



Department of Power, Government of Kerala

14 December 2009

National Energy Conservation Day

**Kerala State  
Energy Conservation  
Awards 2009**



Energy Management Centre - Kerala

Thiruvananthapuram 695 017



## **Kerala State Energy Conservation Awards 2009**

14 December 2009

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### *Printed at*

**SB Press (P) Ltd, Tvm-1**

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State Level Energy Conservation Monitoring Committee for  
Energy Conservation in Kerala

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**Save Energy Save our Planet**



**Congratulations  
to all  
Award  
Winners!**

## Message from the Hon'ble Chief Minister



**V S Achuthanandan**  
Chief Minister , Kerala

Government of Kerala is keen to promote energy efficiency in all sectors of our economy. We are convinced that a balanced strategy of augmenting supply side and curbing wastage on the demand side is the most pragmatic recipe for the State to be without load-shedding and power cut. We are committed to provide electricity of good quality at affordable rates to all rural households, which are yet to be connected to grid, within the next couple of years. For this, we need serious steps to reduce the excess consumption for which, increasing the level of public awareness is essential. Kerala has already achieved a certain level of success in this endeavour as recognised by the National Energy Conservation Award 2008 given to us by the Government of India. We also need to have more service providers to implement energy efficiency measures. Let me take this opportunity to urge all to help us implement the provisions of the Energy Conservation Act, 2001 in letter and spirit.

A handwritten signature in green ink, appearing to be 'V S Achuthanandan'.

**V S Achuthanandan**  
Chief Minister , Kerala



## Message from the Hon'ble Minister for Electricity



**A.K. Balan**  
Minister for Electricity

**Conserve Energy  
to Consume  
for ever**

This year too, on the National Energy Conservation Day, the Government of Kerala reiterates its dedication to work towards promoting energy efficiency along with our pursuance of new power generation projects and earnest efforts in reducing T&D losses. Life style changes; infrastructure growth in health and tourism and revival of traditional, small & medium industries – all contribute to the rising energy needs in the State. While in one side, we organize programs to enhance awareness levels on the need and importance of energy conservation, on the other hand, it is noticed that there is an increasing tendency of using or rather wasting energy for extravaganza. When people of almost all States in this country are experiencing hardships of power shortage, for the last three to four years Keralites are not that much exposed to power cuts. Probably this might have caused complacency in our energy conservation practices. The price

we pay for electricity is far less compared to our other living costs and this is very much applicable for the upper middle class and upper class. They should be sensitized to conserve energy, not highlighting the cost saving but the socio-environmental considerations. They need to be urged to use alternative options like the solar power, even if a little costly. The Government is happy to note the recent intervention made through children to drive home this message. Positive response of our people to the clarion call of EMC & KSEB in reducing the peak demand shows that we can do. Let us make this judicious use of precious energy a habit and part of our culture which always exhorted us to respect our natural resources. I am happy to note the achievements and contributions of our industries, institutions, individuals and media from the award applications. I urge others to take these as models and try to replicate. While congratulating the award winners, I promise the support from Government for more such initiatives. Let us work hard to make this State an energy efficient model.



**A.K.Balan**  
Minister for Electricity



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## INTRODUCTION

Central Electricity Authority has projected energy shortage of 9.3 percent or 78,429 Mega Units and peak power shortages of 12.6 percent or 14.98 GW in 2009-10. The power utilities generated 628,016 MU of electricity during April-February 2008-09 against requirement of 705,724 million units. As far as fossil fuel viz; Coal and Petroleum Products are concerned India is a net importer, While the coal import target for 2009-10 has increased by 40% to 35 million tonne, India continues to depend three times its domestic production in the case of petroleum products. India is the fourth largest emitter of global greenhouse gas (GHG) emissions after China, the United States and Russia, contributing about 5 percent of total emissions in 2007. But it is also home to a third of the world's poor. Hence the formidable growth which needs to be achieved for providing the basic facilities along with the challenge of lesser emissions have made India to explore every options especially giving thrust to low hanging options such as Energy Efficiency.

With the Copenhagen Submit from December 6<sup>th</sup> to 18<sup>th</sup>, 2009 reviewing the world global emission scenario and the commitment from India to reduce its emissions, Energy Efficiency activities has gained further impetus. The same is being achieved by devising efficiency and cost effective strategies for end – use demand side management through innovative service delivery and promotion of market based implementation at an accelerated pace.



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Kerala's energy consumption pattern has shown tremendous improvement with the government being able to retain last year's peak load deficit inspite of increase in number of connections.

Energy Management Centre is one among the first few well developed 'Designated Agency' to enforce the Energy Conservation Act 2001 in the State. The creation of an exclusive organisation to undertake energy management activities in the state in 1996, before the promulgation of EC Act 2001, has resulted in developing certain unique programs targeting the different categories of energy users, "Energy Circles" in Industries, "Energy Clinic" for women focusing primarily domestic sector, "Energy Club" in educational institutions and unit level Energy Audits and demand and supply side interventions etc.

