SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY
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17.3.7 – REPORT OF SDG 7

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AFFORDABLE AND CLEAN ENERGY



Events Conducted

- Energy Conservation Awareness Rally
- Awareness Program: Smart Grids and Renewable Energy Resources for School Students
- Go-Kart Electrical System Design Challenge For A Low-Carbon Economy

ENERGY CONSERVATION AWARENESS RALLY – REPORT

CIRCULAR

16.12.2024

As part of the Energy Conservation Week Celebrations, the SKCET Energy Audit Cell, in association with the Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Coimbatore, will organize an **Energy Conservation Awareness Rally** on **19.12.2024** with the theme “Save Energy for an Optimal Future”. The rally will create awareness among the residents of Kuniamuthur and Kovaipudur and will cover about 1.5 km, starting from the SKCET Campus and ending at Kovaipudur.

In this regard, all the students of the Department of Electrical and Electronics Engineering (EEE) and the concerned faculty members are requested to participate in the event.

Dr. K.C. RAMYA, M.E.,Ph.D.,
Professor & Head
Department of Electrical and Electronics Engineering
Sri Krishna College of Engineering and Technology
Coimbatore - 641 008.

Copy to:

1. To all Heads of the Departments
2. Notice Board

INVITATION



REPORT

S.No	Date of Event	Name of the Event	Department Organized	Event Coordinator	Target Participants
1	19.12.2024	Energy Conservation Awareness Rally	EEE, with SKCET Energy Audit Cell and TANGEDCO, Coimbatore	R.Geethamani, AP/EEE	EEE students and faculty

As part of the Energy Conservation Week Celebrations, the SKCET Energy Audit Cell organized an “Energy Conservation Awareness Rally” in association with TANGEDCO, Coimbatore, on 19.12.2024 under the theme “Save Energy for an Optimal Future”.

A total of 147 students from the Department of Electrical and Electronics Engineering took part. They spread the message through slogans and by distributing pamphlets on energy-saving measures to the residents of Kuniamuthur and Kovaipudur.

The students walked about 1.5 km, from the SKCET Campus to Kovaipudur. The rally was flagged off by **Er. M. Subramanian**, Superintending Engineer – CEDC, TANGEDCO,

Coimbatore, and **Dr. K. Porkumaran**, Principal, SKCET. The TANGEDCO officials appreciated the enthusiasm, discipline and commitment of the students.

KEY AWARENESS THEMES

The students carried slogans and pamphlets on five energy conservation themes:

1. Self-awareness on energy saving
2. Global initiatives towards sustainable energy
3. Practicing green energy concepts
4. Brightening lives with optimal lighting
5. Efficient energy storage

#SaveEnergy #SaveMoney #SaveNation #SavePlanet

OBJECTIVE

The Energy Conservation Awareness Rally was organized to promote responsible energy use and sustainable living. It aimed to educate students and the residents of Kuniamuthur and Kovaipudur about saving energy, cutting wastage, and adopting efficient lighting and green energy practices. The rally also sought to encourage community participation and to inspire individuals to contribute to a sustainable future under the theme “Save Energy for an Optimal Future”.

OUTCOMES

- The rally raised awareness among students and residents about the importance of energy conservation and efficient energy usage.
- Participants developed a sense of environmental and social responsibility by spreading the message through slogans and pamphlets.
- The activity promoted teamwork, discipline and communication skills among the 147 student participants.
- The rally strengthened the association between SKCET and TANGEDCO, and encouraged the adoption of energy-saving practices that save money, the nation and the planet.

PHOTOS


SPEED XEROXS
GPS Map Camera
Kovaipudur, Tamil Nadu, India
10/2, Near Krishna College, Palakkad, Sreevatsa Hill View Main Rd, Pirivu, Kovaipudur, Tamil Nadu 641008, India
Lat 10.93885° Long 76.951811°
Friday, 19/12/2024 09:59 AM GMT +05:30
Google




நாட்டிற்காக
எரிசக்தியை சேமிப்போம்!
இந்தியாவை ஒளிரச்செய்வோம்!!
மின் பயன்பாட்டை குறைப்போம்
மின்விரயத்தை தவிர்ப்போம்
REDUCE
REUSE AND
RECYCLE!
ENERGY
EFFICIENCY
BEGINS AT
HOME!


மின் பயன்பாட்டை குறைப்போம்
மின்விரயத்தை தவிர்ப்போம்


REDUCE
REUSE AND
RECYCLE!
REDUCE
REUSE AND
RECYCLE!
SQUARE
MADUKKARAI
₹7.50

Awareness Program: Smart Grids and Renewable Energy Resources for School Students

Aligned with UN Sustainable Development Goal 7: Affordable and Clean Energy

Prepared by
THE TESLANIANS
(EEE ASSOCIATION)

Department of EEE
Report dated 15 August 2024

1. Introduction

Reliable and affordable electricity is the foundation of modern education, healthcare and economic growth. United Nations Sustainable Development Goal 7 (SDG 7) calls on the world to ensure access to affordable, reliable, sustainable and modern energy for all. Reaching this goal depends not only on technology and policy but also on public awareness, especially among the young people who will use and shape tomorrow's energy systems.

As part of EEE Association, The Teslanians carried out a series of local community outreach sessions in schools. The programme, themed "Igniting Young Minds", introduced students to smart grids and renewable energy resources and showed how efficient, intelligent power systems can deliver uninterrupted electricity while reducing energy loss and waste.

All planned school visits had been completed by 15 August 2024. This document records the objectives, speakers and highlights of those sessions and explains how they contribute to SDG 7.

