

# DESIGN THE FUTURE OF ENERGY EFFICIENCY

Inspired by Nature. Empowered by Technology.

## A quest to find the next generation of visionaries in architecture.

In today's rapidly evolving construction industry, sustainability has emerged as a critical focus, driving efforts to minimize environmental impact and promote eco-friendly practices. Architecture plays a pivotal role in this movement, as thoughtful design and innovative building techniques can significantly reduce resource consumption, enhance energy efficiency, and create healthier living environments.

At COP26, India unveiled its ambitious plan to achieve net-zero emissions by 2070, marking a significant step in the global fight against climate change. Despite its relatively low per-capita emissions of 1.8 tons of CO<sub>2</sub>, India ranks as the third-largest emitter worldwide, releasing a net 2.9 gigatons of carbon dioxide equivalent (GtCO<sub>2</sub>e) annually as of 2019. Central to this goal is the aim to decarbonize energy production by 50% and attain 500 gigawatts (GW) of fossil fuel-free generating capacity by 2030.

As part of this commitment to energy transition and achieving net-zero emissions, India has achieved notable progress in recent years. It boasts the fifth-largest solar and fourth-largest wind power capacity globally, with a total capacity exceeding 100 GW. As a result of these efforts, renewables currently contribute approx. 43% to the nation's electricity generation installed capacity, with fossil fuels still accounting for approximately 57% in 2023.

If right policy measures are enacted, India could substantially increase low-carbon capacities over the following two decades.





In the setting of the above context,

## "The Energy Museum"

emerges as a beacon dedicated to charting India's journey towards net-zero emissions, documenting its past achievements, current endeavours, and future aspirations.

### The student designs will have to answer these 4 questions.

1. What has India already achieved and how?
2. What is to be achieved and how everyone can contribute to it?
3. How to educate, influence & motivate masses about country's energy goals through design?
4. Is your design an energy efficient, iconic example of pioneer architecture dedicated to Energy conservation and decarbonisation goals of India?



**Mr. Vikram Khanna**

COO - Consumer Glass & Architectural  
Institutional Business  
CMO - Asahi India Glass Limited

“ As we witness the alarming effects of climate change globally, it's imperative that each of us takes action to contribute towards a greener world. As future architects, you hold the responsibility to design sustainable structures that mitigate our 'Carbon Footprint' and foster a greener environment.

In ADO 6.0, we are excited to bring to you a unique contest. Designing an 'Energy Museum' will allow you to present sustainable and creative designs as also showcase your vision of India's journey to achieving 'net zero' within the innovative structure.

This platform provides you an excellent opportunity to present your talent and network with fellow students and professionals in the field of architecture. ”



**Ar. Vivek Bhole**

Principal of Neo Modern Architects,  
Curator and National Jury Member  
AIS Design Olympiad

“It is an architect’s duty to design structures that prioritize environment friendliness. This becomes increasingly crucial in a world where phenomena like Climate Change and Global Warming pose significant threats to our planet.

This year’s ADO theme is specially curated to challenge you to think differently to design a energy museum to charter India’s green energy efforts and future goals. This platform allows you to gain exposure early on in your professional journey.”

“Commitment to reducing carbon footprint is the need of the hour for each person. As an architect, we have to lead from the front with respect to creating sustainable designs which align with India’s net zero goals.

With ADO 6.0, budding architects are given the platform to express themselves creatively, as also understand and blend designs to achieve green architecture ”



**Ar. Karl Wadia**

Senior Design Principal - Architect Hafeez Contractor  
Curator & National Juror - AIS Design Olympiad

## ABOUT AIS

Asahi India Glass Ltd. (AIS) is India's leading integrated glass and window Solutions Company and a dominant player both in the automotive and architectural glass segments. It commands over 70% share in the Indian passenger car glass segment. Started in 1987, AIS' footprint today spans the entire spectrum of the automotive and architectural glass value chains.

AIS has 3 Strategic Business Units (SBUs) - Automotive, Architectural and Consumer. It is engaged in the production and delivery of next-generation glass products and solutions to retail and institutional customers through these SBUs and provides end-to-end solutions across the entire value chain in all 3 segments – from the manufacturing of float glass to glass processing, fabrication, and installation. AIS caters to customers in domestic as well as international markets.





## AIS DESIGN OLYMPIAD 2024 THEME


### Welcome to AIS Design Olympiad 6.0 to design India's First Energy Museum.

The theme focuses on revolutionizing the construction and energy sector by providing **India its first Energy Museum**. The competition seeks to establish a pioneering institution that not only showcases the evolution of energy technologies but also serves as a hub for research and education in sustainable energy practices. As the first-ever museum of its kind in India, the design should reflect innovation, sustainability, and a commitment to advancing energy efficiency.

### OBJECTIVE:

The primary objective of this architecture competition is to solicit designs for the Energy Museum of India that incorporate green building features while also integrating a research centre focused on energy efficiency. The winning design will serve as a model for sustainable architecture and contribute to the cultural and educational landscape of India. The museum should become a centre for educating masses about embodied energy, operational energy, carbon footprint etc. by itself becoming a live case study of the principles it represents.