EMC have several ongoing activities such as Energy policy for public sector industries, Energy audit training programmes, energy efficiency programme for municipalities/ULBs, transportation and industrial sector, Electrical distribution, focused projects for Engineering college students etc. The state is in the final stages of a Kerala State Energy Conservation Fund Rules for facilitating the Energy Efficiency projects in the state. The compliance study of the Energy Conservation Building Codes is in the completion stages in the state to ensure that the building and commercial sector will be energy efficient from the design or perhaps in the initial construction stage. Twenty two Government Buildings have undergone Investment Grade Energy Audit and the energy efficiency measures identified in these buildings are in the process of implementation. LED based energy efficient street lighting system, a Bureau of Energy Efficiency, Government Of India supported demonstration projects is in the initial stages and it would generate its impact on the street lighting systems in all Corporations and Municipalities.

This year there are nine main categories and seven special categories for State Level Energy Conservation Award-2009. New categories includes manufacturers/traders & dealers of energy efficient equipments and a special category for energy efficient and eco friendly building Designer/developer. Developing a market driven mechanism for ensuring the penetration of energy efficient equipments is one of the identified areas of the Bureau of Energy Efficiency. Energy Efficiency in Buildings is also gaining importance all over the world and Government of India through the Bureau of Energy Efficiency is undertaking several activities in this direction. Some new amendments were made in the categories during this year such as "Educational institution" in place of "Energy Conservation Clubs" and "Buildings" in place of "Public Buildings" so as to ensure wider participation under these categories.



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The following are the categories for the Award

**Category 1: Large scale energy consumers: Citation, Plaque**

(Including large scale industries, hotels, hospitals, etc. – those consumers with a total annual energy bill of over Rs 150 Lakhs including fuel and electricity, wherever applicable or with a fixed assets of more than Rs. 10 Crores)

**Category 2: Medium scale energy consumers: Citation, Plaque**

(Including medium scale industries, hotels, hospitals, etc.. – those consumers with a total annual energy bill within Rs 30 Lakhs to Rs 150 Lakhs including fuel and electricity, wherever applicable or with a fixed assets in the range of Rs 1-10 Crores)

**Category 3: Channels and Media: Citation, Plaque**

(The efforts in propagating/promoting the Energy Efficiency and conservation including awareness campaign having certified/proven impact)

**Category 4: Small scale energy consumers: Citation, Plaque, Rs 10,000/-**

(Including small-scale industries, hotels, hospitals, etc. – those enterprises with a total annual energy bill of less than Rs 30 Lakhs including fuel and electricity, wherever applicable or with a fixed assets of less than Rs. 1 Crore)

**Category 5: Non-profit organizations: Citation, Plaque, Rs 10,000/-**

(Including Local Bodies, NGOs and organizations involved in promotional efforts in energy conservation)

**Category 6: Research & Innovation: Citation, Plaque, Rs 10,000/-**

(Organisations and Individuals involved in Research & Innovation efforts in energy conservation, efficiency improvement, fuel savings etc. are eligible to apply)

**Category 7: Individuals : Citation, Plaque, Rs 10,000/-**

(Journalists, media persons, Writers, etc., who contributed in the field of energy conservation through a media)



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**Category 8: Buildings: Citation, Plaque, Rs 10,000/-**

(Buildings including building complex of public organisations/ institutions, etc., who have implemented energy conservation/ efficiency programs)

**Category 9: Manufacturers/traders & dealers of energy efficient equipments : Citation, Rs. 10,000/-**

(This includes the BEE Star labeled equipments, energy efficient retrofits/controls suitably proven and certified by competent /accredited labs/institutions)

**Special Category**

**Category 10: Energy Efficient and Eco friendly building Designer/developer : Citation, Plaque, Rs 5,000/-**

(Institutions who has designed and/or developed such buildings/campus with proven/certified Energy Efficiency and conservation including Green/Eco friendly considerations)

**Category 11: Energy Clinic volunteers: Citation, Plaque, Rs 5,000/-**

(Volunteers worked under the programme 'Energy Clinic' of Energy Management Centre having Energy Clinic volunteer identity card)

**Category 12: Fleet Operators: Citation, Plaque, Rs 5,000/-**

Individuals or Institutions operating as part of their normal business activities more than five petroleum fuel powered vehicles for transport of men and/or material e.g: KSRTC, ISRO, KTC, tour operators, bus owners, lorry/truck/cargo operators etc.

**Category 13: Certified Energy Managers: Citation, Plaque, Rs 5,000/-**

Any individual possessing the qualification of a certified Energy manager as prescribed by Bureau of Energy Efficiency (or as stipulated in EC Act 2001).