1.1 Objectives

6. **Awareness:** explain smart grids and renewable energy in simple language that school students can follow.
7. **Energy efficiency:** show how smart grid technology reduces losses and helps consumers use electricity wisely.
8. **Engagement:** use interactive activities, demonstrations and games to hold attention and encourage questions.
9. **Inspiration:** spark curiosity in science and engineering among young learners.

1.2 Relevance to SDG 7

The sessions support SDG 7 in the following ways:

SDG 7 Theme	How the outreach contributed
Energy efficiency	Students learned how smart grids cut energy losses and how demand-response programmes and smart technologies can lower consumers' electricity use and bills.
Renewable energy	The sessions explained how smart grids make it easier to integrate renewable sources into the power network.
Reliable access	Participants saw how smart grids help deliver uninterrupted

SDG 7 Theme	How the outreach contributed
	electricity to communities.
Knowledge and cooperation	Global statistics and country-level investments in smart grids were shared to show international progress and effort.

2. Speakers

The sessions were designed and delivered by The Teslanians, a team of student volunteers under EEE Department. Members took turns presenting, running activities and engaging with the audience.

3. Session Highlights

3.1 Topic delivered

Each session covered “Smart Grids and Renewable Energy Resources”. The team explained the technological advances taking place in smart grid and power grid technology, and why these systems matter for providing uninterrupted electricity around the world.

3.2 Key content

10. **Importance of smart grids:** how they help supply stable, continuous electricity.
11. **Global statistics and impact:** data on the worldwide reach and effect of the technology.
12. **Efficiency:** how smart grids reduce energy losses and improve how power is delivered and used.

3.3 Interactive and engaging activities

13. **Magic tricks:** performed to capture attention and make the audience comfortable at the start.
14. **Pictionary game:** used to warm up the students’ minds before the technical content.
15. **Mini power grid model:** a working model built by the team to demonstrate how a grid operates in a clear, hands-on way.
16. **Q&A and discussion:** students asked questions freely and interacted actively throughout.

3.4 Audience response

The students interacted very well with the team and enjoyed the sessions. The team received many positive comments and warm appreciation from both students and teachers. Sessions were held with a range of classroom groups, from large assemblies of students to smaller class settings, which allowed the content to be adapted to each audience.

3.5 Gesture of gratitude

As a token of thanks for supporting the programme, the team presented a sapling to the school management. The gift reflects the shared commitment to a greener, more sustainable future.

3.6 Summary of outcomes

Area	Outcome
School visits	All planned visits completed as of 23 July 2025.
Learning	Students gained a clear, simple understanding of smart grids and renewable energy.
Engagement	High participation through games, demonstrations and discussion.
Feedback	Positive feedback received from students and school staff.
SDG 7 contribution	Raised awareness of clean, efficient and reliable energy among young learners.

4. Photo Gallery








GPS Map Camera
Big Bazaar Street, Town Hall, Coimbatore – 641001, Tamil Nadu, India
Lat: 10.9947° N, Long: 76.9661° E
(10°59'41" N, 76°57'58" E)
Date: 12/08/2024
Google











Conclusion

The outreach programme showed that complex energy topics can be made accessible and enjoyable for school students. By linking smart grids and renewable energy to SDG 7, The Teslanians helped build awareness of energy efficiency within the local community. The team learned valuable lessons from the experience and looks forward to conducting more such activities.

GO-KART ELECTRICAL SYSTEM DESIGN CHALLENGE FOR A LOW-CARBON ECONOMY

This project focuses on the development of an advanced low-carbon electric go-kart propulsion system, centered around a 5 kW Hybrid Synchronous Reluctance Motor (HSRM). Team Brainiacs Racing, from the Department of Mechatronics Engineering, Sri Krishna College of Engineering and Technology, works towards developing sustainable electric mobility solutions. By integrating electric propulsion technology with hands-on engineering practices, the initiative promotes the adoption and understanding of low-carbon electric mobility technologies. The project will promote clean, energy-efficient transportation, strengthen technical skills in green technologies, and encourage innovation contributing to a low-carbon economy.

Electric Go-Kart System Design Challenge

The project involves the design and development of the electrical propulsion system of an electric go-kart using a 5 kW HSRM motor. The development will emphasize:

- High-efficiency drivetrain design
- Battery and power electronics optimization
- Low-carbon lifecycle considerations
- Intelligent motor control (FOC, regenerative braking, thermal management)
- Safety, sustainability, and real-world engineering practices

This project functions as a practical platform for low-carbon innovation, guiding students through the design, fabrication, and testing of electric mobility systems.

Low-Carbon Technology Justification

The 5 kW Hybrid Synchronous Reluctance Motor is an electric motor technology used for efficient electric propulsion. Its key attributes relevant to low-carbon innovation include:

High Energy Efficiency

- Hybrid synchronous reluctance motor technology supports efficient electrical-to-mechanical energy conversion.

- Efficient motor operation helps reduce power consumption and environmental impact.

High Torque-to-Weight Ratio

● Supports suitable torque characteristics for vehicle acceleration and performance.

● Enables compact powertrain design and contributes to efficient vehicle development.

Precise Speed and Torque Control

● Supports advanced motor control strategies for **energy optimization**, regenerative braking, and efficient battery utilization.

Brushless, Low-Maintenance Operation

● Brushless construction reduces mechanical wear and maintenance requirements.

● Reduced wear can contribute to a longer product lifecycle and minimized waste generation.

Environmentally Friendly

● Zero tailpipe emissions

● Reduced dependence on conventional fuel-powered propulsion

● Suitable for renewable-powered charging systems

Overall, the 5 kW Hybrid Synchronous Reluctance Motor supports the development of energy-efficient electric vehicle technology while contributing to sustainability goals and next-generation electric mobility research.



Electrical propulsion system of an electric go-kart using a 5 kW Hybrid Synchronous Reluctance Motor (HSRM).