



**Report Alumni Guest Lecture On**

**“Career Pathways in the Energy Industry: From Graduate to Industry Leader”**

**Organised by Department of Electrical & Electronics Engineering**

**Date: 13.03.2025**

**Time: 10.30 AM**

**Venue: WB220**

**Organized in association with: Alumni Welfare Association & IIC, MITS-Madanapalle**

**Submitted by: Mr. M. Venkatesh, Dept. Alumni Coordinator & Assistant Professor, Dept. of EEE**

**Attendance: 60 participants including faculty.**

**Faculty attended:**

1. Dr A V Pavan Kumar - HoD/EEE
2. Mr. M. Venkatesh - EEE Dept. Alumni Coordinator
3. Dr.R.Kiran Kumar -Alumni Relationship Officer

**Students Attended: EEE: 57**

**Recorded Link: <https://11nq.com/DZlxd>**

**Venue: WB220**

The program began at 10:30 AM with a warm welcome address to all participants and the resource person, **Mr. Akkenaguntla Karthik, Energy Markets Analyst at ICF, Bengaluru, Karnataka, by Dr. A.V. Pavan Kumar**, Head of the Department, Electrical and Electronics Engineering (EEE) at MITS, Madanapalle.

Following the welcome, a brief introduction to the resource person was provided by **Mr. M. Venkatesh**, Assistant Professor in EEE. After this, the session was handed over to **Mr. Akkenaguntla Karthik, Energy Markets Analyst in ICF, Bengaluru, Karnataka.**

**Mr. A. Karthik** began his session by expressing his heartfelt gratitude to the participants, the organizing team, Dr. A.V. Pavan Kumar, the Head of Department, the Principal, and the Management of MITS Madanapalle for the opportunity to share his insights and experience on “**Career Pathways in the Energy Industry**”.

The resource person covered a range of topics related to career pathways in the energy industry, with a focus on data analysis tools, energy simulation software, and industry-standard programming languages. He emphasized the importance of tools like:

1. **MATLAB:** Used for simulations, modelling, and data analysis in energy systems.
2. **HOMER Energy:** A software tool for optimizing the design of microgrids and integrating renewable energy sources.
3. **PVsyst:** A tool for solar energy system design and analysis, crucial for careers in the renewable energy sector.
4. **Simulink:** For dynamic modelling of electrical systems, including power generation and distribution.



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- 5. EnergyPlus:** A simulation software for energy modelling in buildings, which is critical for energy efficiency and sustainable building design.

**Mr. A. Karthik** started by discussing the foundational skills required to secure a job in core energy industries, followed by strategies for sustaining and advancing careers in this ever-evolving field.

The following topics were interacted with students to update their basic skill sets to meet the corporate requirement.

1. Overview of the Energy Industry
2. Career Pathways in the Energy Sector
3. Energy modelling
4. Techno-Economic optimization models
5. Forecasting and machine learning
6. Energy modelling software
7. Carbon markets
8. Environmental social and governance
9. Technological Innovations and Future of Energy Careers
10. Career Development Strategies
11. Opportunities in Emerging Markets
12. Case Studies and Success Stories

**Program outcome:**

1. Graduates gained a deeper understanding of career opportunities, trends, and innovations in the energy sector, including the shift to renewable energy and the impact of digital transformation.
2. Attendees learned about essential skills and qualifications needed in the industry, as well as the importance of continuous learning, mentorship, and networking for career growth.
3. Real-world examples of industry leaders inspired graduates, showcasing potential career paths and the value of resilience, adaptability, and strategic decision-making.
4. The event facilitated connections between graduates, alumni, and industry professionals, promoting valuable relationships and future career opportunities.
5. Attendees developed interest in new energy sectors such as sustainability, renewables, and tech-driven careers, highlighting the growing demand for skilled professionals in these areas.
6. The event emphasized the importance of diversity in the energy sector, encouraging graduates to contribute to creating more inclusive and innovative industry environments.

The session concluded with the vote of thanks given by **Mr.M. Venkatesh, AP/EEE**. I would like to take this opportunity to thank the Management, Principal, Vice-Principals, HOD and all the people who directly and indirectly involve in organizing this event.

