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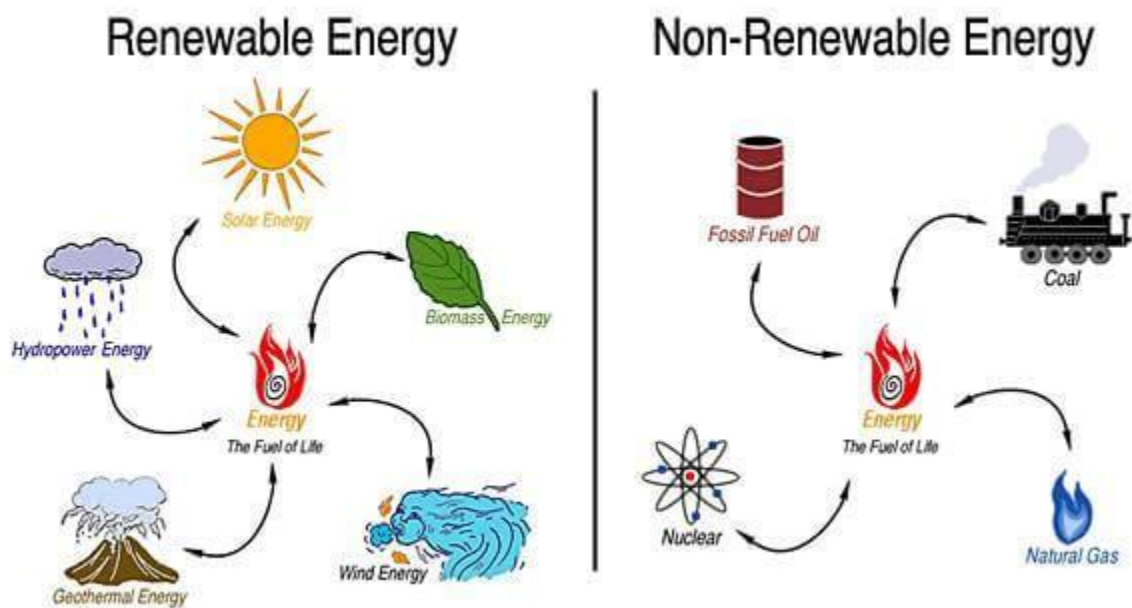


# WORKSHOP REPORT

*In the title of*

**“MICROGRID TECHNOLOGY FOR RENEWABLE ENERGY  
SYSTEMS” ON**

**04<sup>th</sup> NOVEMBER 2022**



**Organized by**

**Department of Electrical and Electronics Engineering**

**KINGS COLLEGE OF ENGINEERING, PUNALKULAM**

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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**  
**ACADEMIC YEAR (2022-2023) ODD SEM**  
**REPORT ON ONE DAY WORKSHOP**

**Title of the Workshop** : “Microgrid Technology for Renewable Energy Systems”

**Date** : 04.11.2022

**Resource Person** : 1. Dr.S.Sivakumar, Vice Principal & Head T&P, KCE  
2. Mr.J.Arokiaraj, AP/EEE, KCE  
3. Ms.A.Prabha, AP/EEE, KCE  
4. Dr.R.Arulraj, AP/EEE, KCE

**No of students participate** : Internal participants : 18  
External participants : 61  
Total No. of Participants: 79

**Objectives of Workshop** : To provide knowledge and exposure to students about:

- Maximize the amount of renewable energy consumed
- Minimize greenhouse gas emissions
- Minimize fuel consumption to reduce dependency on fuel imports
- Maximize overall economic benefit
- Operate at the highest possible level of reliability



*Welcome address by Mr. S.R.Karthikeyan, AP\EEE*



*Felicitations Address by Dr.S.Sivakumar, Vice Principal*

**Dr.S.Sivakumar, Vice Principal** delivered the Presidential Address. He emphasized that; this workshop will provide more knowledge about the various technical skills and the future scope for electrical engineers. He insisted the students to ask more doubts and have a clear idea about the microgrid and renewable energy systems.



*Session Introduction by Dr.Albert Martin Ruban, HOD/EEE*

**Dr.Albert Martin Ruban, HOD/EEE** gave a brief introduction about our Resource persons and over view of sessions.

**Session: 1**

**Title:** Power Grid Structure in India

**Resource Person:** Dr.S.Sivakumar, Vice Principal

### **The following points were discussed during the session 1:**

- The Indian Power system for planning and operational purposes is divided into five regional grids.
- The largest power producer in India.
- The Grid has four major components: electricity generators, transmission lines, distribution networks, and consumer use.
- The list of the top companies in Indian Electricity & Power Sector.



