

 **TEAM SHUNYA**  
Building a sustainable future



# Presentation



U.S. DEPARTMENT OF ENERGY  
**SOLAR DECATHLON**



**Jury Documentation**

## Table of Contents

<b>ABOUT THE TEAM .....</b>	<b>1</b>
VISION .....	1
MISSION.....	1
OBJECTIVES .....	1
<b>TARGET GROUPS .....</b>	<b>2</b>
PROFESSIONAL ORGANIZATIONS .....	2
SCHOOL DISTRICTS .....	2
COLLEGES .....	3
LOCAL GOVERNMENTS.....	3
LOCAL MEDIA .....	3
NON-PROFITS .....	4
UTILITIES.....	4
<b>A SUMMARY OF OUTREACH ACTIVITIES .....</b>	<b>4</b>
CONVENTIONAL MEDIA .....	4
SOCIAL MEDIA .....	5
EVENTS.....	5
MARKETING ACTIVITIES.....	7
INTERNAL COMMUNICATION.....	8
PUBLIC TOUR DISPLAYS .....	8
SOCIAL MEDIA LINKS .....	<b>ERROR! BOOKMARK NOT DEFINED.</b>

## About the Team

### Vision

To revolutionize the sustainable housing industry through awareness, education and sensitization of various sectors of the Indian society in order to meet the exponentially growing demand for urban housing.

### Mission

- To bring about a change in the housing industry by transforming sustainable housing to a norm rather than a trend
- To demonstrate the feasibility and affordability of sustainable housing to various sectors of the Indian society
- To formulate and document a design process which could be replicated to create sustainable homes

### Objectives

Taking into account the team’s vision, mission and the overall competition goal of contributing to the awareness, education and sensitization of the Indian society about sustainable housing practices, the following objectives have been adopted:

- To effectively communicate the team's vision and mission to each target group while inculcating a sense of responsibility towards the environment
- To act as the medium for dissemination of knowledge among professionals, students, academia, as well as the general public about the technological advancements used by the team
- To ideate and implement creative ways of keeping our stakeholders interested through various events conducted by the team
- To effectively utilize print and digital media to inform, educate and sensitize about sustainability and renewable energy
- To create a comprehensive and consistent brand identity for Team SHUNYA

## Target Groups

The team's communication plan has been created, considering how different target groups react to different approaches. India is a diverse country in terms of social, economic and geographical aspects. It is of essence to formulate a strategy adhering to each group in particular. These target groups' cultural and intellectual capabilities have also played a significant role in conceptualising these strategies.

For the same, we have divided our audience into clearly defined target groups which are as follows. We have also mentioned the activities conducted for each target group, whose description will follow in the next section.

### Professional organizations

**Definition:** This group includes professional architects, civil engineers, urban planners, real estate developers, builders, electrical and mechanical component suppliers, and other professional organizations in the building industry.

In India, the GDP from the construction industry has averaged 2329.02 INR Billion from 2011 until 2022, reaching an all-time high of 3382.83 INR Billion in the first quarter of 2022 (a share of 7.16%). The construction industry has become an important target group for us as we aim to get as many professionals to adopt our design process and technologies as possible.

Our industry partners majorly belong to this particular group. We believe that change cannot be brought about within the industry without the support of industry leaders.

To engage professional organizations, we conducted SUSTAIN 2.0, SUSTAIN 3.0, SUSTAIN Talks, SUSTAIN Workshop, SUSTAIN Newsletter, Vivaan Exhibition and presentations in exhibitions.

### School Districts

**Definition:** This group includes school students, typically between the ages of 5-15.

This group comprises 25.61% of the Indian population. The school students will drive innovation and technology in the upcoming years, and it is essential to imbibe a sense of responsibility towards the environment at a young age. The communication strategy for this

target group has been formulated accounting for the average intellectual level and sensibilities of this age, with a differentiated message explicitly designed for this age group.

To engage school districts, we organized SUSTAIN 3.0, School seminars and competitions, National Tree Plantation Drive and Vivaan Exhibition.

## Colleges

**Definition:** This group includes graduate and undergraduate college students, typically between 16-25.

This group comprises 17.51% of the Indian population. There are about 4425 engineering colleges and 4500 polytechnic colleges in India. These colleges churn out over 1.5 million techies every year. College students form the demographic that will soon lead the nation and make important technology-related decisions and policies. The communication plan for this group will comprise strategies that would most appeal to this target group. For instance, we can leverage the youth's strong affiliation with social media to our advantage. Such strategies can be used to create a revolution among the youth, which happens to form a significant chunk of the Indian population.

To engage college students, we organized SUSTAIN 2.0, SUSTAIN 3.0, SUSTAIN Workshops, SUSTAIN Newsletter, National Tree Plantation Drive, PG Tech Weekend, UG Orientation, Collegiate competitions, Campus Ambassador Program, Trainee Program and Vivaan Exhibition.

## Local governments

**Definition:** This group includes governmental jurisdictions and policymakers of national, state, district and below levels.

