



Kerala State Energy Conservation Awards December 2022



Cover photo: "Bioluminescence" is the production and emission of light by living organisms. It is a form of chemiluminescence. Bioluminescence occurs widely in marine vertebrates and invertebrates, as well as in some fungi, microorganisms including some bioluminescent bacteria, and terrestrial arthropods such as fireflies.

This picture captured from Sayalgudi, near Rameswaram, Tamilnadu, by Sarath Prabhav



Department of Power
Government of Kerala



ENERGY MANAGEMENT
CENTRE KERALA



Kerala State Energy Conservation Awards – 2022



**Kerala State Energy Conservation Awards – 2022
December 2022**

Published by

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Content:

Message

Introduction 11

Winners of the State Energy
Conservation Awards 2022 22

Commendations 36

State Level Energy Conservation
Monitoring Committee for Energy
Conservation in Kerala 49



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01 ഡിസംബർ, 2022

സന്ദേശം



ഊർജ്ജ സംരക്ഷണത്തിന്റെ പ്രാധാന്യത്തെക്കുറിച്ച് പൊതുജനങ്ങളിൽ അവബോധം സൃഷ്ടിക്കുന്നതിൽ എനർജി മാനേജ്മെന്റ് സെന്റർ വഹിച്ചുപോരുന്ന പങ്ക് ശ്ലാഘനീയമാണ്.

പരമ്പരാഗത ഊർജ്ജ സ്രോതസ്സുകൾ സുക്ഷ്മതയോടെ ഉപയോഗിക്കുന്നതിനും അവ ഭാവി തലമുറകൾക്കു വേണ്ടി സംഭരിച്ചു വയ്ക്കുന്നതിനും നമുക്ക് ഉത്തരവാദിത്തമുണ്ട്. കേരളം ഊർജ്ജ സംരക്ഷണത്തിന്റെ കാര്യത്തിൽ ഗൗരവമായ ഇടപെടലുകളാണ് നടത്തി വരുന്നത്. ആ കാഴ്ചപ്പാടോടു കൂടി പ്രവർത്തിക്കാൻ എനർജി മാനേജ്മെന്റ് സെന്ററിന് സാധിക്കണം. ഈ വർഷത്തെ ഊർജ്ജ സംരക്ഷണ അവാർഡ് ജേതാക്കളെ അഭിനന്ദിക്കുന്നു. എല്ലാ ഭാവുകങ്ങളും നേരുന്നു.

പിണറായി വിജയൻ
മുഖ്യമന്ത്രി



സന്ദേശം

""We don't inherit the Earth from our ancestors, we borrow it from our children." അതായത്, ഈ ഭൂമിയും അതിലെ സൗഭാഗ്യങ്ങളും നമ്മൾ പൂർവ്വികരിൽ നിന്നും നേടിയതല്ല, മറിച്ച് ഇനി വരാൻ പോകുന്ന തലമുറകളിൽ നിന്ന് കടം കൊണ്ടതാണ്. ഈ ഉത്തരവാദിത്തബോധത്തോടെ വേണം നാം പ്രകൃതി സ്രോതസ്സുകളെ ഉപയോഗിക്കാൻ. അനുദിനം ക്ഷയിച്ചു വരുന്ന ഊർജ്ജ സ്രോതസ്സുകൾ ഒരു പ്രതിസന്ധിയിലേക്കാണ് നമ്മെ നയിക്കുന്നത്. ഇത് ഒഴിവാക്കുന്നതിനുള്ള തീവ്ര ശ്രമത്തിന്റെ ഭാഗമായി പുനരുപയോഗ ഊർജ്ജോൽപ്പാദനവും, ഊർജ്ജ സംരക്ഷണ പ്രവർത്തനങ്ങളും സംസ്ഥാനത്ത് കാര്യക്ഷമമായി നടക്കുന്നുണ്ട്.



2070-ഓടെ സീറോ കാർബൺ എമിഷൻ പദവി കൈവരിക്കാനുള്ള നമ്മുടെ രാജ്യത്തിന്റെ ശ്രമത്തിന് ശക്തി പകരുക എന്ന ലക്ഷ്യത്തോടെ, 2027 ഓടുകൂടി പുനരുപയോഗ ഊർജ്ജോൽപ്പാദനശേഷി വർദ്ധിപ്പിച്ചുകൊണ്ട്, കേരളത്തിലെ ആഭ്യന്തര വൈദ്യുതി ഉൽപ്പാദനം നിലവിലെ 30 ശതമാനത്തിൽ നിന്നും 50 ശതമാനത്തിൽ എത്തിക്കാൻ സംസ്ഥാനം ലക്ഷ്യമിടുന്നു. 1500 മെഗാവാട്ട് ജല വൈദ്യുതിയിൽ നിന്നും, 3000 മെഗാവാട്ട് സൗരോർജ്ജം, പവനോർജ്ജം എന്നിവയിൽ നിന്നും ഉൽപ്പാദിപ്പിക്കുന്നതാണ്. ഭാവിയിലെ ഇന്ധനമായ ഹൈഡ്രജന്റെ സാധ്യതകൾ പ്രയോജനപ്പെടുത്തുന്ന നടപടികളും സംസ്ഥാനത്ത് ആരംഭിച്ചു കഴിഞ്ഞു.