Snapshot of Session: 1

### **Session: 2**

**Title:** The Combined Economic Emission Dispatch in Microgrid Using Renewable Energy Systems

**Resource Person:** Ms.A.Prabha,AP\EEE

### **The following points were discussed during the session 2:**

- Microgrid is one of the advanced small-scale centralized electricity systems and it usually contains energy storage resources, Distributed Generation (DG) units, and loads
- Generating energy that produces no greenhouse gas emissions from fossil fuels and reduces some types of air pollution
- Eliminating fuel costs lowers the cost of the electricity produced
- Microgrid can improve customer reliability and resilience to grid disturbances



Snapshot of Session: 2

### Session: 3

**Title:** Optimal Distributed Generation Planning in Distribution Network

**Resource Person:** Dr.R.Arulraj, AP\EEE

**The following points were discussed during the session 2:**

- The most basic power system components are generators, transformers, transmission lines, busses, and loads.
- The optimal size of DG is calculated at each bus using the exact loss formula and the optimal location of DG is found by using the loss sensitivity factor.
- The proposed technique is tested on standard 33-bus test system and the obtained results are compared with the exhaustive load flows.



Snapshot of Session: 3

## Session: 4

**Title:** Hands on session at Renewable Energy Lab

**Resource Person:** Mr.J.Arokiaraj, AP\EEE

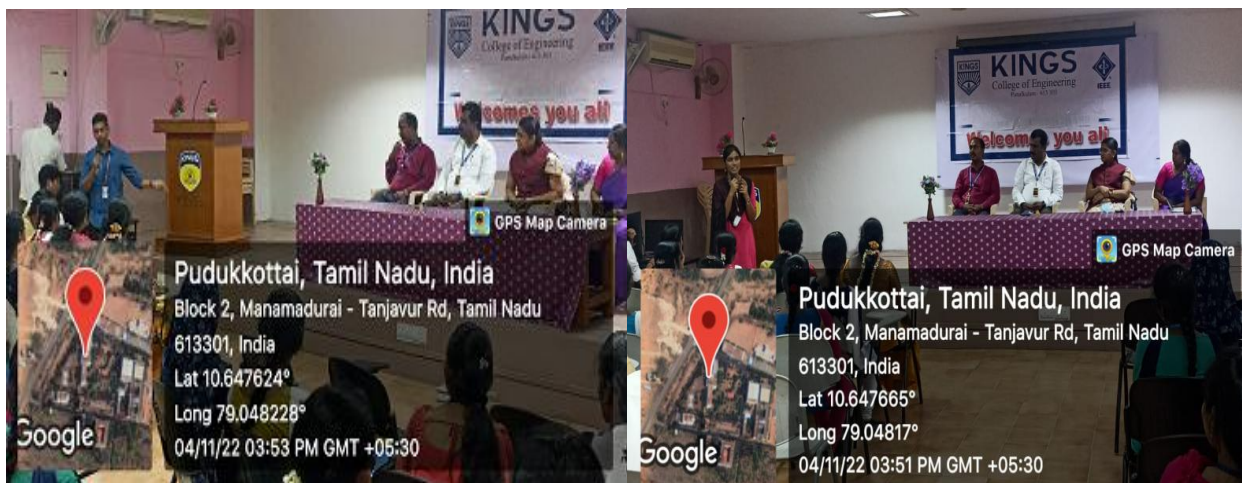
**The following points were discussed during the session 2:**

- Renewable Energy Lab focuses on designing, testing, and disseminating renewable and efficient energy system.
- The mission of REL is to help these technologies to realize their full potential to contribute to environmentally sustainable development in industrial and developing countries.