**Category 14: Certified Energy Auditors: Citation, Plaque, Rs 5,000/-**

Any individual possessing the qualification of a certified Energy Auditor as prescribed by Bureau of Energy Efficiency or as stipulated in EC Act 2001



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**Category 15: Educational Institutions: Citation, Plaque, Rs 5,000/-**

Schools /colleges/ITIs/ITCs/Polytechnics/Engineering Colleges, for their efforts in promotion of energy efficiency and conservation activities; this includes Energy Conservation Clubs, Science Clubs, Energy & Environment conservation clubs and similar forums/clubs in the educational institutions

**Category 16: Best Suggestion for Energy Conservation/Energy Efficiency : Citation, Plaque, Rs 5,000/-**

Individual who shall be a permanent resident of Kerala, who will provide best practical/ implementable suggestion on energy efficiency/energy conservation practices or programme in any sector, equipment or system.

**CRITERIA FOR JUDGING**

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

The short listed enterprises, organizations, individuals are invited for an interactive presentation before a team of experts.

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**Winners of  
Kerala State Energy Conservation  
Awards 2009**

The state level monitoring committee for energy conservation in Kerala, on evaluating the various entries for state level award and ascertaining the facts through discussions, interviews and presentation before a judging committee, selected the following organisations and individuals for conferring the Kerala State Energy conservation award and commendation certificate-2009 for their achievements in Energy conservation during the year 2008-09.

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## LARGE SCALE ENERGY CONSUMERS

### Best Performance Award

#### Apollo Tyres Ltd, Perambra, Thrissur

M/s Apollo tyre was incorporated in 1976 with its registered office at Cochin and head office at New Delhi. Mr.O.S. Kanwar is the present chairman and managing director and Mr. Neeraj Kanwar is the joint Managing Director. The plant is situated at Perambra, in Kodakara panchayat at Thrissur district. The plant has a land area of 97 acres and a building area of 85,000 m2. Initially the plant was started in 1977 with a production capacity of 32 tons per day of automotive tyres. The product mix includes Truck, LCV, Rear Tractor, Farm radial, Passenger and ADV tyres. The present capacity of the plant is 308 MT/day. At present the Perambra Plant employs around 2700 direct workmen and supports around 10,000 persons indirectly. Presently, Apollo Tyres enjoys a market share of 30%, mainly in the Truck segment. The Annual turnover of the company in the year 2008-09 was Rs. 4,070 Crores.

Apollo tyres has been conferred the award considering their all-round performance and consistency in Energy Conservation measures. They were able to achieve significant reduction in overall energy levels by constant monitoring and achieving set targets. Reduction in Specific Energy levels was achieved through their continuous efforts at various levels. Some of their Energy saving measures are:

- Hot water recovery using HP purging in Tyre Curing Presses
- Dome steam Consumption reduction by providing Ceramic cloth blanket insulation in Platen Presses
- Flash steam recovery from hot water sump
- Installation for new process Deaerator in Tyre Curing
- Tyre Curing Press piping insulation revamping
- Tyre Curing Press dome insulation revamping
- Elimination of process De aerator overflow
- Energy efficient motor for Plant Air Compressor
- Installation of auto controller for process pump



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## MEDIUM SCALE ENERGY CONSUMERS

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Best Performance Award

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Coconut Lagoon, Kottayam

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M/s Coconut lagoon heritage resort is the first and foremost resort in Kumarakom, Kottayam district, Kerala. It was established in the year 1993, located in Aymanam, its spreads almost 22 acres, in the banks of Vembanad lake and Kavanar river, with a water front of more than 1 kilometer. All its buildings are a veritable museum unto itself. Cottages are well over a century old, painstakingly dismantled and brought to this site and reassembled in accordance with “Thachusastra”, the ancient rule and rites of carpentry. Coconut lagoon is a part of CGH earth group (clean, green & healthy) commenced its operation in 1993. A total of 50 heritage classic accommodation in three categories: Heritage bungalows, heritage mansions and pool villas, offers various engaging experience to the guests and serves ethnic Kerala cuisines, continental and seafood specialties. The resort has been rated to the peak for its operational excellence by many of the dignitaries and celebrities of the world.

Coconut lagoon has been conferred the award considering their all-round performance and consistency in Energy Conservation measures. They were able to achieve significant reduction in overall energy levels by constant monitoring and achieving set targets. Reduction in Specific Energy levels was achieved through their continuous efforts at various levels. Some of their Energy saving measures are

- Introduction of Methane gas for cooking instead of LPG
- Installation of Solar LED's for pathway lights.
- Replacement existing water-cooled package unit.
- Introduction Asia's Largest Solar Boat.
- Installation of Solar water heaters
- Rain Water Harvesting
- Periodic Energy conservation Awareness programmes for the staff



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## CHANNELS AND MEDIA

Best Performance Award

Rasheed Anappuram, Malappuram

Shri. Rasheed Anappuram is a senior reporter “Deshabhimani” daily, Malapuram unit. He was born in Vallikkunnu, Kadalundi town, Malappuram district. He has published various journals and articles related to Energy sector. He has been associated in Energy conservation project of Vallikkunnu Gramapanchayath.

Considering his involvement and efforts in investigative reporting on Energy conservation, he has been selected for this year’s award.