കാലാവസ്ഥാ പ്രതിസന്ധി പരിഹരിക്കുന്നതിന് ഊർജ്ജ കാര്യക്ഷമതയ്ക്ക് നിർണായക പങ്കുണ്ട്. വിവിധ നടപടികളിലൂടെ, ഊർജ്ജ കാര്യക്ഷമതയും സുസ്ഥിര വളർച്ചയും ഉറപ്പ് വരുത്താൻ സംസ്ഥാനം ശ്രമിക്കുന്നു. എനർജി മാനേജ്മെന്റ് സെന്റർ ഇത് കാര്യക്ഷമമായി നിർവഹിക്കുന്നതിൽ എനിക്ക് അതിയായ സന്തോഷമുണ്ട്. 2022-ലെ കേരള സംസ്ഥാന ഊർജ്ജ സംരക്ഷണ അവാർഡ് ജേതാക്കളെ അഭിനന്ദിക്കാനും, സംസ്ഥാനത്തിന്റെ സുസ്ഥിര ജീവിത ലക്ഷ്യങ്ങൾ കൈവരിക്കുന്നതിന് പുതിയ ആശയങ്ങൾ സംഭാവന ചെയ്യുന്ന പങ്കാളികളെ അഭിനന്ദിക്കാനും ഞാൻ ഈ അവസരം ഉപയോഗിക്കുന്നു.

കെ കൃഷ്ണൻകുട്ടി
വൈദ്യുത വകുപ്പ് മന്ത്രി

INTRODUCTION

Energy use and GDP are positively correlated, although energy intensity has declined over time and is usually lower in richer countries. Numerous factors affect the energy intensity of economies and energy efficiency is obviously one of the most important. However, the rebound effect might limit the possibilities for energy efficiency improvements to reduce energy intensity. Energy Conservation Act 2001 was passed by the Indian Parliament for regulating the wasteful use of energy and implementing various energy-saving measures in different sectors of the economy. Energy Management Centre (EMC) being the State Designated Agency (SDA) of Kerala has the role to facilitate, regulate and enforce the Energy Conservation Act 2001.

Kerala has done exceedingly well in adopting energy efficiency measures in the first-ever serious attempt to map energy efficiency attained by the States in India. The NITI Aayog's State Energy Efficiency Preparedness Index shows Kerala as the front runner with high points among the states and union territories in India. The main rationale behind the scene was the well-supervised state policies and programs aimed at improving energy efficiency in five key sectors such as buildings, industries, transportation, municipalities and electricity distribution. The Energy Management Centre continues its efforts through various schemes and programs to promote energy conservation and energy efficiency among various sectors in the State.

Major achievements of EMC during April 2021 till December 2022 include:

- EMC-Kerala received 2nd Position in the National Energy Efficiency Awards 2021
- EMC's continual effort could help to save 52 MU of electricity and ToE of Oil in 2022 in the State.
- As part of the Energy Conservation Fortnight celebrations from 01st December 2022 to 14th December 2022, 355 awareness programs, 27 professional training / workshops, and 135 energy conservation rallies were organized by EMC. More than 57000 participants have attended these programs.
- Organised 25 workshops on the topic of industrial energy efficiency in the industrial cluster and industrial park. More than 4,900 people participated in the said events.
- In association with Fluid Control Research Institute and Raidco, EMC has developed an energy-efficient pumping system that can be used instead of inefficient and traditional 'petty and para' used for dewatering in Kuttanadu and Kole lands.
- Commissioned Anakampoil Small Hydro Power project in Kozhikode District having a capacity of 8 MW and Arippara Small Hydro Power project in Kozhikode District having a capacity of 4.5 MW
- Implemented energy efficiency projects at Government Women and Children Hospital, Palakkad, Regional Institute of Ophthalmology, Thiruvananthapuram, Kannur Civil Station and Palakkad Civil Station.
- Made 2 selected Government schools in Thiruvananthapuram District energy efficient by replacing inefficient appliances with energy-efficient appliances.

- Conducted energy audit of 34 Government buildings and 50 schools in State
- As part of the Urjayan project conducted the energy audit of 111 Local Self Governments Thrissur District and the implementation of energy audit recommendation on one Local Self government office has been completed.
- As part of the Model Energy Efficient village the energy audit of all Government buildings in Aranmula Grama Panchayat was completed.
- Made the temple and other buildings of Guruvayur Dewasom Managing Committee energy efficient by replacing inefficient appliances with energy-efficient appliances.
- Conducted energy audits of 16 pumping stations of Kerala Water Authority.
- Carried out study of performance evaluation of agricultural pumps used in ISD farm, Eruthenpathy Palakkad District and initiated replacement of agricultural pumps used in the farm with energy-efficient star-rated pumps
- EMC has carried out a "Go Electric" campaign for the promotion of electric mobility, electric charging infrastructure and electric cooking. The Statewide launch of the campaign was held on 5th June 2022, followed by 27 technical webinars and a virtual exhibition. More than 4900 participants participated in these webinars.
- In connection with Energy Conservation Week and Azadi ka Amrut Mahotsav 'Green Rally' of EV was organized in the capital city of Thiruvananthapuram in collaboration with various Govt. departments, institutions and individuals with an aim of spreading the message of 'Shifting to electric vehicles to the general public. More than 80 electric vehicles participated in the rally.

