

Discussion Report: Tie-up between Engineering Colleges and Electricity Sector institutions in Kerala

Date: 16/08/2023

Time: From 11.30 am to 6.00 pm

Location: Seminar Hall, KSEB Limited Vydyuthi Bhavan, Kottappuram, Thrissur.

Attendance: List of participants is given in Annexure I.

Objective: The objective of the meeting was to have a primary interaction between Electrical Departments of Engineering Colleges in Thrissur and Palakkad District, KSEBL and KSERC.

The meeting commenced with a welcome speech by the Secretary of KSERC, Shri Satheeshchandran C R. He extended a heartfelt welcome to all attendees, which included representatives from colleges, KSEBL employees, and startups in the Energy Sector. He highlighted that a similar meeting had been held with the Engineering Colleges of Thiruvananthapuram on June 22, 2023, and with those of Ernakulam on July 21, 2023. Following the welcome address, he invited participants to introduce themselves.

The Chairman, KSERC, in his keynote address expressed sincere gratitude to everyone who took the time to join the meeting and highlighted the importance of collaboration between KSERC, Engineering Colleges, and KSEBL. The purpose of this tie up and collaboration, as explained by the Chairman, is to promote action research and policy research in the energy/electricity sector. He emphasised the importance of looking beyond the confines of the syllabus in professional education as envisaged in the NEP 2020. He also noted that the rising job opportunities in the IT and banking sectors have led to a decrease in the interest of individuals in fields such as Electrical and Electronics Engineering (EEE), Civil Engineering, and Mechanical Engineering departments. He also mentioned that by harnessing the potential of both teachers and students, significant advancements can be made in every sector. He also shared his perspective on leveraging the potential of the alumni.

The Chairman emphasised the importance of engaging in projects related to the advancement of new battery technologies. He also noted that in order to achieve net-zero emissions, the promotion of renewable energy is crucial.

A presentation made by KSERC interns, describing the roles, responsibilities, and functions of KSERC. This included an overview of the regulatory body's mandate and its role in overseeing the electricity sector in Kerala. Following that, a brief introduction of the Central Electricity Regulatory Commission (CERC) was provided, highlighting its significance as the apex regulatory body at the national level. The process of forming regulations was explained, outlining the steps involved in developing and implementing regulatory frameworks in the energy sector. The existing tariff structure in Kerala was also discussed, providing an overview of the rates and charges applicable for electricity consumers in the state. The presentation also touched upon the concept of distribution licensees, explaining their role and responsibilities in the distribution and supply of electricity to end consumers.

The main objective of the collaboration between KSERC and the engineering colleges was clearly explained, as follows

1. Research and development initiatives
2. Conducting training programs and workshops
3. Facilitating internships and industrial visits
4. Collaborating on curriculum development

These ideas aimed to promote knowledge sharing, and skill development among students and faculty members. The PPT is given as Annexure II.

Next was a presentation conducted by Kerala State Electricity Board Ltd. (KSEBL), significant emphasis was placed on the importance of the electrical grid and its infrastructure. The current power scenario in Kerala was highlighted, providing insights into the state's energy landscape. KSEBL officials elaborated on the evolving scopes of various engineering branches over different time periods. They also pointed out that the challenges encountered during energy transitions will lead to new opportunities. During the presentation by KSEBL, the main issues faced by the organisation were discussed. These included challenges such as aging

infrastructure, integration of Distributed Energy Resources (DERs) and Renewable Energy (RE) sources, development of expert systems to identify evolving faults, predicting optimal and economic maintenance schedules with minimal outages, grid stability and frequency control, grid resilience and reliability, energy storage and grid flexibility, grid security, and cybersecurity, as well as power quality issues. The PPT is given in Annexure III.

Shri. Ajay Basil from AASET, Kalady, shared insights into their journey of establishing startups.

The Chairman emphasised that students should strive to become self-sufficient even during their graduation. He also stressed the importance of spreading positive messages beyond our immediate boundaries and advocated for policies that promote entrepreneurship across all sectors.

Shri. Jibin Jose, Nodal Officer (IEDC) from Sahridaya College of Engineering is an Engineering college situated in Kodakara, Thrissur highlighted several achievements of his students. He also pointed out that many of the student projects have the potential to be patented and commercialised. However, the lack of funding remains a challenge. He emphasised the critical importance of establishing effective connections between innovators and business professionals.