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## SMALL SCALE ENERGY CONSUMERS

### Best Performance Award

#### Pankajakasthuri Herbals India Ltd, Thiruvananthapuram

Pankajakasthuri Herbals India Pvt. Ltd, is a ISO certified company established by Dr. J.Hareendran Nair located at Kattakada , Thiruvananthapuram, to manufacture quality Ayurvedic medicines and the unit had been awarded with GMP registration. Originating from a small makeshift research and development center and Clinic, the first few products hit the market in 1985.

Pankajakasthuri Herbals India Pvt. Ltd has been conferred the award considering their all-round performance and consistency in Energy Conservation measures. They were able to achieve significant reduction in overall energy levels by constant monitoring and achieving set targets. Reduction in Specific Energy levels was achieved through their continuous efforts at various levels. Some of the energy saving measures adopted are :

- Installation of Modern Electronics Equipments to minimize electric wastages & reduction in Electricity Consumption
- Installation of Energy efficient electrical equipments,
- Formed High Power Committee and Implementation Task Force
- Installation of energy efficient Lighting system.
- Conducted Mass Awareness Camps for Employees and their families



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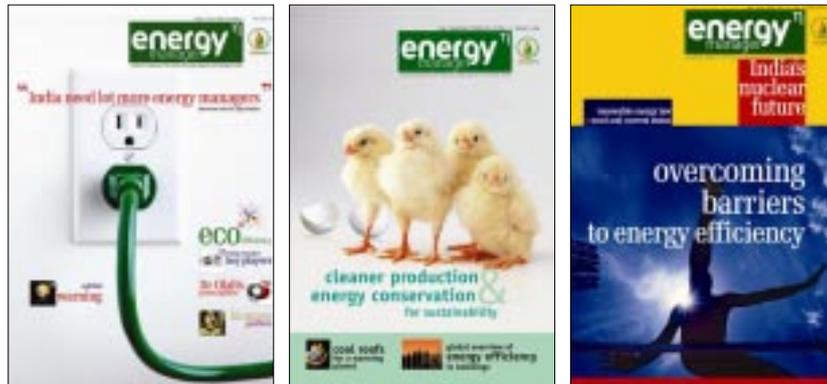
## NON-PROFIT ORGANISATION

### Best Performance Award

### Energy Press, Palakkad

The Energy Press has launched the inaugural issue of a quarterly energy/ environment magazine “Energy Manager” in January 2008 aimed at filling the information gap at different levels from policy making to practical application both in renewable and non renewable energy sectors. Energy manager is 64 pages, four colour quarterly publication; with trendy design it uses high quality images to effectively convey the message. The magazine is addressing a wide spectrum of issues on quarterly basis with focus on a particular issue of timely relevance. The magazine through its innovative approaches and attitudes on energy efficiency and conservation, draw the attention of diverse spectrum of readers and deliver the most contemporary global issues hitherto inaccessible through a magazine.

Considering the contribution to convey the message of energy conservation and energy efficiency to the mass, Energy Press has been selected for this year’s award



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## NON-PROFIT ORGANISATION

### Best Performance Award

#### Eloor Grama Panchayath, Kochi

Eloor Grama Panchayath is situated in Eranakulam District. Area of the panchayath is 14.21 sq km, located 17km north of Eranakulam city. Eloor is the largest industrial belt in Kerala, where 100's of Small to Large scale unit function. The population is 34455; Density of population is 2425 per sq km.No. of wards: 20, Literacy 93.55%. Some of the energy conservation activities that helped them to achieve this award are.

- Awareness programme on Energy conservation for 2000 families.
- CFL distribution for public.
- Power generation from waste.
- Energy conservation campaigns in association with MES Eastern School, Eloor.



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## INDIVIDUALS

### Best Performance Award

#### C. Jayaraman, Kochi

Shri C. Jayaraman is Senior Manager (Engineering & Construction), of BPCL-KOCHIN REFINERY and a certified energy Auditor, having 24 years of Professional Experience in the industry with strong interest in Energy and Environment Conservation activities. Some of the energy conservation activities that helped them to achieve this award are.

- Conducted a state wide campaign on Energy Conservation: “Switch-off one light and Avoid Power Cut” covering all the Districts
- Carried out several Energy Audits, awareness workshops(in domestic, agriculture, industry and transport sectors), organized Driver Training Programmes, Exhibitions, Seminars, Emission Awareness Programmes, etc in the State of Kerala
- Carried out numerous studies in industries, delivered lectures in engineering colleges, industrial training institutes, schools and colleges on energy and environmental concerns

Considering his involvement and energy saving realized by his efforts, he has been selected for this year’s award.



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## INDIVIDUALS

### Best Performance Award

T.P.Sadananda Pai, Kochi

Shri.T.P.Sadananda Pai is an Executive Engineer in PWD(Electrical) division ,Kozhikode.He is actively involved in enhancing energy efficiency in the lighting system and public buildings .He is instrumental in implementing T5 fluorescent lamps and several other star labelled equipments in PWD owned and maintained buildings. Some of the energy conservation activities that helped them to achieve this award are.

