



Campus Sustainability Challenge

7th Inter IIT Tech Meet, IIT Bombay

Preamble

Matters related to sustainable development, albeit global in nature, are best handled at the local level. This line of thinking is particularly true to the higher education context, where the design and implementation of sustainability initiatives on campuses can demonstrate how a given university translates the principles of sustainable development into practice, at the institutional level. Yet, there is a paucity of specific events where a dialogue among sustainability academics and practitioners concerned with a) research projects, b) teaching and c) planning and infrastructure leading to campus greening takes place, so as to allow a transdisciplinary and cross-sectoral exchange of ideas and experiences on the issues, matters and problems at hand.

Through this challenge we wish to start campus-based research and teaching projects, regenerative campus design, low-carbon and zero carbon buildings, waste prevention, and resilient transport, among others. It will also demonstrate the role of campuses as platforms for transformative social learning and research, and explores the means by which university campuses can be made more sustainable.

The aims of this challenge are as follows:

1. To provide universities with an opportunity to obtain information on campus greening and sustainable campus development initiatives from round the world.
2. To document and promote information, ideas and experiences acquired in the execution of research, teaching and projects on campus greening and design, especially successful initiatives and good practice.
3. To introduce methodological approaches and projects which aim to integrate the topic of sustainable development in campus design and operations.

Problem Statement

- Every team will have to identify a problem on their campus addressing which could improve the campus life. The problem should address at least one of the following categories:
 - Food & Waste management
 - Water conservation



- Effective energy utilisation & management
- There will be 1 entry from team
- The teams will be evaluated on the following parameters:
 - Identification of a problem on their campus. A study of the problem providing some numbers which justify why addressing this could have a major impact
 - Proposing a solution for addressing this problem. Remember that it will be a blend of technology and it's management. The proposed solution should include all these factors and its relevant implementation plan for your campus
 - Innovation in terms of technology which is used to address the problem
 - Testing of a Proof-of-Concept for solving the problem. Some points will be awarded for the fabrication of the PoC but more weightage is for Field trials of the device/technology which will address the issue
 - Implementation of the solution on your campus
 - Analysis of the initial condition, impact of the solution, and quantification provided on how your solution actually solves the problem. Economic savings can also be a part of the analysis
- All the teams should cite the sources which they had referred to while coming up with solutions

Judging Criteria

The evaluation will be done in two phases:

Phase I :

Identification of problem and deciding upon a solution. The evaluation will be done on the basis of the mid-term report to be submitted by **1st November 2018**

This report should consist of:

- Summary of identified problem on your campus, along with supporting evidence/ data/ analysis to answer questions such as -
 - Importance of the problem and the impact that can be made by solving it
 - Monetary loss due to not solving this problem, economic parameters, payback period
 - Present technologies available (if so, pros & cons, required improvements)
- Proposed technology which will solve the problem -
 - Innovative technology or use of existing technology in an innovative method/application shall fetch additional points. However teams can use existing technology and should cite proper references for the same
 - Plan of implementation on campus



- Policy changes which along with the technology will solve the problem

Phase II :

This phase focuses on Technology Design and providing a solution.

This will contain:

- A working model as a POC (Proof of concept)
- The design of POC
- Test results, data and applicability of POC in real scenario
- In case of no working model, the detailed design is to be presented
- It should include the in-depth analysis of the proposed design
- A clear simulation of the design and the data should be present to support the feasibility of design
- The mid-term report will contribute 20% of overall points and rest will be contributed by final evaluation. The event is categorised as **High Prep** and shall yield a maximum of **400 points** towards overall tally
- This event will be judged by 3-4 professors from Centre for Environmental Science and Engineering (CESE) and Department of Energy Science and Engineering (DESE) of IIT Bombay
- Minimum Qualifying Score : 120 out of 400 (after scaling up)
- Timeline :
 - Submission of Mid-term report : 1st November 2018
 - Feedback on Mid-term report : 20th November 2018
 - Final presentation : 19th December 2018

Rules and Regulations

- A maximum of 10 participants shall be awarded participation/merit certificate. A maximum of 4 student from team will be allowed to present during tech meet. An Interdisciplinary team of people from different backgrounds is preferred
- Submission of a solution which has been previously implemented (or started) on your campus is not permitted. Such a submission will strictly entail zero points
- Mid-term report must not exceed 3 pages. The team must submit their report through the respective Contingent Leader/ General Secretary to interiit.tech@iitb.ac.in with the subject 'CSC_IITX_Midterm_2018', by **1st November, 2018**. Eg. IIT B will send with subject : 'CSC_IITB_Midterm_2018'. Submissions after 1st November 23:59 PM will entail zero points.
- The decision of the judges will be final