In 1992, India amended its constitution to strengthen grassroots-level democracy by decentralizing governance and empowering local political bodies. The objective was to create local institutions that were democratic, autonomous, financially strong, and capable of formulating and implementing plans for their respective areas and providing decentralized administration to the people. This target group hence becomes significant for us as the revolution in the sustainable housing industry would be quite impossible without the support of government bodies and policymakers driving the change.

To engage local governments, we conducted SUSTAIN 3.0 and the Vivaan Exhibition.

## Local media

**Definition:** This group includes entities that circulate news and information at the local level in India through print and digital resources.

The media, such as newspapers, radio, television, and other means, serve the communication needs of the communities or urban areas in which they are located. It is crucial to focus on local media as a target group to influence the common masses, i.e. the homeowners in India.

We had the Planet Powai article, Good News Today telecast and article, and the IIT Bombay Campus Diaries article to engage local media.

## Non-profits

**Definition:** This group includes NGOs and non-profit entities independent of governmental influence.

Non-governmental organizations are another prominent target group, as they will help us reach the less fortunate masses of the country who do not have access to basic amenities. Since our goal is to create awareness about a more sustainable future, it is vital to involve NGOs aligning with our purpose and having access to communicate with the public.

To engage non-profits, we conducted SUSTAIN 3.0, National Tree Plantation Drive & Vivaan Exhibition.

## Utilities

**Definition:** This group includes telecommunications, electrical utilities, natural gas, certain transportation services, and water and wastewater treatment services.

This target group becomes essential as these are the people providing on-ground services. It is the need of the hour that these people understand the importance of sustainable practices and implement them in real life to drive change.

To engage utilities, we collaborated with NASA (Non-Academic Staff Association IIT Bombay).

## A Summary of Outreach Activities

### Conventional Media

Regarding conventional media publicity, an article about the team, our activities, and Project Vivaan was published in Planet Powai, the local newsletter with about 60,000+ subscribers; IIT Bombay Campus Diary, a newsletter for the 30,000+ residents of IIT Bombay. Mr Durgesh Maru, CEO of Net Zero Pro and founder of the online sustainability newsletter, 'The Net Zero Insider,' visited our construction site at IIT Bombay. They'll publish articles on the project in their upcoming newsletter edition.

We also featured on live TV through a national news channel, Good News Today, reaching about 0.3 million individuals all over India. Along with the live telecast, an article was also published on their online news channel about how IIT Bombay students are building a net-zero building inside their campus.

We also included a virtual reality tour of the house during the exhibition to enhance engagement and give an experience of navigating through the house.

Relevant Links:

- [Planet Powai Article](#)
- [IIT Bombay Campus Diaries Article](#)
- [Good News Today Telecast](#)
- [Good News Today Article](#)

## Social Media

We launched several social media series focused on sustainability to engage and educate our audience. So far, we've successfully reached over 12,000 people and counting. Our series showcases ways to improve sustainability and encourages viewers to see the world through a lens that promotes greater resilience. Some of these social media initiatives include:

- **Sustainable Sunday**, wherein we post informative content about various sustainable technologies and practices adopted around the world every Sunday through our social media platforms.
- **Curious stories**, where we post a basic question related to sustainability every Saturday.
- **LinkedIn Blogs** on the following topics:
  - [India: A renewable superpower](#)
  - [AI: Game changer in renewable energy](#)
  - [Breaking Barriers: Women's contributions to sustainable construction in India](#)

These cater to our social media audience of about 12000+ and counting. The blogs had about 2500 impressions and an average clickthrough rate of 7.2%.

Team's Social Media Links:

- Website: [teamshunya.com](http://teamshunya.com)
- Instagram: [https://www.instagram.com/teamshunya\\_iitb/](https://www.instagram.com/teamshunya_iitb/)
- LinkedIn: <https://www.linkedin.com/company/teamshunya-iitb/>
- Twitter: [https://twitter.com/TeamSHUNYA\\_IITB](https://twitter.com/TeamSHUNYA_IITB)
- Facebook: <https://www.facebook.com/profile.php?id=100063675804421>

## Events



On the occasion of the 76th Independence day, we conducted a nationwide tree plantation drive across many institute bodies and apartments of Hiranandani, Powai, in collaboration with NSS and Sustainability Cell at IIT Bombay and NGO Greenline, Technology Environment at IIT KGP, Social Service Club and Student Welfare Board at IIT Guwahati and Rotary Club at Meghnad Saha Institute of Technology. We planted over 250 plants across the country to make India green.

We conducted seminars for three schools in Mumbai: Witty International School, Children's Academy and Kendriya Vidyalaya Powai. These seminars were explicitly designed for school students aged 13-16 and focused on the importance of sustainability and renewable energy. A short quiz followed this, and the top scorers from each school were invited to IIT Bombay for an engaging debate competition. More than 2500 school students were part of this initiative.