- Detailed study on T5 lamps
- Propagation of use of T5 lamps
- Energy efficiency consideration in new projects, O&M activities and in the electrical installation of LSGIs/ULBs
- Awareness program and seminars on energy conservation

Considering his involvement and substantial energy demand reduction and energy saving realized, he has been selected for this year's award.



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## BUILDINGS

Best Performance Award

Wipro Limited KODC, Ernakulam

M/s Wipro Limited, Kochi Development Corporation(KODC), is leading end-to-end IT service provider offering solutions on a Global Delivery Platform located in an area is 25.18 acres with a built up area of about 72751 square meter at Kochi. Wipro has been an organization which has been thoughtful and responsible in all its activities and this has been the motivation to build Green Buildings. One of the activities taken up by the organization is to build Environment Friendly and Energy Efficient Buildings. The Kochi Development Centre is very energy efficient and this has been achieved with a nominal increase of 10% in the construction cost while the potential recurring energy savings is in the order of 30%. It has also provided a template where all issues of energy and environment with regard to the building has been dealt with. . Kochi Development Centre is Gold Rated LEED Building by United States Green Building Council(USGBC). The Energy saving approach and methodology adopted are

- Implementation of Building Automation System
- Thermal Storage System for power demand management
- Installation of Biogas Plant
- Implementation of Water efficient landscaping, Reduction in water usage
- Use of energy efficient Lighting System
- Periodic energy audits are conducted and innovative solutions are implemented



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## **ENERGY CLINIC VOLUNTEERS**

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**Best Performance Award**

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**Sudarsana John, Idikki**

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Energy Clinic is a unique programme of EMC in energy conservation activities in domestic sectors through women change agents. Through awareness, 10-15 % of total energy can be saved. The energy clinic is to provide valuable information to the rural population on energy conservation, energy efficient equipments, right methods of energy use to reduce wastage etc. At present there are 206 trained women volunteers in the State In connection with the Energy Conservation Month activities, best energy clinic volunteers are awarded prizes based on their performance.

She is instrumental in distributing CF Lamps in various households in Idikki District. Which has resulted in substantial energy consumption reduction and savings to households. Considering her involvement and substantial energy demand reduction and energy saving realized by her efforts through Energy Clinic, she has been selected for this year's award



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## **CERTIFIED ENERGY AUDITOR**

**Best Performance Award**

**B.V.Suresh Babu, Thiruvananthapuram**

Shri.Suresh Babu B.V is a senior engineering consultant and Certified Energy Auditor. He is the founder partner of Ottatraction Kochi an energy audit firm which is very active in the state. In his personal capacity as certified energy auditor, he has made following remarkable contributions.

- Conducted over 29 Energy audits in diversified industries and utilities.
- Assessment of Energy conservation potential in four SME clusters viz Rice Mills,Steel Re-rolling Mills, Rubber Factories and Sea food Industries in Kerala for National Productivity council
- Conducted Biomass gasifier and Small Hydro Projects
- Published papers and conducted workshops on renewable energy and energy efficiency and conservation

Considering his involvement as Energy Auditor, he has been selected for this year's award



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## EDUCATIONAL INSTITUTION

### Best Performance Award

#### Toc H Institute of Science & Technology, Ernakulum

M/s TocH Institute of Science & Technology established in 2002, located at Arakkunnam, 26 kms from the city of Cochin, Kerala. It is one of Kerala's fastest growing Engineering schools, attracting extremely talented engineering students from across the nation. Toc H Institute of Science & Technology is The Institute is approved by All India Council for Technical Education (AICTE), New Delhi and the Government of Kerala and recognized by Cochin University of Science & Technology (CUSAT). Some of the energy saving measures that helped them to achieve this award are.

- Energy conservation campaign, Energy conservation initiative
- Energy related product development, Energy related researches
- Energy Audits., Renewable energy applications



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## **BEST SUGGESTION FOR ENERGY CONSERVATION**

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**Award for Best Suggestion**

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**N.P Antony, Eranakulam**

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Shri N.P. Antony, Managing Director of M/s Pavizham Healthier Diet (Pvt) Ltd, belong to a family that is in rice farming and milling for over two decades. He is the managing partner of couple of rice mills and Managing Director of a company that manufactures and distributes rice and value added products from rice. He is keen to develop the processing industry of paddy in the State.

The following energy recovery measure having an additional benefit of pollution prevention is considered for the best suggestion in this category

Heat recovery from soak water used for par boiling rice and subsequent gas generation form soak water has been identified by him. This has been developed with help of RRL and successfully installed in one of his rice mills.



