#### ENERGY MANAGEMENT CENTRE - KERALA

Department of Power Government of Kerala

### ENERGY EFFICIENCY IN ALL WALKS OF LIFE

FROM LAMPS TO BOILERS

#### WEBINAR SERIES BY ENERGY MANAGEMENT INSTITUTE, EMC

From 5<sup>th</sup> June 2020 (World Environment Day) To 22<sup>th</sup> March 2021 (World Water Day)















MARIEN

സെക്രട്ടേറിയറ്റ് തിരുവനന്തപുരം-695 001



പിണറായി വിജയൻ മുഖ്യമന്ത്രി

മെയ് 25, 2020.

നം.412/പ്രസ്/സി.എം.ഒ/2020.

#### സന്ദേശം

ഊർജ്ജ കാര്യക്ഷമത സംബന്ധിച്ച് ജനങ്ങളിൽ അവബോധം സൃഷ്ടിക്കുന്നതി നായി എനർജി മാനേജ്മെന്റ് സെന്റർ നടത്തിവരുന്ന പരിപാടികൾ ശ്രദ്ധേയമാ ണ്.



**Sri. Pinarayi Vijayan** Hon. Chief Minister of Kerala കോവിഡ് മഹാമാരി സൃഷ്ടിച്ച പുതിയ സാഹചര്യത്തിൽ ജനങ്ങൾ ഒത്തുകു ടുന്ന ബോധവൽക്കരണ പരിശീലന പരിപാടികൾ സംഘടിപ്പിക്കുക അസാധ്യമാ ണ്. അതിനെ മറികടക്കുന്നതിനായി വെബിനാർ രൂപത്തിൽ ഓൺലൈൻ പരിശീ ലന പരിപാടികൾ സംഘടിപ്പിക്കാൻ എനർജി മാനേജ്മെന്റ് സെന്റർ തീരുമാനി ച്ചത് ഉചിതമായി.

ഊർജ്ജസംരക്ഷണ രംഗത്തെ പുത്തൻ സാങ്കേതികവിദ്യകൾ പ്രയോഗിക്കുവാൻ സമസ്ത മേഖലകളിലുള്ളവരെയും പ്രാപ്തരാക്കുവാൻ സഹായിക്കുന്നവിധ ത്തിലാകും പരിശീലന പരിപാടികൾ എന്ന് കരുതുന്നു. ഈ സംരംഭത്തിന് എല്ലാ ഭാവുകങ്ങളും നേരുന്നു.

പിണറായി വിജയൻ



Govt. of Kerala





# Energy Efficiency from Design Stage

Energy efficiency in REBUILD KERALA

On World Environment Day 5th June 2020 10.30am - 12.00pm Energy Management Institute, EMC-Kerala

**Resource Persons** 

Introduction remarks - Dr. R. Harikumar, Director (i/c), EMC Kerala Design for Energy Efficiency - Dr. J. Nagesh Kumar, Former Director, NPC



For enquiries: Mr. Rajeev K R, ET-B, +91 8547990950

#### തിരുവനന്തപുരം



എാ. എാ. മണി വൈദ്യുതി വകുഷുമന്ത്രി കേരള സർക്കാർ

തീയതി.....



**Sri. M. M. Mani** Hon. Minister of Electricity Govt. of Kerala

കോവിഡ്-19 ലോകമാകെ ഗുരുതരമായ പ്രത്യാഘാതമാണ് സൃഷ്ടിച്ചിട്ടുള്ളത്. കേരളത്തേയും ഇത് സാരമായ രീതിയിൽ ബാധിച്ചു. സാമൂഹ്യജീവിതത്തിൽ പല പുതിയ ചിട്ടകളും രീതികളും കൂടിയേതീരൂ എന്ന അവസ്ഥ ഉണ്ടായിട്ടുണ്ട്. ശാരീരിക അകലം പാലിക്കുന്നതടക്കം രോഗവ്യാപനം തടയുന്നതിന് കൃത്യമായ നടപടികൾ ഉറപ്പുവരുത്തിമാ ത്രമേ മുന്നോട്ടപോകാൻ

കഴിയുകയുള്ളൂ. ഊർജ്ജ രംഗത്തും വളരെയധികം മാറ്റങ്ങൾ ഇതുമൂലം ആവശ്യമായിരിക്കുകയാണ്.