- EMC is creating a pool of building professionals titled Building Energy Efficiency Experts for providing assistance in constructing energy-efficient and ECBC-compliant buildings. 20 such professionals were provided training and empanelled
- EMC had provided technical support to 7 Commercial building owners for making their upcoming commercial buildings energy efficient
- As part of encouraging eco-friendly construction of buildings in the State, the Government of Kerala vide Government order GO(Ms)No. 50/2022/LSGD dated 18/02/2022 introduced Green Rating and Green building certification to buildings based on green standards. EMC Kerala is a member of the proposed State Nodal Mechanism for the implementation of the green rating system.
- In order to enable the implementation of the Energy Conservation Building Code (ECBC) in Kerala, with the support of the ECBC Cell, EMC has conducted online programs for architects, engineers, and government officials.
- As a joint activity of EMC & C-DAC, Thiruvananthapuram as a technology partner, has implemented mented a Solar Powered Energy Efficient Low Voltage Direct Current (LVDC) power distribution based houseboat to offset the Carbon footprints for Electricity consumption by almost 90%.
- Smart Energy Program (SEP) is one of the flagship projects of EMC, for popularising the importance of energy conservation and energy efficiency measures among students. More than 6000

schools have registered through the PMS portal to be part of the SEP. EMC has conducted 41 Sensitization programs in all the Educational Districts with school teachers as the audience.

- As part of agricultural demand-side management, for encouraging the farmers to use the BEE star-rated pumps and practice energy-efficient irrigation practices, EMC has conducted 10 awareness programs for farmers. More Than 300 farmers attended the program. Also, a capacity-building program for agricultural engineers was conducted in association with the Department of Agriculture and Farmers' Welfare.
- Conducted National Level Painting Competition organized by the Bureau of Energy Efficiency, Govt of India in association with NTPC and the General Education Department, Govt of Kerala. Received 14000 registrations from the state out of the 34000 registrations received nationally. The painting competition was organized in 41 centers in Kerala on the same date and the state-level inauguration was carried out at Thiruvananthapuram.
- Government of Kerala is giving utmost priority to the development of a green energy ecosystem. Supporting the Government initiatives of the green energy ecosystem, a Clean Energy Innovation and Business Incubation Centre (CEIBIC) is launched by the Energy Management Centre – Kerala (EMC), Kerala Development and Innovation Strategic Council (K-DISC), and Clean Energy International Incubation Centre (CEIIC) supported by KSEBL, ANERT and Electrical Inspectorate on 22.06.2022. The main objective of CEIBIC is to set up a clean energy incubation center in Kerala for increasing its share of renewable energy generation

and enhancing energy efficiency, along with promoting start-ups and innovation in this sector.

- As part of Azadi ka Amrut Mahotsav, the celebrations in the power sector showcasing the success stories in Kerala titled “Ujjwal Bharat Ujjwal Bhavishya Power @2047” program were conducted in Kozhikode, Palakkad, Thrissur, Ernakulum and Thiruvananthapuram districts.
- The first vessel powered by renewable energy and hydrogen, named Energy Observer made a stopped over at Kochi on November 14. On this occasion, EMC conducted 3 day workshop titled "Green hydrogen pathways for a sustainable future". This forum brought together many Indian institutions working in the field of green hydrogen development. Industrialists, academics, governmental agencies, and a large panel of actors involved in the energy transition gathered around the 3-day workshop d edicated to the hydrogen value chain: production, transport, storage, maritime, and land applications. The crew members of the “Energy Observer” attended the 3-day session and visits to the energy observer was also arranged.



Kerala State Energy Conservation Awards 2022

The announcement inviting applications and nominations for the awards in seven categories was widely publicized through electronic, visual and print media and through direct communications to many organizations, individuals and agencies. The very first step was a one-day sensitization program in which the last year award-winning industry presents their best practices in energy efficiency which helped them win the Kerala State Energy Conservation Award for industrial and commercial consumers in the State. Based on the recommendation of the Judging Committee, the awards for 2022 were finalized by the State Level Monitoring Committee. The Judging Committee consisted of **Dr Nagesh kumar** (National Energy Expert & Former Director NPC), **Dr. Ashok Kumar N** (Prof. in Mechanical Engineering (Rtd), College of Engineering Trivandrum) **Shri. Vinod G** (Deputy Chief Electrical Inspector, Department of Electrical Inspectorate), **Dr. Subhash Joshi T G** (Scientist-F, PEG, C-DAC, Thiruvananthapuram) **and Shri. Ajith R** (Assistant General Manager (Technical Service), Travancore Cochin Chemical Limited).