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## LARGE SCALE ENERGY CONSUMERS

### Commendation Certificate

#### Bharat Petroleum Corporation Ltd, Kochi Refinery

M/s BPCL Kochi Refinery, a 9.5 MMTPA fuels refinery is located at Ambalamugal, Kochi in the Kerala State in a green, sprawling campus of 1200 acres. Commissioned in 1966 as a 2.5 MMTPA refinery, Kochi Refinery (then known as Cochin Refineries Ltd) has gone through a series of expansions and modernizations to be the present Kochi Refinery. Originally a stand alone PSU refinery, set up in association with Philips Petroleum, USA, Kochi Refinery became a part of BPCL family in the year 2006. Some of their Energy saving measures are

- Replacement of Naphtha stabilizer reboiler with a steam reboiler and Old low efficiency fired heater replaced with a high efficiency steam reboiler
- Optimisation of excess air in boiler through automatic air fuel ratio based combustion control scheme
- Conversion of metallic blades to FRP blades for air fin fans
- Waste heat recovery through steam generation in Biturox unit.
- Replacement of mineral wool insulation with Perlite.



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## LARGE SCALE ENERGY CONSUMERS

### Commendation Certificate

#### Veega Holidays and Parks Pvt. Ltd, Kochi

M/s Veega Holidays and Parks Pvt. Ltd' - known as 'Veega Land' - A land of amusement from the house of V-Guard, which started its operations on 3rd April 2000, is today one of the most exciting amusement parks in India. It has been designed to be an eco-friendly park where nature, art and technology merge in the right combination. Veega Land spots world-class entertainments including 60 exciting rides. Veega Land is also the first amusement park in India with ISO 14001-2004 and OHSAS 18001-2007 certification for Environmental, Health & safety management System. The measures taken by them to achieve this reduction are

- Time scheduling of rides/equipments based on the no. of guests or utility
- Re designing of Blowers and Duct in Wave pool area, Installed Motion sensors for lighting
- Installed Energy Saver and there by voltage optimized to 210 V
- Periodical Energy audit and reviews of maintenance schedule.
- Increased the usage of natural light by providing translucent roofing
- Use of Renewable Energy
- Upgradation and optimization of old Equipments with Energy efficient Equipments



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## LARGE SCALE ENERGY CONSUMERS

### Commendation Certificate

### BSES Kerala Power, Kochi

M/s BSES Kerala Power Limited ,a fully owned subsidiary of Reliance Infrastructure Ltd has established and operating a combined cycle power plant at Udyogamandal for supplying power to KSEB. BKPL is certified under the Management system standards of ISO9001:2000, ISO14001:2004 and OHSAS18001:2007. The plant has an installed capacity of 165 MW. The main fuel is Naphtha and the startup fuel is HSD. Periyar River is the source of water for cooling tower makeup, generation of DM water and as fire water. Electricity generated is transmitted to KSEB through two number 110 KV double circuit transmission lines. The measures taken by them to achieve this reduction are

- Reduction of set pressure of air compressor from 7.2 bar to 6.7 bar and attending air leakages.
- De staging of the Condensate extraction pump (CEP).
- De staging of LP Boiler feed water pump (BFP) Pump.
- Improvement in the lighting system, Rain water harvesting.



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## MEDIUM SCALE ENERGY CONSUMERS

### Commendation Certificate

#### Herbal Isolates Pvt Ltd, Kochi

M/s Herbal Isolates (P) Ltd started its operations in May 1984 primarily for the production of essential oils from herbs and spices mainly for the export market. In the next couple of years the company was able to get substantial orders for oils and was able to fully utilize its capacity by 1986. The company installed Spin Flash Drier and was able to develop a valuable bye product out of polluting waste material by this operation. The company has a Turnover of around Rs. 15 crores and Profit Rs. 4.3 crores. Some of their Energy saving measures are

- Optimizing SFD plant burner nozzles.
- Installation of gasifier in SFD replacing HSD and Steam consumption eliminated.
- Replacement of SFD disperser.
- Improvement of effluent quality through modifying the existing treatment system with new chemical combination
- Modification of tray dryers at Dehydrated Green Pepper Plant
- Installed Automatic Power Factor Controller to improve Power Factor

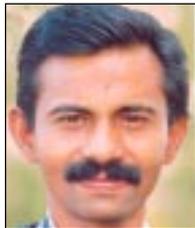


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## CHANNELS AND MEDIA

### Commendation Certificate

Reji Joseph, Kottayam



Shri Reji Joseph is a Bureau chief “Deepika”daily, Kottayam. He has published various journals and articles related to Energy Crises in the state.

Considering his involvement in reporting on Energy sectors and his efforts in Energy conservation activities, he has been selected for the year’s commendation Certificate.



