
TAGORE
ENGINEERING COLLEGE
Rathinamangalam, Chennai – 600 127
RENEWABLE ENERGY CLUB

RENEWABLE ENERGY CLUB

Renewable energy club of Tagore Engineering College was established in 2021 with the main objective of creating awareness among students towards sustainable use of energy. To propagate and promote the use of renewable energy resources, every year this club organizes several activities like paper presentation, poster presentation, seminars, expert lectures, quiz competition, etc. for students.

Objective

- To create awareness among the students about the benefit of Renewable energy usage.
- To provide students a platform to learn about the energy industry and employment opportunities in renewable energy sector.
- To equip the students with knowledge and skill so that they may become successful professionals and leaders in the energy industry
- Shall create awareness on the advantages of utilizing Renewable Energy Sources.
- Shall foster a diverse energy community, enable inter disciplinary collaboration, acknowledge exchange and professional development.

INAUGURATION OF RENEWABLE ENERGY CLUB

Inauguration of Renewable Energy Club

TAGORE ENGINEERING COLLEGE

Rathinamangalam, Chennai – 600 127

Department of Electrical & Electronics Engineering

RENEWABLE ENERGY CLUB

200W WIND MILL

FREE ENERGY GENERATOR

SOLAR POWER (5KW)

Renewable energy is a clear winner when it comes to boosting the economy and creating jobs.

SOLAR TRIKE

E- VEHICLES-PROJECTS

SOLAR POWER panel (5KW) in TEC

300w WIND MILL

e- vehicles-projects

RENEWABLE ENERGY CLUB REPORT 2021-22

Energy Club is purely a voluntary non-profit group activity of students aimed at practicing energy conservation and environment protection. The club activities conducted during academic year 2021- 2022 are listed below:

- The club members participated in the 5 day solar panel Inhalation conducted jointly with Techie soft Educational Services, Chennai on December 2021 about 45 students were participated.

The scope for Solar Energy in India is increasing day by day. Tamil Nadu, Rajasthan, Gujarat, Telengana and Andhra Pradesh are top performing states in Solar Power Sector in India. About 500 trillion kWh per annum is being received from Solar energy in our country. The Solar industry as a whole is growing fast and will play a key role in our global energy supply in the future. So working for Solar panel companies in India in Solar sector can be a good strategic choice for future career opportunities. Solar energy in India offers a wide range of attractive jobs requiring different skill sets, ranging from the technical solar design to the commercial field of the Solar panel business.

It helped the students to acquire more knowledge and awareness on the following

- Introduction to Solar Power System
- Solar Thermal System
- Solar PV System
- Ongrid/ Offgrid/ Hybrid System
- Connections
- System Components
- Concepts of Solar Cells & Panels
- Solar Panel Types
- Inverters Types
- Solar Batteries
- Wiring & Circuit Analysis

- Load Calculation
- Solar System Design
- Mounting Structure
- Cable Laying
- Maintenance of System & AMC
- Power Plant Erection
- Structure Analysis
- Cable Sizing Calculation
- Earthing / Surge Arrestor
- Net Meter
- Return on Investment

- The club members attended webinar on 'Energy conservation Safety and Billing ' organized as part of 'Go Electric Programme ' Chennai by GK Power Expertise in collaboration with Energy Management centre (EMC) and Bureau of Energy Efficiency (BEE) on 4th March 2022 and 17th March 2022. The Seminar gave insights on various useful topics like measures to reduce electricity usage , advantages of using electric cars. etc…
- Energy Club in association with Department of Electronics and Communication Engineering organized the following Interdepartmental competitions.

1. Online Quiz competition on the topic 'Energy Conservation and Sustainable Development 'on 12th March 2022. Thirty students participated in the competition. The winners were:

First prize Gopika S (III ECE)

Second Prize : Devashree S (II CSE)

2. Poster making competition on the theme ' Exploitation of Energy Resources' on 20th March 2022 . The winners were:

First prize : T Jacob (III Mechanical Engineering)

Second Prize : Raghuraman H (II ECE).

