

Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India) Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. Telangana, India



Centre for Climate Change Division

Continuing Professional Development Programme Climate Change and Its Impacts on the Energy Sector 04 – 06 June 2025

Interactive Sessions | Digital Learning | Assessments | 24/7 Experts Online/Offline Support

Introduction

Climate change is profoundly affecting energy systems worldwide. Rising temperatures, shifting precipitation patterns, and extreme weather events pose significant challenges to both energy supply and demand. Power generation, transmission infrastructure, and energy security are increasingly vulnerable to climate-related risks, requiring urgent adaptation and transition strategies. This CPDP aims to bridge the knowledge and capacity gaps among energy professionals, policymakers, and infrastructure planners by addressing the interplay between climate change and the energy sector. It will focus on risk assessment, climate-resilient infrastructure planning, clean energy transitions, and policy interventions required to ensure sustainable and secure energy futures. Participants will engage with leading experts, case studies, and practical tools for understanding climate-energy linkages, assessing vulnerabilities, and formulating actionable strategies for adaptation and mitigation in the energy domain.

Objectives

This CPDP program provides insights into the scientific basis of climate change and its impacts on the energy sector. Participants will assess vulnerabilities of energy infrastructure to climate-induced hazards like floods, droughts, and heatwaves. The program explores shifting energy demand patterns, mitigation strategies such as renewable energy transitions, and energy efficiency improvements. It highlights emerging low-carbon technologies, climate-resilient innovations, and relevant policy and regulatory frameworks. Attendees will learn to integrate climate risk assessments into energy planning and promote cross-sectoral coordination. The goal is to build capacity for developing adaptive, sustainable, and climate-resilient energy systems to address current and future challenges.

Course Coverage

This programme is designed to cover broadly the following topics:

Basics of Climate Change: Trends, Drivers, and Global Context, Energy Sector Contributions to GHG Emissions, How Climate Change Impacts Energy Infrastructure and Operations.

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- Climate-Induced Hazards: Floods, Heatwaves, Sea-Level Rise, Droughts, Risk and Vulnerability Mapping Techniques, and Tools and Frameworks for Energy Sector Risk Assessment.
- Adaptation Strategies for Resilient Energy Systems: Resilient Energy Infrastructure Planning, Disaster Risk Reduction in Energy Utilities, and Decentralized and Nature-Based Energy Solutions.
- Low-Carbon Transition and Renewable Integration: Overview of Renewable Energy Technologies, Barriers and Enablers of Energy Transition, and Electrification of Transport and Industrial Sectors.
- Innovations and Emerging Technologies: Smart Grids, Energy Storage, and IoT Applications, Hydrogen and CCUS (Carbon Capture, Utilization & Storage), and Use of GIS & AI in Climate-Smart Energy Planning.
- Policy Frameworks & Governance: National Climate and Energy Policies (e.g., India's NDCs, SDG 7, Mission Innovation), Role of Regulatory Bodies and DISCOMs, and International Agreements (Paris Agreement, COP updates).
- Climate Finance and Investment Planning: Financial Mechanisms for Resilient Energy Projects, Role of International Development Agencies and Green Bonds, and PPP Models and ESG Frameworks.
- Cross-Sectoral Coordination: Energy-Water-Urban Nexus, Institutional Mechanisms for Multi-Stakeholder Coordination, and Community Engagement and Behavior Change.

Methodology

Methodology of the programme includes classroom Sessions with Lectures/discussions, with audio visual aid; bench - marked video shows, Chalk & Talk sessions, group discussions, case studies, debates, sharing of experiences, etc. All the sessions will be interactive, demanding active participation from all the participants.

Target Participants

This CPDP is tailored for professionals and decision-makers engaged in energy sector development, climate resilience planning, and sustainable infrastructure. Participants include engineers and managers from power generation, transmission, and distribution companies; renewable energy experts and energy planners; officers from energy departments, DISCOMs, and nodal agencies; and policy makers in the energy and environment sectors. It also welcomes professionals from electricity boards, climate consultants, urban local body officials, Smart City mission staff, project developers, utility managers, consultants working in the climate sectors, academicians, and researchers.

Programme Dates, Timings & Code

Dates: 04 -06 June 2025, Timings: 10 AM Onwards. & Code: 8063

Course Director

Dr. K. Chandrakala, Faculty, Centre for Climate Change Dr. Aadhi Naresh, Jr. Faculty, CCC Engineering Staff College of India, Phone: Direct 040 6630 4164, Fax: 040 - 6630 4163, Mob: 94948 72533 Email: ccc@escihyd.org

Faculty/Speaker Details

Apart from the core internal faculty, experienced professionals/faculties/sector experts will be delivering the lively lecture with practical knowledge & case study.

Course Fee

- Course Fee (Residential): Rs. 18,000/- (Rupees Eighteen Thousand only) per participant. Fee includes course material, course kit, twin-sharing/single AC accommodation as per availability, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme. ESCI provides complimentary accommodation and boarding to the participants one day before commencement (Check-in 1200 h) and one day after conclusion (Check-out 1200 h) of the programme duration. Overstay charges will be applicable as per ESCI rules (subject to availability of accommodation)
- > Non-Residential Fee: 10% discount on course fee is allowed for non-residential participants
- Group Incentive: 10% discount for five or more participants, if sponsored by the same Organization

GST @18% is to be paid extra over and above the training fee. PAN Card No. AAATT3439Q.
GST No:36AAATT3439Q1ZV, HS No.: 999293 (under commercial training or coaching services – clause 65(105) (ZZC) of Finance act – 1994).

Programme fee is to be paid in in favour of "THE INSTITUTION OF ENGINEERS (INDIA) – ENGINEERING STAFF COLLEGE OF INDIA" in the form of demand draft payable at Hyderabad. Alternatively, the payment may be made by Electronic Fund Transfer (EFT) to ESCI – SB A/c No. 10007111201 with The SBI, PBB, Rajbhavan Road Branch, Khairatabad, Hyderabad-500004 by NEFT/ RTGS. IFSC Code No. SBIN 0004159 – MICR No.500002075. PAN Card No AAATT3439Q; GSTIN No. 36AAATT3439Q1ZV. While using EFT method of payment, please ensure to communicate us your company name, Contact details, our invoice reference and programme title.

Registration

Online registration shall be available on ESCI web portal: www.escihyd.org

To register manually please send your nominations giving details of name, designation, contact address, email address, mobile no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to: Course Director (or) Contact us at: Mr. GNM. Rao (Prog. Manager) – 9866431555.

Each participant will receive a Certificate of Participation upon program completion.

Centre for Climate Change, Engineering Staff College of India Gachi Bowli, Hyderabad – Telangana 500 032 Phone: 040 – 66304164, Fax: 040 – 66304163, Email: ccc@escihyd.org, web portal: www.escihyd.org