The following are the categories for the Award 2022

Category 1: Large-scale energy consumers

(Including large-scale industries except for buildings –All consumers in the State with a total (electricity + fuel) annual energy consumption of more than 1000 TOE* (Ton of Oil Equivalent)) or 11.6 Million Units and Designated consumer notified by central Government as per EC Act 2001.



Category 2: Medium-scale energy consumers

(Including medium-scale industries except for buildings – All consumers in the State with a total (electricity + fuel) annual energy consumption between 150 to 1000 TOE * or 1.7 Million Units to 11.6 Million Units.

Category 3: Small-scale energy consumers

(Including small-scale industries except for buildings – All consumers in the State with a total (electricity + fuel) annual energy consumption up to 150 TOE* or Up to 1.7 Million Units.



Category 4: Buildings

(All Commercial Buildings including hotels, hospitals, Shopping Malls, Office Buildings, Theatres, Educational Institutions, etc that have implemented energy conservation / efficiency/e-mobility programs in their facilities and Institutions/Buildings who has designed and/or developed such buildings/campus including LEED/green Building, GRIHA rated or ECBC Compliant building or with proven/certified Energy Efficiency and conservation including Green/Eco-friendly considerations).

Category 5: Institutions & Organizations

(Including Local Bodies, NGOs, and organizations involved in the implementation and promotion of energy conservation, energy efficiency, and clean energy projects/programs e – mobility).

Category 6: Promoters of energy-efficient products

(Including Manufacturers of energy-efficient retrofits/controls suitably proven and certified by competent /accredited labs/institutions in the State and Retailers and traders who are selling/distributing BEE star labeled products notified by the Ministry of Power, Govt of India as listed below).



- under mandatory scheme viz Room Air Conditioners, Frost Free Refrigerators, Tubular Florescent Lamp, Distribution Transformer, Room Air Conditioner (Cassettes, Floor Standing), Direct Cool Refrigerator, ColorTV, Electric Geysers, Variable Capacity Inverter Air conditioners, and LED Lamps.
- under voluntary scheme Induction Motors, Pump Sets, Ceiling Fans, LPG -Stoves, Washing Machine, Computer (Notebooks / Laptops), Ballast (Electronic / Magnetic), Office equipment (Printer,Copier, Scanner, MFDs),Diesel Engine Driven Mono-set Pumps,Solid State Inverter, DG Sets, Chillers, Microwave Oven, Solar Water Heater, Light Commercial Air Conditioner, Deep freezers.

Category 7: Architectural firms and Green building Consultancy

(Including Architectural firms and Green building consultants who have designed and/or developed such buildings/campuses including LEED/IGBC / GRIHA /other or ECBC Compliant building or with proven/certified Energy Efficiency and conservation including Green/Eco-friendly considerations)



CRITERIA FOR JUDGING THE MERIT

The recipients of the awards are judged on the basis of outstanding achievements and contributions in the field of energy conservation and management. The Award may not necessarily be decided on the basis of only quantitative achievements but also taking into account various other factors such as innovative techniques and technologies adopted, the commitment of the management, consistency, employee participation, environment friendliness and organizational set-up to promote energy conservation in the unit, etc.





Large Scale Energy Consumers Best Performance Award





CARBORUNDUM UNIVERSAL LIMITED, ELECTROMINERAL DIVISION, ERNAKULAM

The Electro Minerals Division (EMD) of Carborundum Universal Limited (CUMI) with headquarters in Kochi, started its operation in 1965. CUMI operates two factories in Kalamassery Industrial Estate, three factories in CUMI_SEZ, two factories in CSEZ Kakkanad and one factory at Koratty, Thrissur district. The company operates the largest integrated fusion facility for Fused Aluminas and also manufactures Silicon Carbide, Solgel grains and Alumina Zirconium (AZ) through its unique patented production process. All units are certified for ISO 9001 and 14001 and OHSAS:18001 certifications. Their major energy conservation efforts include the following:

- Variable Frequency Drive for 220 kW blower fan and cooling pumps
- Hot air Milling of aggressive grain powder for energy reduction in Air Compressors
- Replacement of inefficient hot water pumps with energy efficient pumps
- Reuse of low concentration washed water in Zero Liquid Discharge process
- Cycle time reduction in manufacturing process through value stream mapping
- Temperature based feedback control of cooling water pumps

Total Annual Savings achieved during the last financial year:

Electricity: 2.1 MU

Medium Scale Energy Consumers Best Performance Award





OEN INDIA LIMITED, ERNAKULAM

OEN India Limited established in 1968, is one of the market leaders for Electro-Mechanical Components like Relays, Switches & Custom-built assemblies, which find application in Automotive Electronics, Industrial Controls & Instrumentation, Communication, Consumer Electronics, Strategic Electronics etc. The company is certified for ISO 9001, IATF 16949, ISO 14001, and ISO 45001. They are equipped with an in-house Research & Development Laboratory, sophisticated Tool Room and Quality Assurance Test Labs.