### THE DESIGN TASK:

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- A decorative graphic of several green leaves and branches, positioned to the right of the design task list.
- To design a museum that should provide an immersive experience for visitors, showcasing the history, present, and future of energy in India.
  - The design should prioritize energy efficiency and sustainability, utilizing green building materials, renewable energy sources, and innovative design techniques.
  - A research centre within the museum complex should facilitate interdisciplinary research on energy efficiency, serving as a hub for collaboration between academia, industry, and government.
  - The museum should be accessible to all, incorporating universal design principles and ensuring inclusivity for visitors of all abilities.
  - Consideration should be given to the cultural context and architectural heritage of India, integrating elements of local architecture and design where appropriate.

## REQUIREMENTS:

**Green Building Features:** The design should incorporate sustainable building practices such as passive solar design, natural ventilation, rainwater harvesting, and energy-efficient lighting and HVAC systems.

**Renewable Energy Integration:** Utilize renewable energy sources such as solar, wind, or geothermal energy to power the museum and research center.

**Innovative materials:** A thorough understanding of the material used for construction in terms of embodied carbon, recyclability, and ease of usage.

**Research Centre:** Design a dedicated space within the museum complex for research activities focused on energy efficiency, including laboratories, collaboration spaces, and offices.

**Exhibition Spaces:** Provide flexible exhibition spaces that can accommodate a variety of energy-related exhibits, interactive displays, and multimedia presentations.

**Education Facilities:** Include classrooms, auditoriums, and workshops for educational programs and public outreach initiatives focused on energy literacy and sustainability.

**Accessibility:** Ensure that the museum is accessible to all visitors, including those with disabilities, by incorporating ramps, elevators, and other accessible features throughout the design.

**Cultural Integration:** Integrate elements of Indian culture and architectural heritage into the design, creating a unique and culturally resonant experience for visitors.

Integration of AI: The competition lets the students to discover and innovate the design process through AI. Use of AI tools in any way in the project, presentation or design program is encouraged but is not mandatory.





## SUBMISSION REQUIREMENTS:

- Express your design ideas in maximum of **30 slides presentation (16:9 ratio)- 20 mins each team**. The presentation should **include design concept, architectural drawings, renderings, details about sustainability features (site level and building level)**
- Include a **green materials list and construction details** (if any innovative technology is used to reduce construction energy) and **environmental impact in 1-2 slides** within your presentation.
- A **detailed sustainability plan** outlining the energy efficiency measures, renewable energy systems, and green building materials proposed for the project.
- Calculations and statements for compliance with zero energy building requirements**–Energy Rating System Index, Energy conservation code, Energy use intensity, etc. are to be included in the submission. Elaborate on decarbonization and calculation of other zero energy design strategies within the design and the processes that surround it.
- Brief description of the project in (2 nos. of A4 pages).**

## GUIDELINES FOR SITE AND DESIGN PROGRAM:

Participants can choose an urban site (Tier 1 or Tier 2 cities) at a location of their choice within the following guidelines:

- Site Area should be between **5-10 acres**.
- Designed for 2000-5000 max visitor capacity/day at max peak.
- The Ground coverage should be 40%.
- Green Cover should be at least 40% of the total site area (including on ground and on building).\*
- Participants should **follow the local by-laws or the National Building Code**.
- The Design should be constructed using Green Innovative material, partially or entirely.**  
We suggest material details be featured on 1-2 slides highlighting:
- Material chosen and the reason for choosing them.
- The impact of opting for green material instead of conventional construction material, in terms of cost savings, energy efficiency, worker well-being and sustainability.

\* Visitors should use the green spaces to interact with nature and learn about sustainability; therefore Innovative and User Centric Landscape design will play a key role for Jury criteria.



## SELECTION ROUNDS

### Round One: Online Submission

Top 10 submissions will be selected from each zone

### Round Two: Regional Round

Top 10 submissions from each zone will participate in the regional round adjudged by a veteran architect.

Top 2 submissions from each zone will qualify for an industrial visit and Grand Finale.

This jury will also mentor these teams and prepare them for the grand finale

### Grand Finale and Industrial Visit

Top 2 teams from each zone get to visit a glass manufacturing plant followed by the opportunity to interact with prominent architects and present their designs

## REWARDS AND RECOGNITIONS

### Regional Round

- **Winner** - Rs 25,000 & Certificate
- **1<sup>st</sup> Runner up** - Rs 10,000 & Certificate
- **2<sup>nd</sup> Runner up** - Rs 5,000 Certificate

### National Round

- **Winner** - Rs 1, 00,000 & Certificate
- **1<sup>st</sup> Runner up** - Rs 50,000 & Certificate
- **2<sup>nd</sup> Runner up** - Rs 30,000 & Certificate

Register Now <https://www.aisglass.com/ado>

## SAVE THE DATES

Submissions for round one closes on: November

Regional Round: Mid-January

Finale: Mid- February

**Disclaimer:** The dates mentioned here may change due to unforeseen circumstances. In such cases, revised dates will be communicated. Participants are encouraged to regularly check our website and social media accounts for updates.