പൊതുജനങ്ങൾ ഒത്തുകൂടുന്നതരത്തിൽ യോഗങ്ങളും, പരിശീലന ബോധവൽക്കരണ പരിപാടികളും നടത്തുവാൻ കഴിയാ ത്ത സാഹചര്യത്തിൽ എനർജി മാനേജ്മെന്റ് സെന്റർ അതിന്റെ പരിശീലന ബോധവൽക്കരണ പരിപാടികൾ ഓൺലൈനായി വെബിനാർ രൂപത്തിൽ നടത്തുവാനാണ് തീരുമാനി ച്ചിട്ടുള്ളത്. ഇത് ദീർഘവീക്ഷണത്തോടുകൂടിയുള്ള തീരുമാനമാണ്. ആസൂത്രണം ചെയ്തിട്ടുള്ള വെബിനാർ പരമ്പരയിൽ ഊർജ്ജത്തിന്റെ, കാര്യക്ഷമമായ ഉപയോഗം മുൻനിർ ത്തിയുള്ള അവതരണങ്ങളും ഫലപ്രദമായ ചർച്ചകളും നടക്കുമെന്ന് പ്രതീക്ഷിക്കുകയാണ്.

നൂതനമാർഗ്ഗങ്ങൾ അവലംബിച്ചുകൊണ്ട് തങ്ങളുടെ പ്രവർത്തനങ്ങൾ മുന്നോട്ടുകോണ്ടുപോകാൻ തീരുമാനിച്ച എനർജി മാനേജ്മെന്റ് സെന്ററിനെ അഭിനന്ദിക്കുന്നു. പരിപാടിക്ക് എല്ലാവിധ ആശംസകളും നേരുന്നു.

- എം. എം. മണി

ഓഫീസ് : ആറാം നില, അനക്സ്-2 ഗവൺമെന്റ് സെക്രട്ടേറിയറ്റ്, തിരുവനന്തപുരം-695 001 ഫോൺ-ഓഫീസ് : 0471-2335866, 2333160 ഫാക്സ് : 0471-2327669 വസതി : 0471-2334144, 0471-2334133 മൊബൈൽ : 9447695500 ഇ-മെയിൽ : min.pwr@kerala.gov.in





Shri. E. P. Jayarajan Hon. Minister for Industries Sports and Youth Affairs

WEBINAR ON

# Energy Conservation in Industrial Sector

Sessions handled by experts in energy sector

#### Key Takeaways

Energy efficiency from design stage Energy efficiency practices to be carried out in an enterprise Energy efficiency consideration for procurement Selection of process and equipment







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ऊर्जी दक्षता ब्यूरो (भारत सरकार, विद्युत मंत्रालय) BUREAU OF ENERGY EFFICIENCY (Government of India, Ministry of Power)

#### Message



Sri. Abhay Bakre Director General Bureau of Energy Efficiency

अभय बाकरे, आईआरएसईई

ABHAY BAKRE, IRSEE

महानिदे शक

**Director General** 

Energy is an essential input to the socio-economic growth and development. The efficient use of energy resource and its conservation can make a tremendous impact on energy conservation in our country. Energy Management Centre - Kerala, State Designated Agency of Bureau of Energy Efficiency emphasize, more than ever the need for reduction in energy intensity and enhancing energy efficiency. The efficient use of energy resources and their conservation assumes tremendous significance and are essential for curtailment of wasteful consumption nourishing sustainable development. Energy Conservation activities for Kerala State and the effectiveness of EMC's work has been recognised by the Government of India on several occasions.

This year, the world is facing an unprecedented COVID-19 pandemic which has indeed brought some never seen before challenges in our daily life. In this short span of time, considering the social distancing to combat this pandemic, EMC has come up with a new online platform to conduct webinars on various energy related sessions from June 5th - the World Environment Day. I am sure that with these measures EMC will enable dissemination of energy conservation knowhow to the target audience adequately.

I wish this new initiative of EMC a great success.

Abhay Bakre 28.5.20 (Abhay Bakre)

स्वहित एवं राष्ट्रहित में ऊर्जा बचाएँ Save Energy for Benefit of Self and Nation

चौथा तल, सेवा भवन, आर.के.पुरम, नई दिल्ली—110 066/4th Floor, Sewa Bhawan, R.K. Puram, New Delhi-110 066 टेली/Tel.: 91 (11) 26178316 (सीधा/Direct) 26766700, फैक्स/Fax: 91 (11) 26178328 ई—मेल/E-mail : dg-bee@nic.in, abhay.bakre@nic.in, वेबसाईट/Website : www.beeindia.gov.in



Monthly batches on second week of each month



Shri. G. Sudhakaran Hon. Minister for Public Works Department and Registration

WEBINAR ON

# ECBC Compliance Check through Energy Simulation

Sessions handled by ECBC experts

#### Key Takeaways

Awareness on ECBC and KSECBC Rules 2017 ECBC compliance approaches ECBC compliance checking using simulation software









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**Dr. B. Ashok IAS** Secretary to the Govt. Department of Power, Govt. of Kerala

#### Message

Energy is the basic necessity of our life and we can't imagine a world that is running out of energy. Energy Management Centre - Kerala (EMC) has always worked as the torch bearer of Energy Conservation activities for Kerala state and the effectiveness of EMC's work has been recognised by the Government of India on several occasions.