Their major energy conservation efforts include the following :

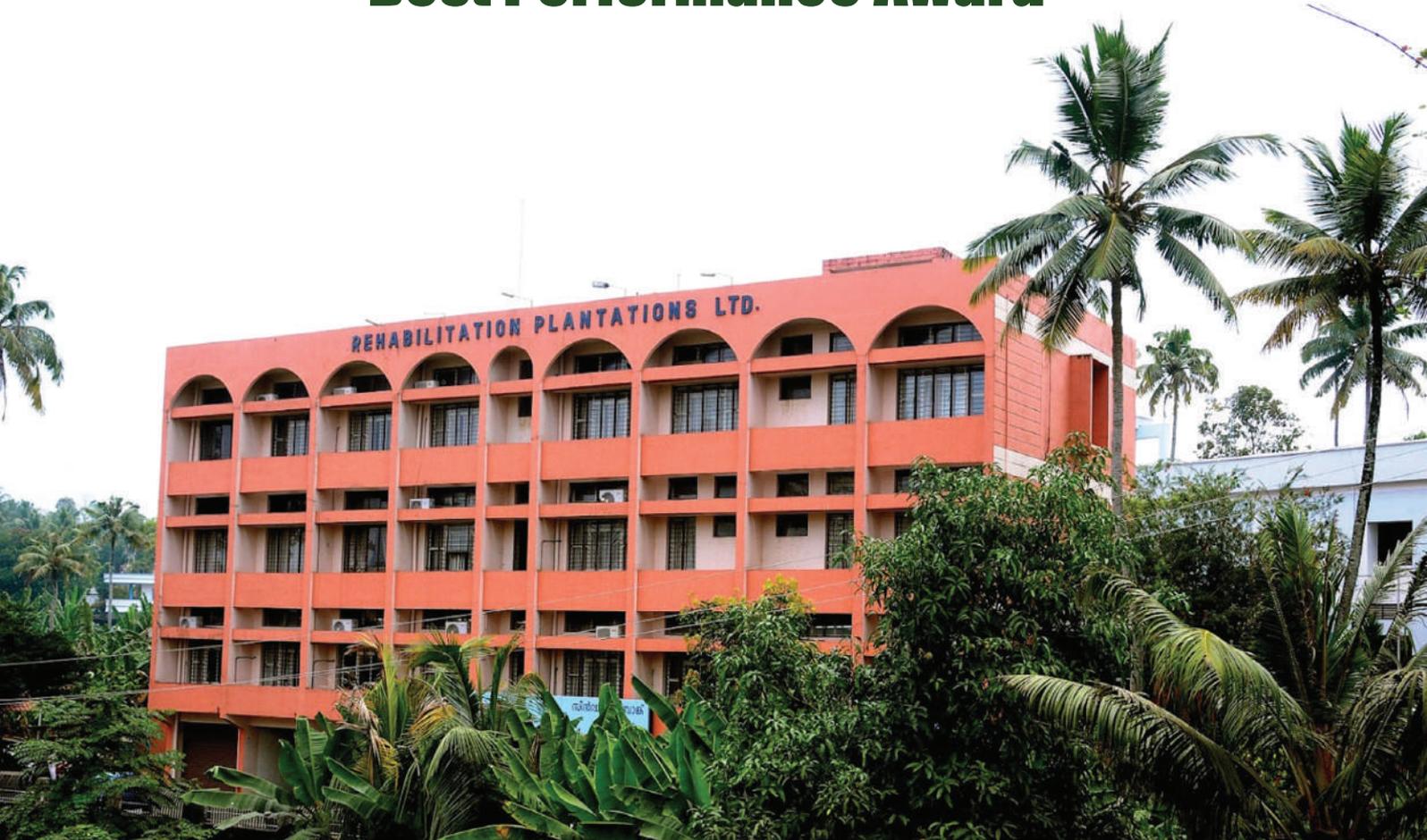
- VFD-controlled air compressor with Interior Permanent Magnet (IPM) motor
- New compressed air line system using Polypropylene Random Co polymer (PPR) replacing old GI pipes
- New Laser Printers in the manufacturing plant by replacing old carbon printers
- Installed three direct drive energy-efficient VFD-controlled Air Handling Units with IE3 Motor
- Replacement of old AC units by energy efficient inverter type ACs
- Installed Oil Skimmer unit in semi-automatic plating line thereby ceasing usage of Tri Chloro Ethylene (TCE)

Total Annual Savings achieved during the last financial year:

Electrical: 0.11 MU



Small Scale Energy Consumers Best Performance Award





REHABILITATION PLANTATIONS LIMITED, KOLLAM

Rehabilitation Plantations Ltd.(RPL) is a joint venture of the Government of India and Government of Kerala, set up with the noble objective of rehabilitating the Tamil repatriates from Sri Lanka as per the Sastri-Sirimao Agreement in 1964. It was converted into a limited company 'REHABILITATION PLANTATIONS LIMITED' on 5th May 1976. RPL being a repatriate scheme has social objectives as well as financial objectives. Rubber Plantations of the Company is spread over in 2070 Hectares of land leased from the Forest department, at Kulathupuzha and Ayiranallur estates in Kollam District. RPL also has three Factories viz Latex Centrifuging Factory (LCF), Crumb Rubber Factory (CRF) and Rubber Sheetings Factory (RSF).