**Photos:**



# MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE (UGC-AUTONOMOUS)



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**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE**  
(UGC - AUTONOMOUS INSTITUTION)  
Madanapalle - 517325, Annamayya Dist., Andhra Pradesh, India

**An Alumni Guest Lecture**

on

**"Career Pathways in the Energy Industry: From Graduate to Industry Leader"**

Organized by  
**Department of Electrical & Electronics Engineering**  
In Association with MITS AWA & IIIC

Date : 13-03-2025 Time : 10.30 AM Venue : WB220 (Virtual)

**Resource Person**  
**Mr. Akkenaguntla Karthik**  
Energy Markets Analyst  
ICF, Bengaluru, Karnataka.

Chief Patron: Dr. N. Vijaya Bhaskar Choudary  
Patron: Mrs. Keerthi Nadella  
Program Chair: Dr. C. Yusraraj  
Chief Convener: Dr. A.V. PAVAN KUMAR  
Convener: Mr. M. Venkatesh  
Alumni Relation Officer: Dr. R. Kiran Kumar

Secretary & Correspondent: Executive Director  
Principal: Professor & Head /EEE  
Assistant professor/EEE: Assistant Professor/ECE

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## Electricity Growth Drivers

India is placed as the most promising economy on the global map:

- Industrialization**
  - High GDP growth of about 8% expected to drive electricity
  - Core sector, Traction, EV, Cooking will drive electricity consumption
- Rapid urbanization/ Rural Electrification**
  - 17 of 20 world's fastest growing cities in India
- Consumer demand growth**
  - Last mile connectivity - Power on 24x7 basis
  - FY22 Energy Consumption Growth
- Power Demand Projection for FY 23-30**
  - Till FY 27 Electricity intensity factor of 90% over projected GDP growth
  - FY 28 onwards - CEA demand growth projections
  - Expected to grow at CAGR of 6%

## Carbon Markets

- Pricing the carbon emission and trading of the Carbon Credit Certificates.
- Carbon Credit Trading Scheme is being in India by BEE.

**eki**  
STEERING THE PLANET TO NET ZERO

## Energy Modelling

- Modelling
- Techno-economic optimization models
- Forecasting
- Machine learning

## Power Exchange - Short Term Market

Transaction Type	FY22 Volume (BU)	% Share in Short Term	% Share in Generation
Bilateral	60	32.1%	4.5%
Direct	21	11.0%	1.6%
Trader	40	21.1%	3.0%
PXs	102	54.3%	7.7%
DSM	25	13.5%	1.9%
Total Short Term	187		14.1%
Total Generation*	1321		

Source: CERC MMC Report\* Generation excluding renewables and captive





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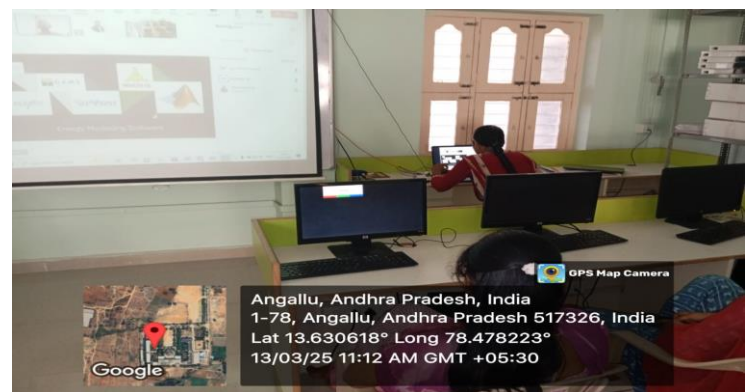
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**Power Exchange Companies**