Snapshot of Session: 4

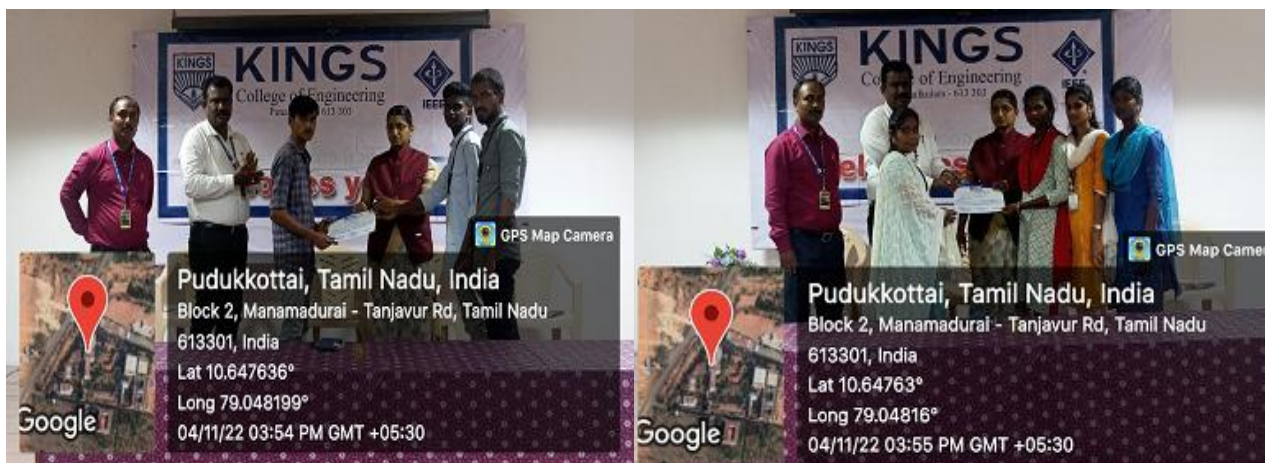
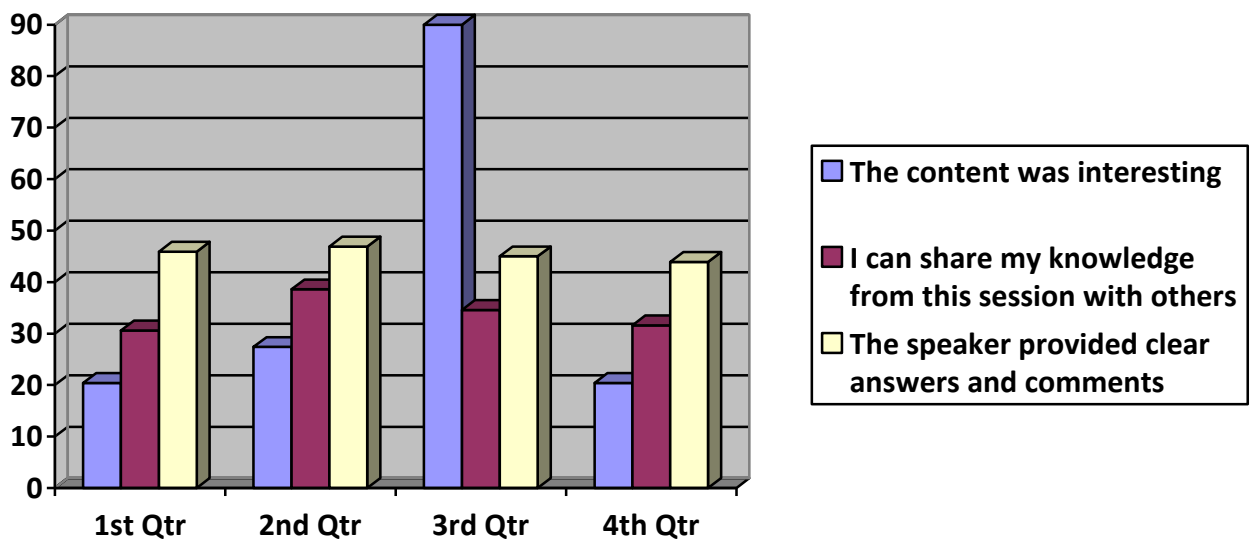
After the sessions was completed, Feedbacks were collected from the students to know their opinion about the Workshop.



Feedback from student

## FEEDBACK ANALYSIS REPORT

S.NO	CONTENTS	EXCELLENT	VERY GOOD	GOOD	SATISFIED
1.	The content was interesting	35	15	10	09
2.	I can share my knowledge from this session with others	30	30	15	04
3.	The speaker provided clear answers and comments	35	15	10	09



***Students receiving the workshop completion certificate from the Principal.***

Finally, Event coordinator Mrs.P.Thirumagal, AP/EEE delivered the vote of thanks. Thus the Workshop ended with National Anthem successfully.

**OUTCOME:**

- At the end of the Workshop, students gathered more knowledge about the availability of job opportunities in Power grid Systems and in our core field.
- Students gained various technical skill sets needed regarding placement. Thus we created the way to get into the MNC through the technical skills in our core field.
- Students get more knowledge and exposure on microgrid technologies and renewable energy areas.

P. Anil / 8/11/22  
P. I. Ananthu /  
8/11/22

**Coordinators**

A. Ananthu / 8/11/22

**HOD/EEE**

J. Ananthu / 10/11/2022

**PRINCIPAL**