Their major energy conservation efforts include the following

- Replaced old Latex Centrifuging Machines with efficient
- Replaced old and low-efficient motors with IE-3 Motors
- Replaced old and damaged thermal insulation of Diesel Fired Boiler
- Replaced old and low-efficient fluorescent tube lights with high-efficiency LED lights

Total Annual Savings achieved during the last financial year:

Electrical: 0.28 MU

Thermal: 0.14 toe (HSD)



Buildings Best Performance Award

KERALA DEVELOPMENT AND INNOVATION STRATEGIC COUNCIL (K-DISC)

The Kerala Development and Innovation Strategy Council, (K-DISC) is a strategic think tank and advisory body constituted by the Government of Kerala. Launched on March 24, 2018, K-DISC was given the mandate of promoting innovation in the state. K-DISC was established as a unit of the National Innovation Council for steering activities relating to innovation in the state as a part of the innovation decade program of the Government of India. K-DISC was then registered as a society in May 2021 with the Chief Minister as the Chairperson, Finance Minister as Vice Chairperson, and Ministers for Industries, Higher Education, Labour and Skills, and Agriculture as members.

Their major energy conservation efforts include the following :

- Implementation of 48 V DC system and integration of Solar rooftop system
- Installed water curtain system and double glazed windows to reduce heat gain
- Installed LED lights and BLDC fans
- Installation of vertical axis wind turbine

Total Annual Savings achieved during the last financial year:

Electrical: 0.06 MU

Thermal: 55 Toe (Diesel)





SACRED HEART
COLLEGE THEVARA

Institutions and Organisations Best Performance Award



SACRED HEART COLLEGE THEVARA, KOCHI

Sacred Heart College (Autonomous), Thevara, Kochi was established in 1944 as a higher educational institute for men on the basis of minority rights. It started admitting girls in 1975 and serves all sections of society. The college is NAAC accredited, grant-in-aid private college affiliated with Mahatma Gandhi University, Kottayam, Kerala. The institute is managed by the Carmelites of Mary Immaculate (CMI). The current student strength of the College is 2413, with 64% constituted by girls. The fully renewable energy-powered educational institution organises, training programs and courses on e-mobility, energy conservation, home energy audit, etc.

Their major energy conservation efforts include the following

- Installation of LED light systems
- Installation of BLDC fans
- Sensor-based flushing in toilets



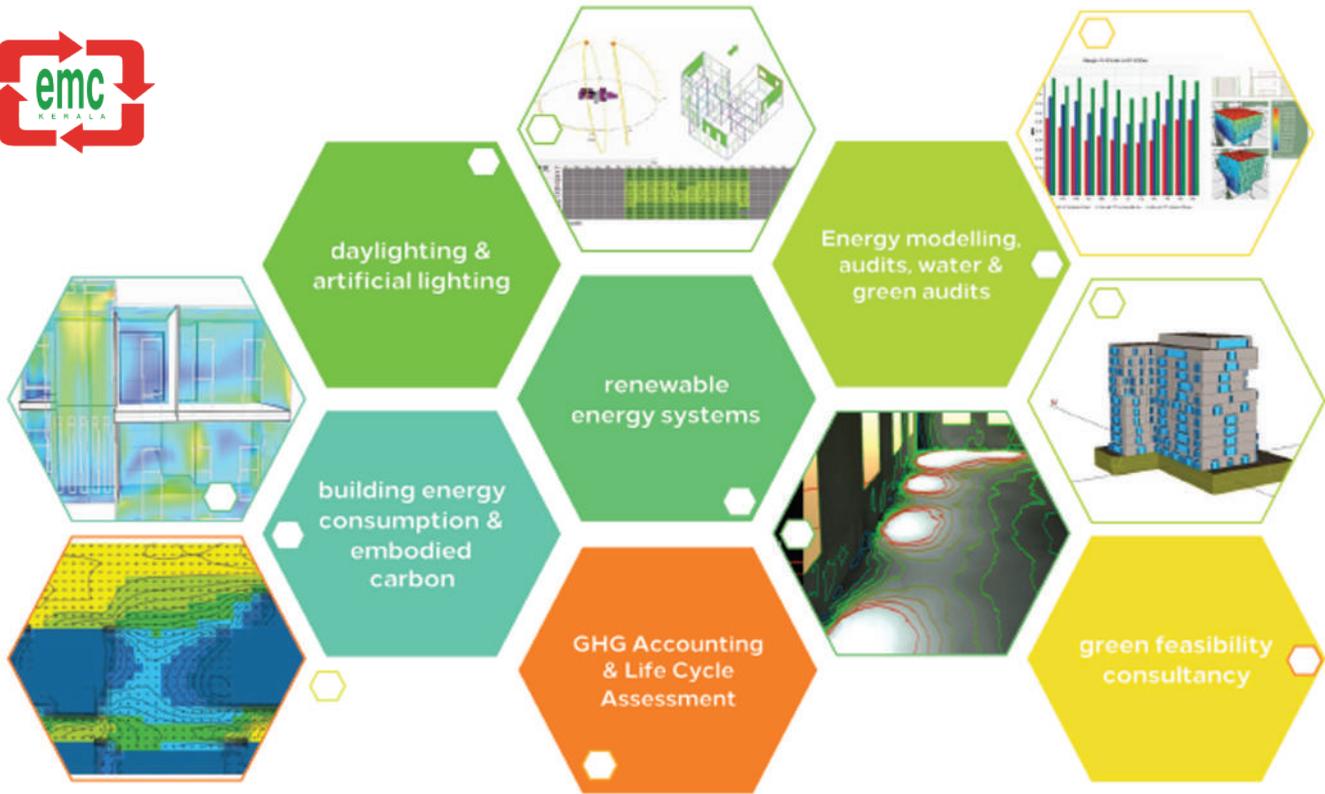
**Promoters of Energy
Efficient Products
Best Performance Award**