The ongoing COVID 19 pandemic situation has brought some never seen before challenges in our day-to-day affairs. I am very happy to know that EMC has geared up to this challenge in a short period and has come up with this novel option of utilizing the online platform to conduct a series of webinars meeting the social distancing norms. This will keep the chain of knowledge dissemination without break.

Keeping abreast with the latest technology is the best way to move forward in a situation like this so that the policy makers, practising engineers and general public can come up with the right decisions at the right time. I am sure that it will benefit people from all walks of life.

I wish the venture success and all the very best wishes to the Director, EMC and staff driving it.

- Dr. B. Ashok IAS Secretary Department of Power Government of Kerala



Energy Management Centre Kerala

Monthly batches on 4th Thursday of each month 10.30 am - 12.00 pm



Adv. V. S. Sunilkumar Hon. Minister for Agriculture

WEBINAR ON

# Energy Efficiency in Agriculture and Homesteads

Sessions handled by experts in energy & agriculture sectors

#### Key Takeaways

Energy efficiency in agricultural sector Energy efficiency parameters of agriculture machinery Energy efficiency improvement strategies









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For more information **Ijas M. A.** Mob: +91 9446690452 Email: ijas@keralaenergy.gov.in Toll free number: 1800 425 5256

		С	ONTENT		
Page 01 <b>2020</b> JUNE 05	Energy Efficiency from Design Stage	Page 03 <b>2020</b> JULY 17	Online discussion meet of EMC Empanelled Energy Auditors	Page 05 <b>2020</b> AUG 01	Benefits of Energy Audits & Case study
Page 01 <b>2020</b> JUNE 08-16	ECBC compliance check through Energy Simulation Batch - 1	Page 03 <b>2020</b> JULY 17	Energy Performance Assessment of Chilled Water Systems & Case study	<u>Page 07</u> <b>2020</b> AUG 03-11	ECBC compliance check through Energy Simulation Batch - 3
Page 01 <b>2020</b> JUNE 19	Energy Auditing and Management in HVAC System	Page 03 <b>2020</b> JULY 18	Energy Conservation in Transport Sector	Page 07 <b>2020</b> AUG 10	Certificate Course on Skill Development for Operators and Technicians
Page 01 <b>2020</b> JUNE 20	Artificial Intelligence in Energy Management	Page 05 <b>2020</b> JULY 21	Energy Efficiency In the Built Habitat	Page 07 <b>2020</b> AUG 14	Energy Efficiency in Air Compressor
Page 01 <b>2020</b> JUNE 25	Energy Efficiency in Agriculture and Homesteads	<u>Page 05</u> <b>2020</b> JULY 23	Energy Efficiency in Agricultural Sector	Page 07 <b>2020</b> AUG 17	Energy efficiency in Dairy sector
Page 03 <b>2020</b> JULY 03	Energy Efficiency through ESCO route in Kerala - Boiler efficiency improvement	Page 05 <b>2020</b> JULY 23-26	loT Technologies in Energy Sector - Workshop for Students	Page 07 <b>2020</b> AUG 12	Role of Data Analytics in Building Energy Management
Page 03 <b>2020</b> JULY 06-14	ECBC compliance check through Energy Simulation Batch - 2	Page 05 <b>2020</b> JULY 28	Libraries in Energy awareness program	Page 07 <b>2020</b> AUG 21	Industrial Energy Efficiency
Page 03 <b>2020</b> JULY 08	Online discussion with Retailers regarding the sales of Star Labeled Appliances / Equipment	<u>Page 05</u> <b>2020</b> JULY 30	Go Electric Campaign Series 1 EV Charging Infrastructure in India	Page 09 <b>2020</b> AUG 25	Industrial Electrification



Energy Management Centre Kerala



Shri. A. K. Saseendran Hon. Minister for Transport



Presentation by Shri. Suresh Kumar M (Petroleum Conservation and Research Association)





**To participate** Scan the QR code



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Page 11 <b>2020</b> SEP 24	Energy Efficient Agricultural Pump sets
Page 13 <b>2020</b> SEP 25	Energy Conservation Training for "Sastrarangam" coordinators
Page 13 <b>2020</b> OCT 01	Scope of Small Hydro Power Projects
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Page 13 2020 OCT 16	Energy Efficiency through ESCO route in Kerala - Commercial Buildings
Page 13 2020 OCT 20	Energy Storage for Industrial and Renewable Energy Applications
Page 13 2020 OCT 22	Energy Efficiency in Integrated Farming
Page 15 2020 OCT 30	Go Electric Campaign Series 4 EV Charging stations – Technologies and Implementation