- The Renewable Energy club, in association with the Electrical Engineering Department, successfully designed, developed, and donated an electric auto to Tagore Medical College. This innovative initiative aims to provide a sustainable, eco-friendly, and cost-effective transportation solution for patients, promoting accessibility and comfort while reducing carbon footprint. The electric auto will facilitate easy mobility for patients within the medical campus, enhancing their overall experience and care.

வேண்டும் என, சுகாதாரத் துறை இவ்வாறு, அவர் கூறினார்.

விசாரிக்கின்றனர்.

பொறியியல் கல்லூரி மாணவர்கள் 'எலக்ட்ரிக் ஆட்டோ' கண்டுபிடிப்பு

திருப்போரூர், ஏப். 1- -தினமலர்

ரத்னமங்களம் பொறியியல் கல்லூரி மாணவர்கள், சுற்றுச்சூழலை பாதிக்காத வகையில், எலக்ட்ரிக் ஆட்டோவை கண்டுபிடித்துள்ளனர்.

நாடு முழுதும், மின்சார ஆற்றலுக்கான வாகன பயன்பாட்டை ஊக்குவிக்க, மத்திய அரசு, பல முயற்சிகளை மேற்கொண்டு வருகிறது. அந்த வகையில், பல்வேறு கல்லூரிகளில், மாணவர்கள் புதிய கண்டுபிடிப்புகளை மேற்கொண்டு வருகின்றனர்.

அதன் தொடர்ச்சியாக, கேளம்பாக்கம் அடுத்த, ரத்னமங்களம் தாகூர் இன்ஜினியரிங் கல்லூரியில், மின்சாரம் மற்றும் மின்னணு துறையின் இறுதி ஆண்டு படிக்கும் மாணவர்கள், எலக்ட்ரிக் ஆட்டோவை வடிவமைத்து உள்ளனர்.

■ புதிதாக கண்டுபிடிக்கப்பட்ட, 'எலக்ட்ரிக் ஆட்டோ'வுடன் மாணவர்கள் மற்றும் கல்லூரி நிர்வாகிகள்.

தனசேகரன், விமல், விமல்ராஜ், கதிரவன், எர்னஸ்ட்ராஜ், ஞானபிரகாஷ், ஜீட்கிங்ஜீவன், அருணாசலம், தினேஷ் ஆகியோர், சுற்றுச்சூழலுக்கு பாதிப்பு ஏற்படாத வகையில், இந்த முயற்சியில் ஈடுபட்டு உள்ளனர்.

மாணவர்கள் அறிமுகம் செய்துள்ள ஆட்டோ, பேட்டரி மூலம் இயங்க கூடியது. ஒரு முறை சார்ஜ் செய்தால், 80 கிலோ மீட்டர் வரை பயணிக்கலாம். ஏழு பேர் அமரலாம். பழைய ஆட்டோ பாகங்களும், மோட்டார், பேட்டரி என, 80 ஆயிரம் ரூபாய் வரை செலவானதாக மாணவர்கள் தெரிவிக்கின்றனர்.

சுற்றுசூழலுக்கு கேடு விளைவிக்காத காரணத்தால், பச்சை வண்ணம் பூசப்பட்டுள்ளது. தொடர்ந்து வர்த்தக ரீதியாக, இது போன்ற எலக்ட்ரிக் ஆட்டோக்களை வடிவமைத்து கொடுக்கவும், மாணவர்கள் திட்டமிட்டுள்ளனர்.

முதல் கண்டுபிடிப்பான இந்த ஆட்டோவை, தாகூர் மருத்துவமனைக்கு வரும் புறநோயாளிகள் பயன்பாட்டிற்கு, கல்லூரி தாளாளர் மாலா, நேற்று ஒப்படைத்தார். மருத்துவ கல்லூரி, 'டீன்' குணசேகரன், முதல்வர் ராஜா உள்ளிட்டோர் நிகழ்ச்சியில் பங்கேற்றனர்.