SUSTAIN 2.0 was a series of technical workshops and sessions. About 200 engineering and polytechnic students from all over the country attended these workshops and sessions.

We conducted the third edition of our flagship event, 'SUSTAIN 3.0' with a range of events spread across different areas of sustainability and a vibrant display of industries, startups, NGOs, and many more sectors, impacting 50000+ students.

We launched our first edition of SUSTAIN Newsletter to represent the continuous efforts of the team to educate people about sustainability. The newsletter was published online, shared with the professors and deans of IIT Bombay, placed in student hostels, and shared with our Industry partners for outreach.

Starting in December 2021, we organized multiple talks called 'SUSTAIN Talks' based on current topics on sustainability by industry professionals and academic experts every month. These talks were intended for college students and were uploaded on our YouTube channel as a series. We also organized the SUSTAIN Workshops on the 21st and 22nd of May on three software with industrial experts. The workshops were conducted to teach Climate Consultant, PVsyst, and Design Builder, starting from the basics of designing different systems in the house.



Apart from this, a fun-filled tech weekend for the post-graduate students of IIT Bombay and an orientation for the undergraduate freshers of IIT Bombay was also conducted by us.



We conducted the 'Vivaan Exhibition' in which we invited various schools, colleges, NGOs, news channels, and industrialists so that they could get to know about different technologies and materials used during construction. We influenced more than 30,000 people to build a better sustainable future, and these projects demonstrate many opportunities to tackle climate change emergencies.



## Marketing Activities

**Presentations:** We gave a presentation about the team, its activities, previous projects and Project Vivaan at the following organizations:

- IIITDM Jabalpur
- ASHRAE Student Chapter, Lokmanya Tilak College of Engineering
- Construction Management Studio Course, IIT Bombay
- Energy Day (Annual Fest of the Department of Energy Science and Engineering, IIT Bombay)



**Campus Ambassador Program:** Through proper screening and observing documents, we identified the potential candidates from different institutions that will be suitable for furthering the aims and motto of the team. Students were made team representatives in their respective institutes and regions through this program. They helped in the team's outreach program and publicised the events through social media handles, posters, pamphlets, and organising competitions and challenges at the institutional level. We had 150 campus ambassadors all over India in the first and second cohorts of the program.

**Trainee Program:** We conducted a 6-month training program for about 60 freshers of IIT Bombay. The recruitment of the trainees followed this program into various subsystems of their choice. 15 Of the trainees completed the recruitment process involving assignments and interviews and are now members of Team SHUNYA.

## Internal Communication

**Alumni meet:** We met with the team members of Team SHUNYA from previous competitions to gain valuable insights on our project, discuss how we can move forward, and get tapped into their network, as most of them have established connections within the industry and academia. They gave us valuable insight into the problems they had faced during their projects and mentioned the solutions that could be put in place before the issue became significant.

**Team building and Construction training:** We also organized a few informal sessions for team building purposes. Construction safety training was also given to all team members.



## Public Tour Displays

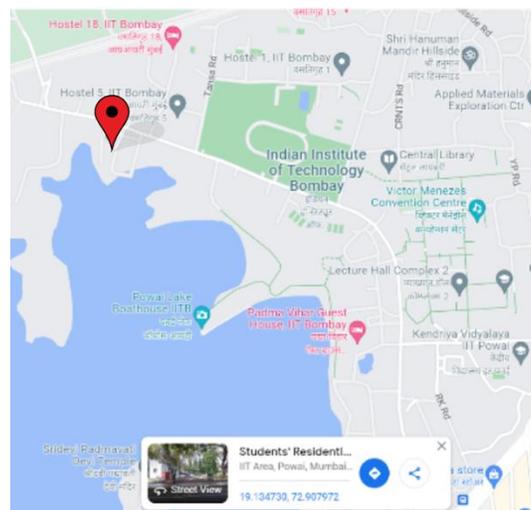


Figure 1 - Site Location & Link to the map [here](#)

### Stations and Narratives

Tour Type (Code)	Station Name	Content Description	Time (mins)
General (S1)	Courtyard	Introducing the team, details about the structure and construction of the house	2:00
General (S2)	Living Room	Explaining the materials used in the house	1:30
General (S3)	Kids Room	Description of the water management system and the innovated HVAC system	1:00
General (S4)	Balcony	Details and general capabilities of the solar PV system	2:00
General (S5)	Dining Room	Architectural concept of the house and the battery connection to meet the energy demand	2:00
General (S6)	Backyard	Showing the new automation system developed by the students, the history of the team and our collaborators	1:30
Rapid (R1)	Living Room	Introducing the team, details about the structure and construction of the house & explanation of the materials used in the house	1:30
Rapid (R2)	Balcony	Description of the water management system and the innovated HVAC system and details of the solar PV system and it's generational capabilities	1:30
Rapid (R3)	Dining Room	Architectural concept of the house and the battery connection to meet the energy demand & Showing the new automation system developed by the students and the history of the team and our collaborators	1:00