

ACADEMIC CURRICULA INTEGRATION PROJECT

A sub-component of the FAIRCONDITIONING Programme of cBalance and Noe21

Premise

In the building construction and the air conditioning industries terminologies like green, efficient and unconventional etc. have trickled into the lexicon of practitioners. However, this is not translated in implementation. The next generation of building professionals - architects, engineers, building consultants, energy modellers etc., are ignored when it comes to teaching them substantial, actionable knowledge on green buildings. The reason being the curricula in architecture and engineering courses taught in universities are devoid of content related to Green Building design principles, the Energy Conservation Building Code (ECBC), and Sustainable Cooling Technologies (classical and their new-age derivatives, as well as state-of-the-art). Indian students graduating from technology and architecture institutes are not sensitised to identify energy efficiency as a national and global priority.

Core Offerings

The Academic Curricula Integration Project (ACIP) will partner with architecture and engineering colleges in eight cities across India to initiate a series of workshops to foster understanding of the above subjects. The project is proposed to be executed in eight cities – Mumbai, Pune, Ahmedabad, Jaipur, Delhi, Bangalore, Chennai, Hyderabad – amongst one architecture college and one engineering college in each city. The workshops would be of two types: Training of Trainers (ToT) and Certificate Programmes. ACIP's primary objective in conducting this two-pronged set of workshops is to address the prevalent knowledge gaps that hinder the transition from preaching to practice.

Delivery Strategy

Leveraging partnerships

The programme will engage Knowledge Partners and Consultants, who will play the role of Resource Experts and who will bring insights and information on most current trends and contemporary ideas in the marketplace. Property Developers who have implemented the ideas on the ground through their building projects will also be engaged for site visits to gain first-hand knowledge.

ACIP Events are two-pronged: Training of Trainers for Academia & Certificate Programmes for Students

FOR ARCHITECTURE: What are Energy Efficient Building Design methodologies and relevant codes (ECBC etc.)? How they are designed to improve the Energy Performance Index (EPI) of commercial and residential buildings – for Architecture Programs.

FOR ENGINEERING: What are the most efficient mechanical cooling techniques outside ACs? State-of-the-art information and system level design considerations, energy and GHG emissions performance parameters, and cost-benefit analysis techniques related to efficient/sustainable Cooling Technologies including Radiant Cooling, Evaporative Cooling (Direct and Indirect), Vapour Absorption, and Natural Refrigerant based cooling – for Civil and Mechanical Engineering Programs.

What are energy performance modelling tools for buildings? How toolkits, software and other instructional material developed in-house as well as drawn from other national efforts related to Building Energy Efficiency help designers conceive energy efficient buildings. How do these concepts materialise on site?

Conducting multiple training workshops and certificate programmes

College-level steering committees comprising of faculty members will evolve topics pertaining to building energy conservation design approaches, related national codes, and technological choices in influencing efficiency that will be addressed at the workshops by marrying the content from existing curricula and ACIP's body of knowledge. Resource persons will be invited to address these topics to provide the tooling necessary for academic teachers across the region, who in turn can enrich their respective curricula so they can directly use the gained knowledge in class. Similarly, senior undergraduate students from architecture and engineering streams will be targeted for delivering certificate programmes to enhance their knowledge base.

Integrating content into Academic Curricula

By sustained conduct of the ToT workshops and certification programmes that complement academic programme curricula ACIP will facilitate to seamlessly complement existing knowledge on the issue to build capacity for teachers. During the course of the project, the partner academic institutions will transform into academic ambassadors that will propagate the knowledge across the sub-national region.

The Outcome

On project completion, an annual workshop with the academic and State educational authorities will be conducted to explore mechanisms for permanently establishing Fairconditioning certificate programmes at the state level. At a national level ACIP will eventually create a curricula integration plan in conjunction with participating professors and academicians to work towards formal curricula integration at the State Level for Sustainable Cooling Technologies and ECBC code related education. This knowledge will become a vital asset in building efficient homes and buildings for the immediate and long-term future.

Pan-India Multiple Events

Over the duration of the project sixteen ToT workshops per year in one Architecture and Engineering College in each of the 8 programme cities and eight Direct Certificate Programmes per year in one Architecture and Engineering College in 4 large programme cities: Mumbai, Pune, Delhi, Bangalore, totalling 24 workshops every year will be held. The interim goals will be to achieve sustained and self-sufficient certificate programs in 4 colleges (2 architecture and 2 engineering colleges) in each of the 8 intervention cities for 3 annual cycles leading to a total of 96 such programs being delivered across India over 3 years.

Invitation

Fairconditioning invites you as a key influencer in moulding academic and student knowledge in cooling India efficiency to partner through ACIP in any of the following roles:

- 1) An Engineering or Architecture Institution/ College/University** – Host training workshops and Certificate programmes in your institution to impart knowledge on sustainable cooling practices to the academic community and students.
- 2) A Resource person/Faculty Member of a college** – Conduct or participate in training and certificate programmes for the academic community in the partner institutions of the ACIP project.
- 3) A Practitioner** – Facilitate site visits or modelling exercises as part of the training and certificate programme aimed at architecture and engineering academic institutions.

CONTACT

Nitin Pasricha Project Manager nitin@cbalance.in +91-9540.2222.72	Khushal Matai City Manager (Delhi/Jaipur) khushal@cbalance.in +91-9414.4040.24	Shreya Mundhra Project Assistant shreya@cbalance.in +91-9637.8717.13
---	--	--