**Gas Exchange Companies**

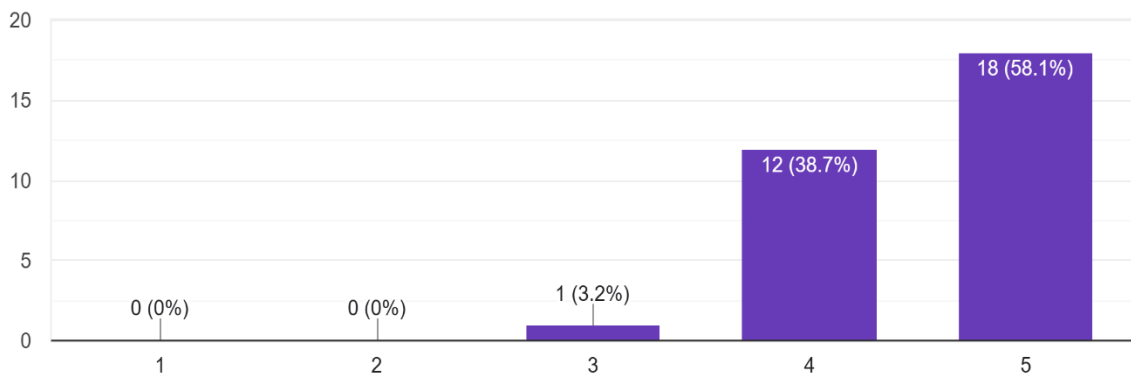
**Policies, Regulations and Research**



## Feedback:

1. The interactive session was scheduled at a suitable time

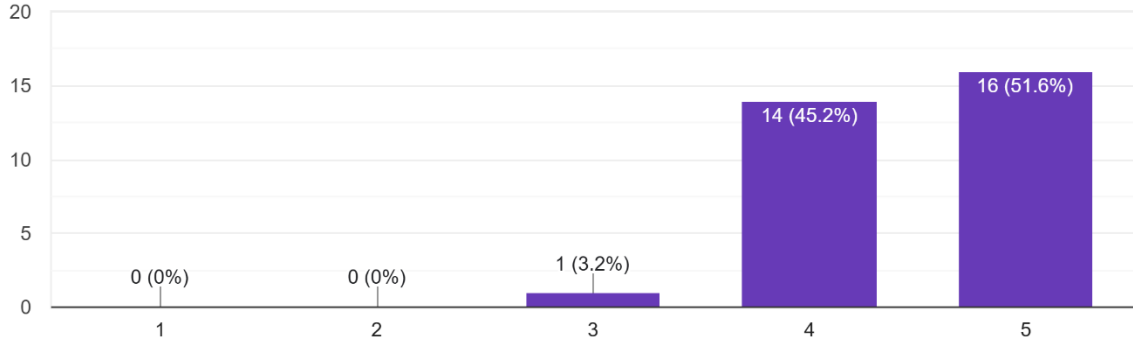
31 responses





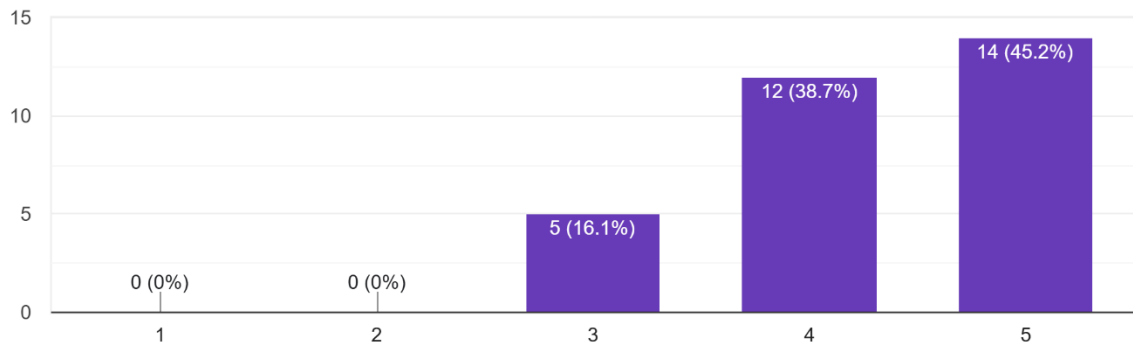
2. The interaction was useful and resource person explanation.

31 responses



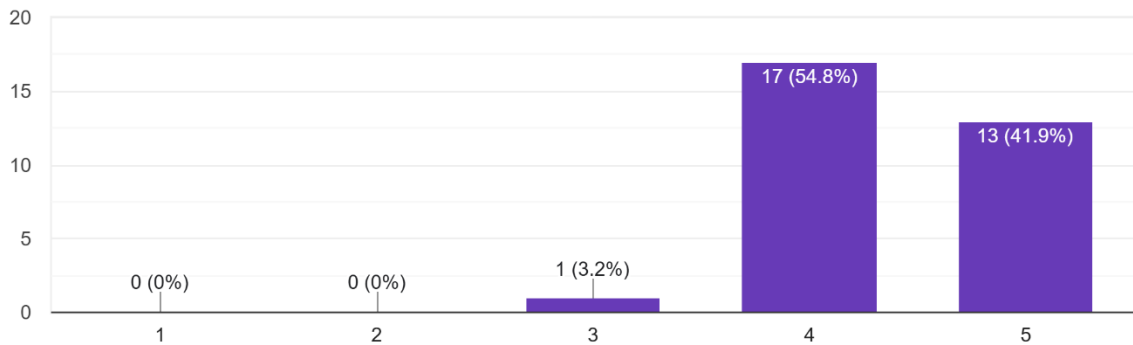
3. The information in the interaction was presented in a clear and organized manner.

