.

The entries will be evaluated on the basis of

- Innovation in architectural design
- LCA calculation and estimation
- Resource management and sustainability
- Contextual and aesthetic impact
- Presentation of the scheme
- Delivery of the scheme

PRIZE MONEY

Prize money of 1.5 lakhs INR shall be awarded by the GRIHA Council to the trophy and it will be divided according to the number of the Citations and Special Mentions.

IMPORTANT DATES

- Release of Brief: **13th November, Sunday**
- Registration Deadline: **13th December 2022, 1800 hours, Tuesday**
- Queries Deadline: **25th November 2022, 1800 hours, Friday**
- Stage 1 Submission Deadline: **25th December 2022, 1800 hours, Sunday**
- Stage 2 Date: **Will be Announced along with Shortlisting.**

GENERAL SUBMISSION GUIDELINES

Failing to comply with any of the guidelines may lead to disqualification at the discretion of the executive council.

- **Maximum One (01) Number of Entries Will Be Accepted Per College.**
- **The number of participants per entry shall not be more than 10.**
- The format of the sheets should clearly mention the name of the trophy followed by the year i.e. **“GRIHA Trophy 2022-23”**
- Sheets file size should not exceed **25Mb**, maximum size for Authentication and Declaration Letters is **5Mb**.
- The scale is left to the discretion of the participant(s) to the condition that the scale should be in the metric system and all the drawings should be clear and legible.

GENERAL TROPHY GUIDELINES

- All text should be in English.
- The file name should strictly be the registration code itself.
- Presentation submission should be a google drive link, with permission set to anyone with the link.
- The format of the sheet should contain a square box of **25mm*25mm** at the bottom right hand corner, next to the NASA INDIA logo which should have the unique registration number allotted to the participants after registrations.
- Manually rendered entry should be scanned at least in **300*300dpi** (dots per Inch) resolution.
- The soft copy (non-editable format) of the sheets, and if any, report/video link, along with authentication letter, declaration letter and any other required documents prescribed in the submission requirements should be uploaded on the website by the submission deadline.
- The soft copy file of the sheets should not be corrupted or incomplete or in low resolution.



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- It is mandatory to produce the original copy of the Authentication Letter for each entry (entry code should be mentioned if allotted) with the name of participant(s) and stating the unit will abide by whatever may be the final results and also agree that this entry is a property of both the institute and NASA India.
- The Authentication Letter should be signed by the HOD/Principal/Director.
- It is mandatory for the colleges to produce the original copy of the Declaration Letter for each entry (entry code should be mentioned if allotted) signed by the participants stating the work submitted is genuine and they have endorsed copy- rights for the same and to adhere by all the rules and regulations, jury process and the results.
- The Prize Money Authenticating Letter signed by the Director/ Principal / HOD in the college letter-head specifying the account details (Account Name, Account Number, Bank Name, IFSC Code, PAN attached to the account) in which the money is to be credited for each entry (entry code should be mentioned if allotted) shall be collected at a later stage.
 - 30% of the prize money shall be deposited as TDS to the Income Tax Dept. of India and can be taken as rebate in ITRs.
- The working files in editable formats of the Shortlisted Entries should be submitted to the Council, failing which, the submission requirements would be deemed incomplete leading to the prize money being withheld.
- Shortlisted Entries with manual hand-done sheets should submit the content in a word document, failing which, the submission requirements would be deemed incomplete leading to the prize money being withheld.
- Any misconduct such as exposing identity through college name/ stamp participant(s) name or college code on the sheets or the video will be disqualified.
- Registration, queries and submission shall be through the website only-
<https://nasaindia.co/Trophy?groupid=3>
- The Participants shall be registered through the website prior to the submission and the list should concur with the Authentication and Declaration.



NASA INDIA LOGO GUIDELINES

Failing to comply with any of the guidelines may lead to disqualification at the discretion of the executive council.

- The sheet template to be followed is available at:
https://drive.google.com/drive/folders/1kDOcgWnl8efb9K3ez5EYxz7MEMsHKKFv?usp=share_link
- NASA India Internal Logo shall always be placed on the right-hand bottom corner of the sheet.
- NASA India logo should not be merged, overlapped etc. with any sort of text, graphic, image, etc.
- NASA India logo should be in true black with a perfectly white background.
- **FOR A2 SHEET NASA INDIA LOGO SIZE SHOULD BE 43.75MM X 25MM WITH 10MM CLEAR BORDER ON ALL 4 SIDES.**
- The logos are available at <https://www.nasaindia.co/JoinUs/Category>.



ANNEXURE 1

BRIEF ABOUT LIFE CYCLE ASSESSMENT (LCA)

Life Cycle Assessment (LCA) is a compilation and evaluation of the inputs, outputs, and potential environmental impacts of a product system throughout its life cycle. In the case of a building, LCA helps to understand, consider, and reduce the environmental impacts of the project by encouraging the selection of products with a lower environmental impact, including embodied carbon, over the life cycle of the building. For ease of analysis, the building's life cycle is divided into four stages, which are: material production, construction, use and maintenance, and end-of-life. Based on the stages under consideration for the LCA, the boundary condition for the study is set up as cradle to gate, cradle to the site, cradle to grave, or cradle to cradle, respectively.

LCA helps in understanding the product system better and it's directly attributable to environmental impacts. It can influence recommendations and decision-making with respect to the selection of construction materials.

1. The parameter for which the demonstration of LCA has to be carried out is Global warming potential, GWP - kg CO₂ equivalent. It enables the conversion of environmental impacts into its kg CO₂ equivalent.
2. Cost to be taken into consideration should be the landed cost on the construction site.
3. Any innovative material, energy, and water management strategy should also be included in this study for assessment of individual payback and as a part of the whole building life cycle assessment.
4. Refer to and provide the IFC document with CO₂ number and India specific material.