Page 15 2020 NOV 07	Carbon Neutral Concepts & Case Studies
Page 15 2020 NOV 09-17	ECBC compliance check through Energy Simulation Batch - 6
Page 15 2020 NOV 20	Energy Efficiency using Heat Pump
Page 15 2020 NOV 24	IOT and Energy Management
Page 15 2020 NOV 26	Effective and Efficient Utilization of Agro Machinery
Page 17 2020 DEC 01	Energy Efficiency in Healthcare Sector
Page 17 2020 DEC 02	Scope of Energy Efficient Street lights in LSGDs
Page 17 2020 DEC 04	Energy Efficiency in Fans & Blowers



Energy

Centre

Kerala

Management

Dr. K. T. Jaleel Hon. Minister for Higher Education Minority Welfare, Hajj and Wakf



### IoT Technologies in Energy Sector Workshop for Students

Presentation Amit Chadha, Febin K. V. M. & Aravind V. S.

Invites project proposals from students

#### **Key Takeaways**

Understanding the concept of IoT Importance of IoT in energy management Idea generation and brainstorming for students









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Page 17	ECBC compliance
2020	check through
DEC	Energy Simulation
07-15	Batch - 7
Page 17 2020 DEC 18	Energy Efficiency in SME Sector
Page 17	Building Energy
2020	Efficiency for
DEC	Sustainable
22	Tomorrow
Page 19 2020 DEC 28	Water Efficient Irrigation Systems
Page 19 2020 DEC 30	Go Electric Campaign Series 5 Moving Towards E-Mobility – Light Motor Vehicles
Page 19	Green Productivity
2021	and Integrated
JAN	Management
02	System
Page 19	ECBC compliance
2021	check through
JAN	Energy Simulation
05-12	Batch - 8

Page 19 2021 JAN 11	Panel Discussion on 'Elected Representatives and Energy Conservation'
Page 19 2021 JAN 15	Energy Conservation Act - 2001
Page 21 2021 JAN 16	Energy Efficient Motors
Page 21 2021 JAN 18	Financing options for Energy Efficiency projects
Page 21 2021 FEB 06	Power Quality improvement in Electrical power systems
Page 21 2021 FEB 15	Sustainable Strategies for Adaptive reuse of Heritage Buildings
Page 21 2021 FEB 16	Energy Conservation in Residential Building Conceptualisation

Page 21 2021 FEB 20	Energy Conservation Opportunities in Existing Commercial Buildings
Page 23 2021 FEB 27	Consumer Rights- Standards and Labelling
Page 23 2021 MAR 01	Sustainable Development in Tourism sector
Page 23 2021 MAR 05	Energy Efficiency in Fisheries Sector
Page 23 2021 MAR 06	Energy Efficient Building Materials & Equipment
Page 23 2021 MAR 20	Energy Efficiency through ESCO route in Kerala - Street lighting
Page 23 2021 MAR 22	Energy Efficient Pumping System





Shri. T. P. Ramakrishnan Hon. Minister for Labour and Excise

Certificate course on

### Skill Development for Operators and Technicians

Sessions handled by experts in energy sector

#### Key Takeaways

Energy Efficient Operational Practices Knowledge enrichment Greener production process Case Studies