RENEWABLE ENERGY CLUB REPORT 2022-23

- On 14th June 2022, the Renewable Energy Club organized an awareness program on energy conservation and environmental protection at Bharathiyar Hall, Tagore Engineering College. This event was part of their social outreach initiative aimed at educating the community on sustainable practices. The program highlighted the importance of conserving energy and protecting the environment, emphasizing the role of renewable resources. Through interactive sessions and presentations, participants learned about practical ways to reduce energy consumption and environmental impact. The event successfully raised awareness and encouraged a more eco-friendly approach to daily life.

- Interdepartmental competitions were conducted during the month of January 2024. The certificates and prize money are sponsored by the Renewable Energy club, Tagore Engineering College. Inter departmental quiz competition was conducted on 5th July 2022.

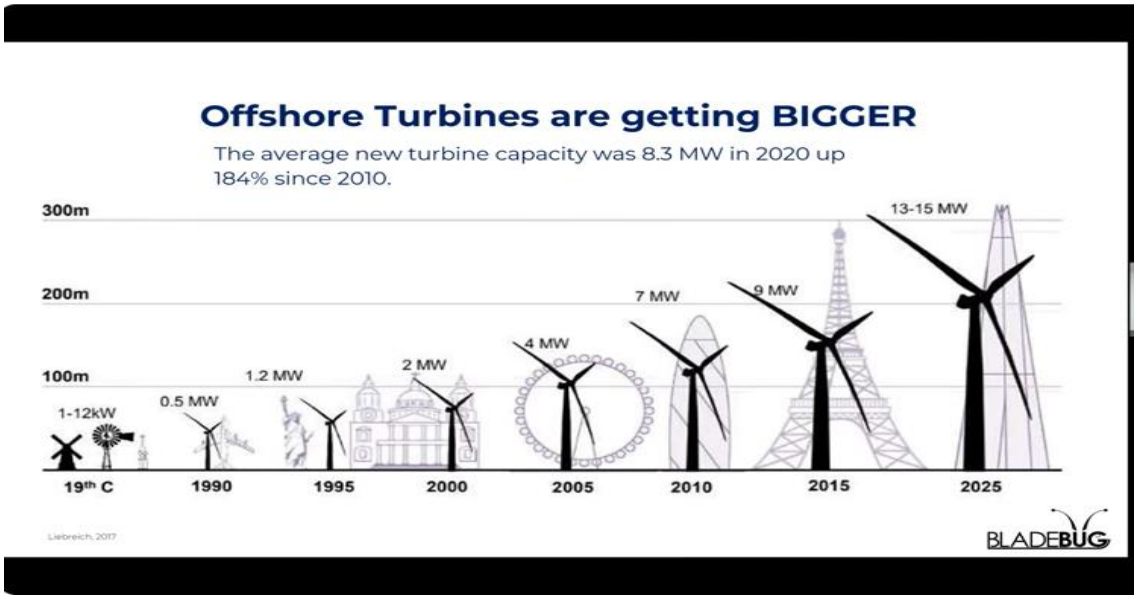
  Following students secured the first, second and third prizes.

  1. Sundra Pandiyan - II Year IT Dept

  2. Sreekanth T & AAbraham – III Year CSE

  3. Merin K Thomas- II Year ECE Dept

- On 6th August 2022, P. Nitheesh, a third-year Mechanical Engineering student, gave a detailed presentation on wind turbine blade design and provided insights into the Q-Blade software. The session was highly informative, focusing on the principles of aerodynamic design and the practical applications of the software in simulating turbine performance. A total of 36 student members attended the session and benefited from the knowledge shared. The presentation helped participants gain a better understanding of renewable energy technologies and advanced design tools, enhancing their skills in mechanical engineering and sustainable energy solutions.