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## **CHANNELS AND MEDIA**

### **Commendation Certificate**

**Deepak Dharmadom, Kannur**



Deepak Dharmadom has got 14 years of media experience. Worked in both print and visual media. Now Amrita TV Calicut Bureau Chief. Reported many exclusive political issues and noted human interested, Medical, development stories. Reported many stories relating Energy crisis at Kerala. Within the age 30 years got many Well known Media Awards. Considering his involvement in audio-visual reporting on Energy sectors and his efforts in promoting Energy conservation activities, he has been selected for the year's commendation Certificate



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## SMALL SCALE ENERGY CONSUMERS

### Commendation Certificate

#### Escapade Resorts Pvt Ltd, Alapuzha

M/s Escapade Resorts Pvt Ltd is part of a CGH (Clean, Green and healthy) Earth Experience Hotels, started in 1998, is situated in a local fishermen's village called Mararikulam in Alleppey District. It is away from the hustle and bustle of a city, between two small towns – Chertalai & Alleppey. Marari Beach resort spreads in a sprawling 36 acres of lush greenery extending to the calm, serene and sandy beach of Mararikulam. Marari Beach has 62 self contained villas built on the coastal style of fisher-men's huts and thatched with the locally available coconut palm leaves. They are equidistant in the green landscape and interconnected by stone paved pathways boarded with herbal and organic plants and trees. Some of the energy saving measures adopted are :

- Installation of Sewage Treatment Plant with water recycling.
- Rain water harvesting, Installation of solar cooker and water heaters
- Introduction of Electric Scooter & Bicycles for staffs
- Introduction of Methane gas instead of LPG for cooking
- Constituted an energy conservation cell, which is very active



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## NON PROFIT ORGANISATIONS

### Commendation Certificate

#### The International association of Lions Club, Dist. 324 E2, Thrissur

Lions Clubs International Established in 1917 is the world's largest service club organization, with more than 1.3 million members in more than 45,000 clubs and countless stories of Lions acting on the same simple idea: let's improve our communities.. Just three years after founding, Lions became international when first club was established in Canada Mexico followed in 1927. In the 1950s and 1960s international growth accelerated, with new clubs in Europe, Asia and Africa. The needs are great and services broad, including sight, health, youth, elderly, the environment and disaster relief. Some of the energy conservation measure adopted are :

- Awareness Programme on Energy Conservation in domestic sector
- Awareness Programme Electricity Meter Reading and Energy Saving Concepts
- Conducted A Programme on Save Earth Campaign for Next Generation A planetary emergency
- Conducted A Series of Programme conducted for School/Colleges/Technical Institutions & Elite Community
- Seminar on energy efficient products



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## RESEARCH AND INNOVATION

### Commendation Certificate

Dr Sasi K K, Palakkad



Dr Sasi K Kottayil has his basic and post graduate degrees in Electrical Engineering, and doctoral degree on Utility Scale Wind Electricity Generation. Dr Sasi has been in the teaching profession for the last 26 years. He is presently working as Professor and Vice Chairman in the Department of Electrical & Electronics Engineering at Amrita Vishwa Vidyapeetham. He served earlier in the Department of Electrical Engineering at North Eastern Regional Institute of Science & Technology (NERIST), Itanagar, and also in the Department of Energy at Tezpur University, Assam. He has published about 48 research papers, delivered more than 70 invited lectures, chaired a few sessions in national and international conferences, carried out six sponsored projects and reviewed several papers for National and International Journals and conferences. He has guided several B Tech projects and M Tech projects in the area of Energy Studies. He supervises three PhD works in the area of renewable energy. His activities in energy efficiency and conservation both in academics and practical field is acknowledged by this commendation certificate



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## RESEARCH AND INNOVATION

### Commendation Certificate

Dr. P.N.Joshi, Cochin



Dr. P.N.Joshi has a Ph.D and M.Tech in Mechanical Engineering. Dr.Joshi is presently the Principal Scientist, Head of Engineering Division and Joint Director of Central Institute of Fisheries Technology, Cochin, under Indian Council of Agricultural Research. Dr. Joshi has more than 30 years of experience as a Scientist in various capacities, mainly in the design and development of equipment and machineries for fish processing industries and utilization of Renewable Solar Energy for fish preservation. He has developed various types of hybrid solar dryers for hygienic and continuous drying of fish without spoilage using alternate backup heating systems like LPG, Biogas, Biomass etc. He has conducted several training programmes on Solar drying techniques, delivered invited talks and presented papers during National and International Conferences on Energy Conservation. Dr. Joshi has over the years, handled a number of national energy conservation programmes related to renewable solar energy. He was involved in the development and implementation of solar fish drying plants for community, institutional and industrial applications.



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## INDIVIDUALS

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### Commendation Certificate

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**Saji Prasad.G.C, Thiruvananthapuram**

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Shri Saji Prasad.G.C is the President of Energy Conservation Club, Mulamana VHSS which was started in the year 2004 for promoting Energy Conservation Activities among students and public.

He conducted many competitions among students to increase importance of energy conservation. Production units for manufacturing energy efficient devices like electronic chokes and CFL's were also started by him. He distributed CFLs to students in the schools. He has taken classes on Energy Conservation along with EMC for the public. Many exhibitions were conducted both on his behalf and on behalf of EMC, educating people. Considering his overall performance he has been selected for the year's commendation Certificate.