CHILTON REFRIGERATION PVT LTD

CHILTON, an SSI unit, founded in 1984, offers customized cooling solutions across India. Their products include process chillers, blood bag refrigerators, -40 °C freezers, - 80°C ultra-low temperature deep freezers, etc. The company is helmed by Mr. P.G. Chil Prakash, an alumnus of NIT – Calicut. They have six patents for innovative designs and products invented by them over the last 30+ years. CHILTON has been a long-term OEM supplier to HMT for Oil Chillers and a Japanese firm for Blood Bag Refrigerators. They are also exporters of energy-efficient chillers to several countries. Now they have developed a high power saving free hot water air conditioner.



Architects and Green Building Consultancy Best Performance Award



F5 SUSTAINABILITY CONSULTANTS

F5 Sustainability Consultants which started its operation in 2019 is one of the early firms in the State primarily formulated for green building analysis and facilitation. They provide consultancy services to architects, engineers, developers, builders and services include green building feasibility analysis, certification services, energy auditing, and green retrofitting solutions. The firm is a member and enlisted service provider by the Indian Green Building Council; Recognised as an Innovative Start-up by the Department of Promotion of Industry and Internal Trade, Govt of India and Kerala State Start-up Mission. Also recognized as a climate-responsive Indian start-up by Climate Knowledge and Innovation Community (KIC) and Climate Collective. The firm is engaged in a number of green building projects including IGBC, GRIHA, LEED, GEM and ECBC projects located within and outside the State. Apart from providing green building consultancy services, they have conducted Green Building Literacy Series for the public and Technical series for professionals to create awareness and strengthen the green building market in Kerala.



Large Scale Energy Consumers Commendation Certificate

APOLLO TYRES Ltd, KALAMASSERY

Apollo Tyres Ltd is an international tyre manufacturer and a leading tyre brand in India. Apollo Tyres Kalamassery started its operation in 1962 in Kalamassery, Ernakulam. The company has a production capacity of 110 MT per day and is employing around 1295 employees. The company has a manufacturing presence in Asia, Europe, and Africa, with 8 modern tyre facilities and exports to over 100 countries. The company is certified for ISO 9001, ISO 50001, QS 9000, ISO/TS 16949, ISO 14001 and IATF 16949. As an organization, Apollo Tyres is growing steadily by producing a high volume of products with its multinational presence.

Their major energy conservation efforts include the following:

- Conversion of Pneumatic ram to Hydraulic ram in the new mixer, resulting in compressor energy savings
 - Energy efficient cooling tower installed to reduce condenser temperature from 42 deg C to 32 deg C thus enabling Single chiller operation during off-peak hours
 - VFD provided in stand by the hot water pump and 150 psi compressor
 - Replacement of overhead pump with energy efficient pumping system
 - Cold feed Extruder provided to replace inefficient cushion mill operation
 - Interlocking of auxiliaries and lighting circuits in Tyre building, thus enabling automatic switch off (Blowers, fans, lights, etc)
 - Interlocking of auxiliaries and lighting circuits to automatically switch of Blowers, fans, lights etc
-

Total Annual Savings achieved during the last financial year:

Electricity: 0.44 MU

Thermal : 216 tons (steam)





Large Scale Energy Consumers Commendation Certificate





SAINT-GOBAIN INDIA PRIVATE LIMITED, PALAKKAD

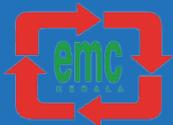
Saint-Gobain India Private Ltd SEFPRO (Sintered and Electro Fused Products) Palakkad is a pioneer in the manufacturing of Fused Cast and Sintered Refractories for glass furnaces. The company started its operation in April 2002. The production capacity of the plant is 12000 tons per year and produces Fused cast AZS, Fused cast Alumina and Sintered refractories for Glass furnaces with a force of 1500.