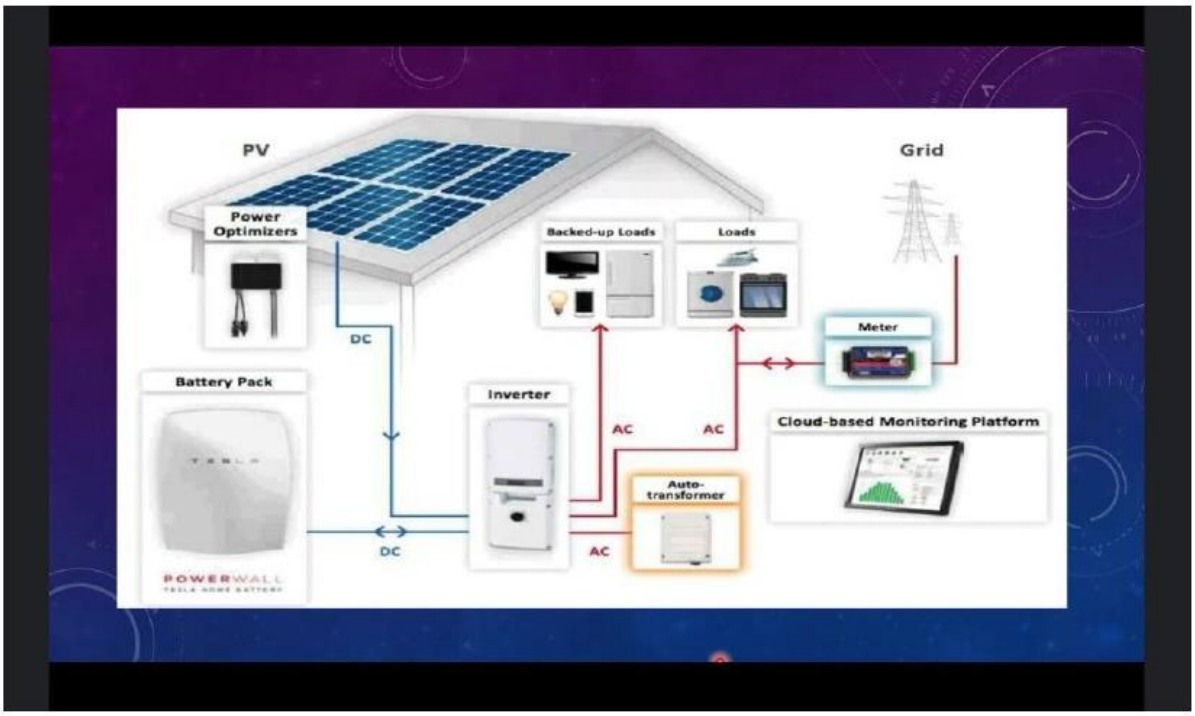
DATE - 24-10-2022

VENUE - online event

Title - Webinar on Tesla solar roofing

DESCRIPTION:

Srinivasan M. and Dinesh K., third-year students from the ECE Department, conducted an informative session on Tesla's solar roofing system. During the session, they explained the key features and benefits of this innovative technology, which integrates solar panels into roof tiles to generate clean energy. The students provided detailed insights into the various processes involved in the solar roof system, including installation, energy conversion, and storage. They also discussed the efficiency and cost-effectiveness of Tesla's solar roofs in comparison to traditional solar panels. The session helped student members understand how solar roofing contributes to sustainable energy solutions by reducing reliance on fossil fuels. Srinivasan and Dinesh highlighted the future potential of solar roofs in powering homes and businesses with renewable energy, as well as their role in reducing carbon footprints. The attendees left with a deeper understanding of solar technology and its practical applications, especially in the context of modern energy challenges.



On 8th November 2022, Shenbagaraj D., an alumnus of the Aeronautical Engineering Department at Tagore Engineering College, delivered an insightful session on modern trends in drone technology. The presentation covered the latest advancements in drone design, applications, and innovations in various industries. A total of 30 student members attended the session and gained valuable knowledge about current and future developments in drone technology. Shenbagaraj's expertise and experience provided participants with a deeper understanding of the field, inspiring them to explore opportunities in aeronautics and unmanned aerial systems.