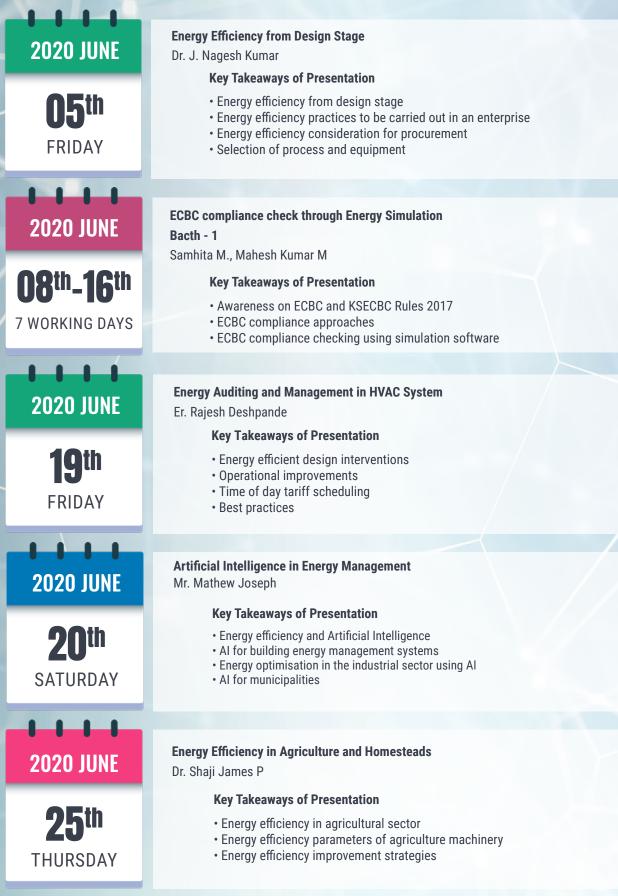


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### **PROGRAM CALENDER**







Adv. K. Raju Hon. Minister for Forests Animal Husbandry, Dairy Development Milk- Co-operatives and Zoos

# Energy Efficiency in Dairy Sector

#### **Key Takeaways**

Best practices in dairy sector Energy audit and case studies





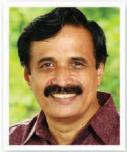


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2020 JULY O3rd FRIDAY	Energy Efficiency through ESCO route in Kerala – Series 1 Boiler Efficiency improvement, Waste Heat Recovery, Zero Liquid Discharge Dr. M. G. Gharpure Key Takeaways of Presentation • ESCO financing models • Thermal energy optimization • Waste heat recovery trends • Zero Liquid Discharge method ECBC compliance check through Energy Simulation Batch - 2 Mr. Akshay Kumar Gupta and Mr. Kumar Biplab
<b>06<sup>th</sup>-14<sup>th</sup></b> 7 working days	<ul> <li>Key Takeaways of Presentation</li> <li>Awareness on ECBC and KSECBC Rules 2017</li> <li>ECBC compliance approaches</li> <li>ECBC compliance checking using simulation software</li> </ul>
2020 JULY <b>8th</b> WEDNESDAY	Online discussion with Retailers regarding the sales of Star Labe- led Appliances / Equipment Pre-submission meeting for Empanelment of vendors for Energy Efficient Appliances / Equipment distribution through Urjamithra centres
2020 JULY 17th FRIDAY	Online discussion meet of EMC Empanelled Energy Auditors
2020 JULY 17th FRIDAY	<ul> <li>Energy Performance Assessment of Chilled Water Systems &amp; Case study</li> <li>Er. Paraman Radhakrishnan</li> <li>Key Takeaways of Presentation <ul> <li>Energy efficiency in chilled water plants</li> <li>System optimization and balancing</li> <li>Energy performance assessment of chilled water plants</li> <li>Case studies</li> </ul> </li> </ul>
2020 JULY 18th SATURDAY	Energy Conservation in Transport Sector Er. Suresh Kumar M Key Takeaways of Presentation • Behavioural changes in driving • Optimum fuel efficiency of vehicles • Factors affecting fuel efficiency



Hon. Minister for General Education

Prof. C. Raveendranath

Energy

Centre

Management



# **Energy Conservation Training for "Sastrarangam" Coordinators**

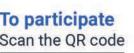
Presentation Shri. Sandeep K. (Energy Mangement Centre)

#### Key Takeaways

Delivering energy efficiency & energy conservation Domestic energy conservation Smart Energy Programme









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Smt. K. K. Shailaja Hon. Minister for Health and Social Welfare

### WEBINAR ON Energy Efficiency in Healthcare Sector

Presentation Shri. B. V. Suresh Babu (Energy Auditor)

#### Key Takeaways

Behavioural change and best practices Energy efficiency for clinical applications Energy Audits for hospitals and case studies









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Shri. A. C. Moideen Hon. Minister for Local Self Governments

# Scope of Energy Efficient Street Lights in LSGDs

Presentation by Shri. Johnson Daniel (Energy Management Centre) Er. K. M. Shanavaz (Kerala State Productivity Council)

#### Key Takeaways

Energy efficient street lighting systems Retrofitting of existing street lights ESCO implementation of street lights Street lights in smart cities/MuDSM





