7.4.2 Local Community Outreach for Energy Efficiency

Smart Grids and Renewable Energy Resources for School Students

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

Prepared by
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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

- **Awareness:** explain smart grids and renewable energy in simple language that school students can follow.
- **Energy efficiency:** show how smart grid technology reduces losses and helps consumers use electricity wisely.
- **Engagement:** use interactive activities, demonstrations and games to hold attention and encourage questions.
- **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 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

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

3.3 Interactive and engaging activities

- **Magic tricks:** performed to capture attention and make the audience comfortable at the start.
- **Pictionary game:** used to warm up the students’ minds before the technical content.
- **Mini power grid model:** a working model built by the team to demonstrate how a grid operates in a clear, hands-on way.
- **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.

The Teslanians is grateful to EEE department for providing the platform to explore these activities and bring out the team's talents, and to the participating schools for their support and warm welcome.

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The Teslanians, EEE Association 2024