On 28th February 2023, 20 club members attended a one-day Robotics workshop organized in collaboration with KaaShiv Info Tech, Chennai 95. The workshop provided students with hands-on experience and practical insights into robotics, including robot design, programming, and basic artificial intelligence applications. KaaShiv Info Tech facilitated the session, combining theoretical knowledge with real-world projects, allowing participants to engage actively and collaborate on innovative solutions. The workshop helped students develop new technical skills and fostered a deeper interest in robotics, marking an important step in enhancing their understanding of this evolving field.

On 17th April 2023, a workshop on E-Vehicle design was conducted by Mr. B. Partheeban, Assistant Professor from the Department of EEE, in collaboration with the Renewable Energy Club. The session focused on the fundamentals of electric vehicle design, including key concepts related to battery technology, energy efficiency, and sustainable transportation solutions. Students gained valuable insights into the growing field of electric vehicles and the role they play in reducing environmental impact. The workshop was an enriching experience, encouraging participants to explore further innovations in renewable energy and electric mobility.

RENEWABLE ENERGY CLUB REPORT 2023-24

On 20th July 2023, the Renewable Energy Club organized an Open Day, showcasing various renewable energy projects to a group of nearly 200 school students. The event aimed to raise awareness about sustainable energy solutions and inspire the next generation to take an interest in renewable technologies. Several innovative projects, including solar energy systems, wind turbines, and electric vehicles, were displayed, highlighting their practical applications in addressing global energy challenges.

The school students had the opportunity to interact with the project teams, gaining insights into how renewable energy works and the importance of adopting environmentally friendly practices. Demonstrations and hands-on activities allowed the visitors to explore how these technologies contribute to a sustainable future. The Open Day successfully broadened the students' understanding of renewable energy, encouraging them to think critically about environmental conservation and the potential of clean energy solutions in daily life. The event was both educational and engaging, leaving a lasting impact on the young participants.


HYBRID GENERATOR


VINEETHKUM
KASAN

- Interdepartmental competitions were conducted during the month of August 2023. The certificates and prize money are sponsored by the Renewable Energy club, Tagore Engineering College. Inter departmental quiz competition was conducted on 8th August 2023.

  Following students secured the first, second and third prizes.