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$\langle A \rangle$		
2020 AUG	Industrial Electrification Keynote Address: Ms. Stéphane de la Rue d Lawrence Berkeley National I	
<b>25</b> th TUESDAY	<ul> <li>Speakers</li> <li>1. Shri. Prosanto Pal (Senior Fellow Energy Efficiency Division, TERI)</li> <li>2. Ms. Charu Lata (Natural Resource)</li> </ul>	
2020 AUG	Energy Efficiency In Post-Harvest Equipmen Dr. K. P. Sudheer	nt
0746	Key Takeaways of Presentation	
<b>27th</b> THURSDAY	<ul> <li>Different post harvest equipment</li> <li>Energy efficiency parameters of po</li> <li>Effective utilization of post harvest</li> </ul>	
2020 AUG	Go Electric Campaign Series 2 Moving Towards E-Mobility in Light Motor Mr. Sarath Babu	Vehicles
<b>28th</b> FRIDAY	Key Takeaways of Presentation • EEV in LMV sector • Features of Electric Cars • Switching to Clean Energy • Energy Economics	
2020 SEPT	Energy Efficiency in Boilers Er. Suresh Kumar	
<b>O</b> /Ith	Key Takeaways of Presentation	
04th Friday	<ul> <li>Energy efficient boilers</li> <li>IBR definition</li> <li>Boiler blow down concepts</li> </ul>	<ul> <li>Thermic fluid heaters</li> <li>Energy saving opportunities</li> <li>Case studies</li> </ul>
2020 SEPT	ECBC compliance check through Energy Sim Batch - 4	
07th 1Cth	Mr. Syed Moazzam Ali and Mr. Jitendra Kum Key Takeaways of Presentation	al vyas
<b>07<sup>th</sup>-16<sup>th</sup></b> 7 working days	<ul> <li>Awareness on ECBC and KSECBC R</li> <li>ECBC compliance approaches</li> <li>ECBC compliance checking using s</li> </ul>	
	,	





Hon. Minister for Welfare of Scheduled Castes, Scheduled Tribes and Backward Classes, Law, Culture and Parliamentary Affairs

Shri, A. K. Balan

WEBINAR ON

# **Energy Conservation Act-2001**

Presentation by Shri. Johnson Daniel (Energy Management Centre)





To participate Scan the QR code



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2020 SEPT	ISO 50001 Energy Management Systems Er. G. Krishnakumar Key Takeaways of Presentation
<b>18</b> th Friday	<ul> <li>Role of management system in an uncertain world</li> <li>Why Energy management system</li> <li>Relevance of Energy management system and standard</li> <li>Overview and clauses of Energy Management standard ISO 50001</li> <li>Implementation steps and caution points</li> <li>Benefits of ISO 50001</li> <li>Standards supporting energy management system</li> </ul>
2020 SEPT	Challenges in Energy Efficiency in electrical systems and cost reduction Er. T. Sankaranaraynan
<b>19</b> th	Key Takeaways of Presentation
SATURDAY	<ul> <li>Energy efficiency improvement in electricl distribution system</li> <li>Power factor improvement</li> <li>Capacitor sizing</li> <li>Assessment of T&amp;D Efficiency</li> <li>Case studies</li> </ul>
2020 SEP	Go Electric Campaign Series 3 Moving Towards E-Mobility for Public Transportation Er. Arun Krishna Gelli
<b>01</b> et	Key Takeaways of Presentation
<b>21</b> st MONDAY	<ul> <li>EV Landscape in India</li> <li>Driving factors to E Mobility</li> <li>E-Mobility for public</li> <li>EV Charging stations</li> </ul>
2020 SEP	Water –Energy Nexus Keynote Address: Dr. Prakash Rao, Lawrence Berkeley National Laboratory (LBNL)
DOD	Speakers
<b>22nd</b> TUESDAY	<ol> <li>Dr. Hariharan Chandrashekar (Chairman, Alt. Tech Foundation)</li> <li>Shri. Padu S Padmanabhan (Former Programme Director of (SARI/E) and former Senior Energy Advisor at USAID/India)</li> </ol>
2020 SEP	Energy Efficient Agricultural Pump sets Mr. Balasubramoniam
0 Ath	Key Takeaways of Presentation
<b>24</b> <sup>m</sup>	<ul> <li>Enenergy efficient pump sets in agricultural sector</li> <li>Selection of pump sets for Agricultural purposes</li> </ul>
THURSDAY	Star labelled agricultural pumps





Dr. T. M. Thomas Isaac Hon. Minister for Finance and Coir

WEBINAR ON

# Financing Options for Energy Efficiency Projects

Presentation by Shri. Arun M. R. (Kerala State Financial Corporation)







#### **Energy Management Centre Kerala**

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For more information **Sarath Krishnan S.** Mob: +91 8089695880 Email: sarath@keralaenergy.gov.in Toll free number: 1800 425 5256