Dr. Rajan P, Director of In-SDES, elaborated on their efforts to encourage student entrepreneurship in the business sector. He highlighted that Kerala has shown limited interest in entrepreneurship, citing the low participation in the conclave they organised to promote student entrepreneurship. He also shared his recent encounters with student entrepreneurs working on innovative ideas related to soft rubber, rocket fuels and prediction of earthquakes.

Dr. G. Muruganath, Professor and Head of the EEE Department at Ahalia School of Engineering & Technology (ASET), Palakkad, highlighted the significance of academic freedom in colleges. He also underscored the added importance of focusing on first-year students and suggested the establishment of energy management centres in colleges to promote energy conservation practices. He also shared his experiences in various business domains.

Shri. Vishnu Gopan K, Assistant Professor at Universal Engineering College (UEC), emphasised the limitations of a syllabus-based education system, stating that it might not effectively enhance students' technical knowledge. He stressed the need to focus on providing fundamental knowledge and practical experience to students, placing greater emphasis on hands-on learning rather than just theoretical knowledge.

Dr. Mini V, Associate Professor at Government College of Engineering Palakkad, discussed the challenges they encounter due to the limited number of postgraduate courses, hindering their research efforts. She also highlighted the importance of assigning more projects to undergraduate engineering students to enhance their practical learning experiences.

Shri. Vipin Padmanabhan, Assistant Professor at Thejus Engineering College, Erumappetti, highlighted the lack of interest among students in Electrical Engineering. He encouraged both students and teachers to think creatively and innovatively to achieve success beyond conventional boundaries.

Dr. Mary P. Varghese, Associate Professor and Head of the EEE Department at Vidya Academy of Science & Technology, Thrissur, suggested the implementation of paid internships for students in KSEBL. She also emphasised the need for modifying the syllabus to prioritise practical learning aspects.

Shri. Jinesh K J, Assistant Professor at Jyothi Engineering College, Cheruthuruthy, Thrissur, highlighted the significance of collaborative projects with KSEBL. He also pointed out that funding remains a persistent challenge in many of the initiatives.

Shri. Jerin George K, Head of the EEE Department at MET'S Engineering College Mala, Thrissur, also raised concerns about the limitations of the syllabus.

Bose Jacob, Registrar of In-SDES, indicated that the organisation was established in 2015 with distinct goals for promoting sustainable development in the energy sector. At present, their primary focus lies on conducting training programs and offering consultancy services through EMC and ANERT. Additionally, they have organised five-day internship programs for college students.

Dr. Rajan P, Director of In-SDES, shared his experience of transforming a B-school into an E-school (Entrepreneurship School) with the aim of promoting entrepreneurship. He discussed the limited availability of seats and emphasised the significance of marketing and funding for promising project ideas from engineering colleges. Additionally, he acknowledged that Dr. Thoman George played a pivotal role in shaping this concept. He also elaborated on how they effectively utilise students by offering them extensive experience opportunities.

Next Steps:

It was decided that the next meeting would be scheduled as an online meeting.

Annexure I

CONTACT DETAILS OF MEETING BETWEEN COLLEGES AND KSERC AT ERNAKULAM 21-07-		
SI No.	NAME	COLLEGE
1	Vipin Padmanabhan HOD-in-charge, EEE	Thejus Engineering College, Erumappetti
2	Jinesh K J Assistant	Jyothi Engineering College, Cheruthuruthy
3	Dr. G. Muruganath Head of the EEE	Ahalia School of Engineering & Technology (ASET), Palakkad
4	Ajay James Associate Professor	Government College of Engineering, Thrissur
5	Dr. Mini V Associate Professor	Government College of Engineering, Palakkad
6	Dr. Mary P. Varghese Associate Professor, HoD	Vidya Academy of Science & Technology, Thrissur
7	Alias K.V HoD,	MET'S School of Engineering
8	Bose Jacob Registrar	InSDES, Shoranur
9	Dr. P. Rajan Director	InSDES, Shoranur
10	Subhash P	InSDES, Shoranur
11	Ajay Basil Nodal Officer	AISET, Kalady
12	Dr. John Chembukkavu HoD, EEE	IES College of Engineering
13	Majeendran K Mechatronics Dept	Jyothi Engineering College
14	Sebin Davis K Electrical Department	Sahrdaya College of Engineering
15	Jibin Jose Nodal Officer, IEDC	Sahrdaya College of Engineering
16	Jerin George K HoD,	MET'S School of Engineering, Mala
17	Vishnu Gopan K Assisstant Professor	Universal Engineering College (UEC)