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Award 2009

## PUBLIC BUILDING

### Commendation Certificate

#### Regional Telecom Training Centre(RTTC, BSNL), Thiruvananthapuram

M/s BSNL is the largest Central Government owned Public Sector undertaking engaged in providing World class Telecommunication services. BSNL has always been in the forefront of energy conservation, ever since the Energy Conservation Act 2001 was enacted. BSNL was in the list of organisations that have given adhoc accreditation by the Bureau of Energy Efficiency. With 37000 Telephone Exchanges and more than 50000 Base Trans Receiver Station (BTS) across the country. The sustained energy conservation programmes undertaken by BSNL and the core National programmes of energy conservation have made BSNL the most energy efficient telecom operator in the country. Considering the outstanding performance of RTTC, BSNL Thiruvananthapuram in energy conservation, they have been selected for this year's commendation Certificate. The energy saving measures adopted are

- Replacement of Main Pumpsets & Garden Pump set
- Replacement of CRT Monitors by LCD monitors for computers
- Conducted Seminars and Workshops specific to Energy conservation
- Replacement of switching equipments with modern SMPS type
- Introduction of a module on "Energy efficiency and conservation" in the training syllabus of RTTC, BSNL, Thiruvananthapuram



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Award 2009

## FLEET OPERATORS

### Commendation Certificate

#### Kerala State Road Transport Corporation, Thiruvananthapuram

The KSRTC is the largest Public sector Unit in Kerala, Established on 1st April 1965 under RTC Act 1950, by converting erstwhile State Transport Department into Corporation with Head Office at Thiruvananthapuram. KSRTC have staff training centers, 4 Regional workshops and 87 bus depots/ garages across Kerala with over 35000 employees. A fleet strength of 5400 buses ranging from Super luxury A/c services to Ordinary services. Caters to the travelling needs of over 35 lakh of passengers daily .The specific fuel consumption of KSRTC is 4.23 Kilometer per Liter(KMPL) and daily revenue collection of around of Rs 3.19 Crore. Some of the energy saving measures that helped them to achieve this award are

- Reduced specific fuel consumption by improving mileage from 4.05 KMPL(Year 2004) to 4.18 KMPL(Year 2009)
- Regular training program for staff which includes, Supervisor training, Driver training for corrective O&M and KMPL improvement.
- Depot level counseling to crews for improvement of specific fuel consumption.
- Upgradation of Installed Fuel Injection pump calibration units
- Started Staff Training Centers



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## CERTIFIED ENERGY AUDITOR

### Commendation Certificate

Promod P.Mani, Kollam



Shri. Promod P.Mani is a Certified Energy Auditor and designated Energy Manager of Indian Rare Earths Ltd, Chavara, having more than 17 years of industrial experience in the field of Energy Conservation and Energy efficiency.

- Conducted several awareness programs on Energy conservation.
- Undergone training program and participated in seminars on Energy Conservation and Efficiency.
- Associated with various energy audit teams for energy audit in various IREL units.

Considering his overall performance he has been selected for the year's commendation Certificate.



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Energy Conservation  
Award 2009

## EDUCATIONAL INSTITUTION

### Commendation Certificate

#### P.S.M.O. College, Malappuram

M/s P.S.M.O. College, Tirurangadi is one of the premier institutions of higher learning under University of Calicut which is 24 Km from the District Head Quarters at Malappuram. The college is aided by Govt. of Kerala and accredited by NAAC. At present nine degree courses and six post graduate courses are offered at the college catering to the higher education needs of around 1350 students. Some of the energy saving measures that helped them to achieve this commendation Certificate are.

- Formed Energy & Environment Club with 150 students as members and has adopted the Tirurangadi village area surrounding the college for its activities.
- Conducted several Energy conservation activities for students and public.
- Construction of vermin compost pit, installation of an incineration plant for waste disposal in the campus, commissioning of ground water recharge pit
- Installation of smokeless oven, distribution of CFL bulbs, water quality monitoring.
- Seminar/workshop for students as well as general public including ICDS workers and Kudumbasree members



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## SUMMARY OF ENERGY SAVINGS ACHIEVED BY INDUSTRIAL UNITS PARTICIPATING IN THE STATE ENERGY CONSERVATION AWARD -2009

No of participants	74
Electrical energy Saving In MU	77.76
Coal Saved in MT	4000
Furnace Oil Saved in MT	15414.1
Diesel Saved in MT	387241
LPG saved in MT	8.6

### STATE LEVEL MONITORING COMMITTEE FOR ENERGY CONSERVATION IN KERALA

#### Chairman

The Principal Secretary to Government  
Department of Power, Government Secretariat,  
Thiruvananthapuram 695 001

#### Members

The Chairman, Kerala State Electricity Board  
The Chief Electrical Inspector to Govt. of Kerala  
The Chief Regional Co-ordinator, PCRA, Chennai  
The Chairman, Institution of Engineers (India), Thiruvananthapuram  
The President, Energy Conservation Society  
The Director, Factories & Boilers  
The Director, ANERT  
The Chief Engineer (Buildings). Public Works Department, Thiruvananthapuram

#### Member and Convener

Director, Energy Management Centre  
Sreekaryam, Thiruvananthapuram 695017



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