Î	2020 SEP	Energy Conservation Training for "Sastrarangam" Coordinators Er. Sandeep. K	
1		Key Takeaways of Presentation	
	25 <sup>th</sup> Friday	<ul> <li>Delivering energy efficiency &amp; energy conservation</li> <li>Domestic energy conservation</li> <li>Smart Energy Program</li> </ul>	
4	2020 OCT	Scope of Small Hydro Power projects Er. G. Anil	
	Odet	Key Takeaways of Presentation	
	<b>O1</b> st THURSDAY	<ul> <li>Potential for Small Hydro Power Projects</li> <li>Policies and schemes</li> <li>Emerging technologies in Small Hydro Power sector</li> </ul>	
	monobri	· Emerging technologies in small rivero rower sector	
/	0000 007	ECBC compliance check through Energy Simulation	
	2020 OCT	Batch - 5 Mr. Arpan Pal and Mrs. Neha Vyas	
	05 <sup>th</sup> -13 <sup>th</sup>	Key Takeaways of Presentation	
	7 WORKING DAYS	Awareness on ECBC and KSECBC Rules 2017     ECBC compliance approaches     ECBC compliance checking using simulation software	
	2020 OCT	Energy Efficiency through ESCO route in Kerala - Series 2 Buildings and Commecial Establishments Er. Milind Chittawar	
	401	Key Takeaways of Presentation	
	<b>16</b> <sup>th</sup>	• ESCO financing models	
	FRIDAY	Building energy efficiency	
	TRIDAT	Retrofit solutions     EPI reduction and benchmarking	
	2020 OCT	Energy Storage for Industrial and Renewable Energy Applications Keynote Address: Dr Brahmanand Mohanty, ADEME	
		Key Takeaways of Presentation	
	<b>20</b> <sup>th</sup>	1. Dr. Rahul Walawalkar (Founder and Executive Director of India	
		Energy Storage Alliance (IESA)) 2. Shri. Murali Arikara (Director of Machani Group)	
	TUESDAY		
		Energy Efficiency in Integrated Farming	
	2020 OCT	Dr. Jacob John	
		Key Takeaways of Presentation	
	<b>22</b> nd	Modern farming strategies	
		<ul> <li>Integrated farming and its advantages</li> <li>Energy and water efficiency in integrated farming</li> </ul>	
	THURSDAY	Methodologies to improve energy efficiency in Integrated farming	





Shri. Ramachandran Kadannappally Hon. Minister for Ports Museums, Archaeology and Archives

WEBINAR ON

## Sustainable Strategies for Adaptive Reuse of Heritage Buildings

Presentation by Smt. Ashiqua Sulthana (Tropical Greenovation Cluster)

#### **Key Takeaways**

Retrofitting of existing equipment with energy efficient Morphological Transformation Energy Efficient Designs of Auditoriums Occupant comfort systems Adaptive reuse of Existing Buildings





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	2020 OCT	Go Electric Campaign Series 4 EV Charging stations – Technologies and Implementation Er. Bidyut Mazumder
		Key Takeaways of Presentation
	<b>30</b> th Friday	<ul> <li>EV Charging protocols and technologies</li> <li>EV Charging technologies</li> <li>Battery Management</li> <li>Case studies</li> </ul>
4	2020 NOV	Carbon Neutral Concepts & Case Studies Er. B. V. Suresh Babu
	<b>7</b> th	Key Takeaways of Presentation
	SATURDAY	<ul> <li>Energy &amp; carbon dioxide nexus</li> <li>Global warming and climate change</li> <li>Case study</li> </ul>
	2020 NOV	ECBC compliance check through Energy Simulation Batch - 6 Ma Nisbach Jain and Ma Dana Distan Dadder
	004b 474b	Mr. Nishesh Jain and Mr. Rana Pratap Poddar
	<b>09</b> <sup>th</sup> - <b>17</b> <sup>th</sup>	Key Takeaways of Presentation
	7 WORKING DAYS	<ul> <li>Awareness on ECBC and KSECBC Rules 2017</li> <li>ECBC compliance approaches</li> <li>ECBC compliance checking using simulation software</li> </ul>
	2020 NOV	<b>Energy Efficiency using Heat Pump</b> Er. Bhoovarahan Thirumalai
	00ih	Key Takeaways of Presentation
	<b>20</b> th Friday	<ul> <li>Energy efficiency through heat pump</li> <li>Usage of heat pump</li> <li>Case studies</li> </ul>
	2020 NOV	IOT and Energy Management Keynote Address: Dr. Rangan Banerjee, IIT Mumbai
	<b>O /</b> th	Speakers
	Z4 <sup>m</sup>	1. Shri. Aalok A. Deshmukh (GM & Head - Energy Efficiency,
	TUESDAY	Schneider Electric India) 2. Shri. Manish Chakraborty (Founder, Mantrapoynt Inc USA)
	2020 NOV	Effective and Efficient Utilization of Agro Machinery Dr. Suresh Kumar P. K.
	<b>OC</b> th	Key Takeaways of Presentation
	<b>26</b> th THURSDAY	<ul> <li>Energy efficiency parameters of tractors and tillers</li> <li>Optimum efficiency and diesel consumption of agro machinery</li> <li>Strategies to reduce energy consumption in agro machinery</li> </ul>