  1. Sivabalan M - II Year Aero Dept

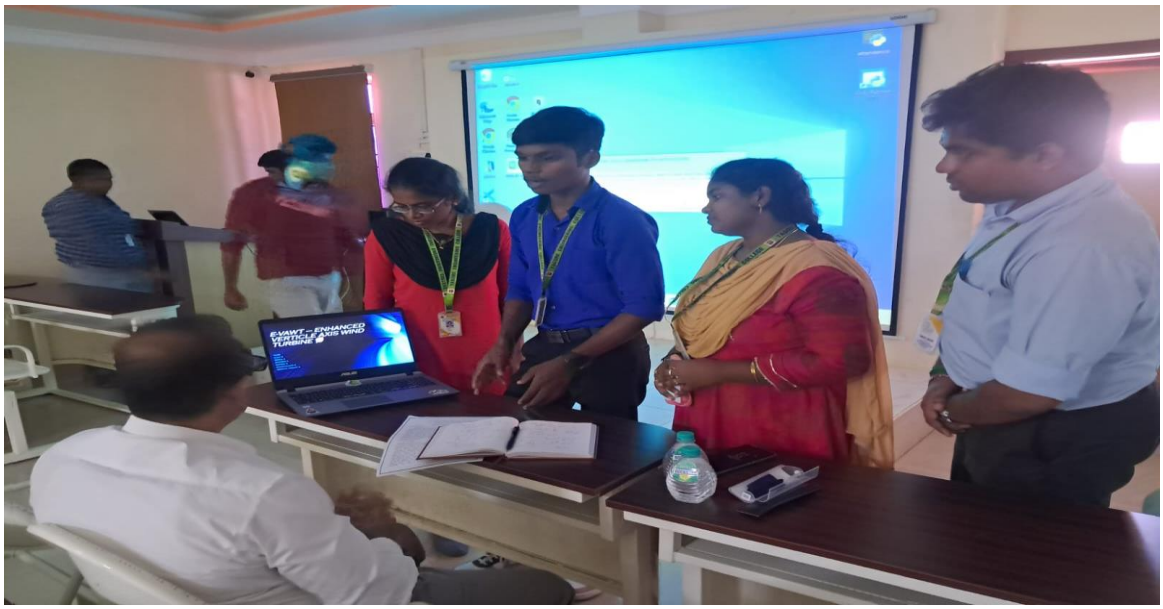
  2. Lokesh K – III Year CSE Dept

  3. Arunachalam- III Year ECE Dept

- On 16th October 2023, 8 club members attended a one-day Robotics workshop organized in SRM University. The workshop provided students with hands-on experience and practical insights into robotics, including robot design, programming, The workshop helped students develop new technical skills and fostered a deeper interest in robotics, marking an important step in enhancing their understanding of this evolving field.

- The club members attended webinar on 'Energy conservation ' organized by GK Power Expertise in collaboration with Energy Management centre (EMC) and Bureau of Energy Efficiency (BEE) on 9 th October 2023. The webinar gave insights on various useful topics like measures to reduce electricity usage , advantages of using electric cars. etc…

- On 16th February 2024, a brainstorming session on "Applications of IoT" was conducted for the club members, led by Mr. N. Ravindran, Chief Engineer and Head of Advanced Powertrain, CAE & NVH at TAFE (Tractor and Farm Equipment Ltd.), Chennai. The session focused on exploring the diverse applications of the Internet of Things (IoT) in various industries, particularly in agriculture and smart farming technologies. A total of 40 students participated, engaging in discussions about how IoT is transforming fields like precision agriculture, machinery automation, and real-time data collection in farming. Mr. Ravindran shared practical insights into how IoT-enabled devices and sensors are improving productivity and sustainability in farming operations, as well as the potential for IoT to drive innovations in other sectors. The interactive nature of the session encouraged students to think critically and creatively about IoT applications, sparking new ideas for future projects. The event provided valuable knowledge and inspiration for the participants.



➢ On 6th April 2024, the Renewable Energy Club organized a guest lecture on "Future Scope of Emerging Technologies," presented by Mr. Sivaraj Krishnan, Manager at DADB German Academy of Digital Education. The lecture explored the latest advancements in emerging technologies and their potential impacts on various industries, with a particular focus on how these technologies intersect with renewable energy.

Mr. Krishnan provided an in-depth analysis of cutting-edge developments such as artificial intelligence, blockchain, and advanced data analytics, and discussed their applications in optimizing energy systems and promoting sustainability. He also highlighted future trends and opportunities for innovation within the renewable energy sector. The session was attended by students eager to learn about the evolving landscape of technology and its implications for the energy sector. Mr. Krishnan's insights inspired the audience to consider how emerging technologies could drive progress and create new opportunities in renewable energy and beyond.

- On 5th and 6th June 2024, the Department of Electronics and Communication Engineering organized a two-day workshop on "React and Firebase for IoT," led by Mr. Shibi Chakkaravathy, Senior Solution Architect at Intetz Technologies. The workshop focused on integrating React, a popular JavaScript library, with Firebase, a cloud-based platform, for developing IoT applications.

  A total of 45 students participated, gaining hands-on experience in building dynamic user interfaces with React and managing real-time data using Firebase. The session covered key topics such as designing IoT dashboards, connecting IoT devices to cloud databases, and enabling real-time communication between devices. Mr. Shibi also discussed industry trends and the future of IoT in various sectors. The workshop provided students with practical skills and insights into modern web technologies and their applications in IoT, empowering them to develop innovative projects in this rapidly growing field. Participants left with enhanced technical knowledge and a deeper understanding of IoT development.