Their major energy conservation efforts include the following:

- PLC-based shop floor lighting control
- Running time optimization of Arcing furnace oxygen lancing cooling pump
- Replacement of Induction motor with servo motor in 1250 Ton hydraulic press
- Old equipment control conversion with VFD speed optimization
- 2.5 MW Rooftop solar power generation

Total Annual Savings achieved during the last financial year:

Electricity: 0.88 MU



Medium Scale Energy Consumers Commendation Certificate





MRCMPU LTD MALAYORA DAIRY, KANNUR

Malabar Regional Co-operative Milk Producers Union Limited (MRCMPU) is one of the three Regional Co-operative Milk Producers Unions in Kerala State with area of operation covering six northern districts of Kerala, namely, Kasaragod, Kannur, Wayanad, Kozhikode, Malappuram and Palakkad. Malayora dairy coming under Malabar Regional Cooperative Milk Producers' Union Ltd. (MRCMPU) situated in Sreekandapuram, Kannur, was commissioned on 15 November 2017. The dairy is marketing a variety of milk and value-added milk products and has a processing capacity of 1,00,000 Litres per day. It is the only dairy in Kerala that is producing Ultra High Temperature Sterilised milk that has a shelf life of 90 days.

Their major energy conservation efforts include the following:

- Implemented a 100% steam condensate recovery system
- Replaced sodium vapour lamps with LED lights and 100% LED lights are used
- Installed Desuperheater for Waste Heat Recovery
- Purchased electric vehicles for transportation
- Training on Energy, Environment and Climate Crisis for employees

Total Annual Savings achieved during the last financial year:

Thermal: 10.8 toe (Briquettes)



Medium Scale Energy Consumers Commendation Certificate



MRCMPU LTD, MILMA WAYANAD DAIRY

Malabar Regional Co-operative Milk Producers Union Limited (MRCMPU) is one of the three Regional Co-operative Milk Producers Unions in Kerala State with an area of operation covering six northern districts of Kerala, namely, Kasaragod, Kannur, Wayanad, Kozhikode, Malappuram and Palakkad. Milma Wayanad dairy started its operation on the 19th of December 2008. The milk processing capacity of the plant is 3,00,000 liters/day and produces a wide range of Milk varieties and Milk Products.

Their major energy conservation efforts include the following :

- Installation of new & efficient steam boilers in place of Old steam boilers
- Implemented steam condensate recovery system
- Solar powered street lights

Total Annual Savings achieved during the last financial year:
Thermal 97.2 toe (briquette)



Buildings Commendation Certificate





CROWNE PLAZA HOTEL, KOCHI

Crowne Plaza Kochi is an upscale premium hotel that started its operation in the year 2012 the hotel is managed by Intercontinental Hospitality Group. The hotel offers 269 rooms and suites with excellent views of the backwaters and the city. Authentic culinary outlets, an extensive spa, leisure facilities, and high-tech meeting spaces that can accommodate up to 900 people make Crowne Plaza Kochi the preferred international brand for business, leisure, and events. Crowne Plaza Kochi is certified with IHG Green Engage Level- 4, ISO 22000:2018.

Their major energy conservation efforts include the following :

- Replaced 1100 nos of 25 watts incandescent lamps with 5 watt dimmable LED
- Replaced 15 nos of modulating control for valves
- Descaling of condenser tubes and evaporator

Total Annual Savings achieved during the last financial year:

Electricity: 0.031 MU



Institutions and Organisations Commendation Certificate



ST. ALBERT'S COLLEGE (AUTONOMOUS) ERNAKULAM

St. Albert's College is an Autonomous Institution situated at the heart of the city of Kochi, affiliated with the Mahatma Gandhi University, Kottayam, and is functioning under the management of the Archdiocese of Verapoly. The institute started its function as St. Albert's High School in 1892 and got cognition of Madras University on August 18, 1898. The College is ISO 9001:2001 certified and NAAC accredited.

Their major energy conservation efforts include the following :

- Replacement of Fluorescent tubes with energy-efficient LED lights
 - Installed Sensor based energy conservation- day/night and occupancy sensors
 - Installed a 40-kW solar power plant
 - Conducted awareness programs and interdepartmental and intercollegiate competitions in promoting energy conservation.
-



SUMMARY OF SAVINGS ACHIEVED BY ENTERPRISES
PARTICIPATED IN THE STATE ENERGY
CONSERVATION AWARDS -2022

No of participants	52
Total saving in Electricity (MU)	75.06
Total saving in Fuel (toe)	3842.57



STATE LEVEL MONITORING COMMITTEE FOR ENERGY CONSERVATION IN KERALA
[GO (Rt) No.128/2020/POWER DATED 24/11/2020]

Chairman:

The Secretary to Government
Department of Power
Government Secretariat, Thiruvananthapuram – 695001

Members:

The Chairman and Managing Director, Kerala State Electricity Board Ltd

The Chief Electrical Inspector to Govt. of Kerala
O/o Chief Electrical Inspector

The Director, Directorate of Factories and Boilers

The Chief Electrical Engineer, Public Works Department

The Chief Executive Officer

Agency for New and Renewable Energy Research and Technology (ANERT)

Member and Convener

Director, Energy Management Centre



Energy Management Centre- Kerala
 Dept of Power, Govt of Kerala, Sreekariyam P O,
 Thiruvananthapuram- 695017
 Website: www.keralaenergy.gov.in
 Toll free: 1800 425 5256

*Energy Observer
 First vessel powered by
 renewable energies and hydrogen.
 Developed in France this renewable
 energy powered vessel is both
 laboratory and plea towards ecological
 transition. It is travelling around the globe
 for more than 5 years.*