31 responses



4. The presenter responded to questions in an informative, appropriate and satisfactory manner.

31 responses





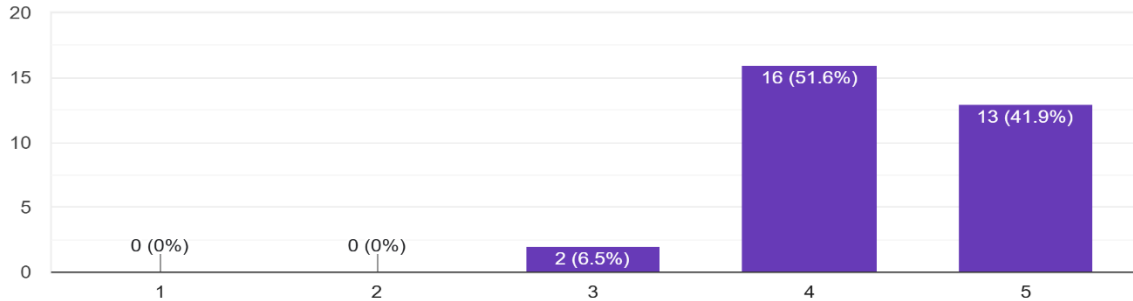
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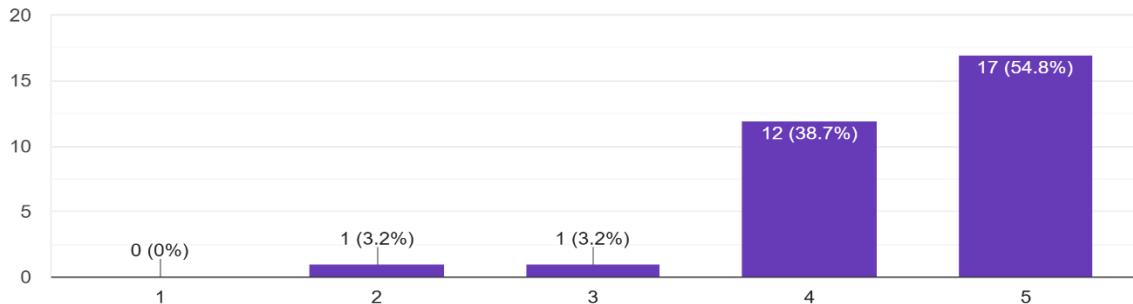
5. your impression of facilities provided by the institute for interaction.

31 responses



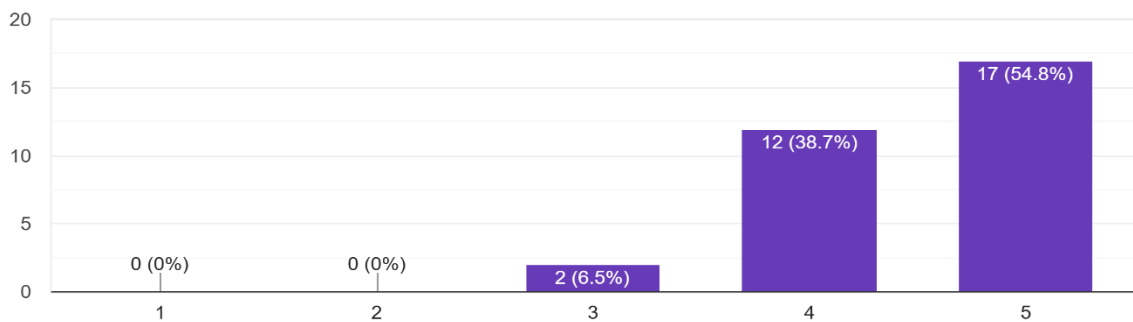
6. Overall, the session was informative and valuable.

31 responses



7. In what ways could this interaction have been improved to better suit your needs?

31 responses



Signature of the Coordinator

Signature of HoD, EEE