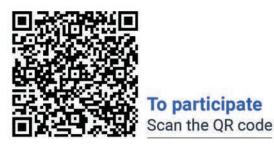
Shri. E. Chandrasekharan Hon. Minister for Revenue and Housing

WEBINAR ON

## Energy Conservation in Residential Building Conceptualisation

Presentation by Shri. Dinesh Kumar A. N (Energy Management Centre)







**Energy Management Centre Kerala** 

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Shri. P. Thilothaman Hon. Minister for Food, Civil Supplies Consumer Affairs and Legal Metrology

WEBINAR ON

# **Consumer Rights -Standards and Labelling**

Presentation by Shri. Subhash Babu B. V. (Energy Management Centre)

#### Key Takeaways

Star labelled Equipment Benefits of Standards and Labelling Voluntary and mandatory labelling







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	2020 DEC	<b>Water Efficient Irrigation Systems</b> Dr. K. K. Sathyan
	00th	Key Takeaways of Presentation
	<b>28</b> <sup>th</sup>	Water efficiency in agricultural systems
_	MONDAY	<ul> <li>Modern irrigation strategies</li> <li>Methodologies to reduce water consumption for agricultural purposes</li> </ul>
4	2020 DEC	Go Electric Campaign Series 5 Moving Towards E-Mobility – Light Motor Vehicles Mr.Nithin
	00th	Key Takeaways of Presentation
	<b>30</b> <sup>th</sup>	• EV in LMV sector     • Features of Electric Cars
	WEDNESDAY	Switching to Clean Energy     Energy Economics
	2021 JAN	Green Productivity and Integrated Management System Mr. I. V. Ramesh Kumar
		Key Takeaways of Presentation
	<b>02</b> nd	Greener production methodologies
	SATURDAY	Cost reduction in production sector
	0/110110/11	Cleaner production techniques
	2021 JAN	ECBC compliance check through Energy Simulation
	2021 JAN	ECBC compliance check through Energy Simulation Batch - 8 ECBC Master trainers & Experts
	2021 JAN	Batch - 8
	05 <sup>th</sup> -12 <sup>th</sup>	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017
		Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation
	05 <sup>th</sup> -12 <sup>th</sup>	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches
	05 <sup>th</sup> -12 <sup>th</sup> 7 WORKING DAYS	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches
	05 <sup>th</sup> -12 <sup>th</sup>	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches • ECBC compliance checking using simulation software
	05 <sup>th</sup> -12 <sup>th</sup> 7 WORKING DAYS	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches • ECBC compliance checking using simulation software Panel discussion on 'Elected Representatives and Energy Conservation' Speakers Dr. M. P. Prameswaran
	05 <sup>th</sup> -12 <sup>th</sup> 7 WORKING DAYS 2021 JAN 11 <sup>th</sup>	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches • ECBC compliance checking using simulation software Panel discussion on 'Elected Representatives and Energy Conservation' Speakers Dr. M. P. Prameswaran Prof. V. K. Damodaran Prof. (Dr.) R. V. G. Menon
	05 <sup>th</sup> -12 <sup>th</sup> 7 WORKING DAYS	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches • ECBC compliance checking using simulation software Panel discussion on 'Elected Representatives and Energy Conservation' Speakers Dr. M. P. Prameswaran Prof. V. K. Damodaran
	05th-12th 7 WORKING DAYS 2021 JAN 11th MONDAY	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches • ECBC compliance checking using simulation software Panel discussion on 'Elected Representatives and Energy Conservation' Speakers Dr. M. P. Prameswaran Prof. V. K. Damodaran Prof. (Dr.) R. V. G. Menon
	05th-12th 7 WORKING DAYS 2021 JAN 11th MONDAY	<ul> <li>Batch - 8</li> <li>ECBC Master trainers &amp; Experts</li> <li>Key Takeaways of Presentation <ul> <li>Awareness on ECBC and KSECBC Rules 2017</li> <li>ECBC compliance approaches</li> <li>ECBC compliance checking using simulation software</li> </ul> </li> <li>Panel discussion on 'Elected Representatives and Energy Conservation' <ul> <li>Speakers</li> <li>Dr. M. P. Prameswaran</li> <li>Prof. V. K. Damodaran</li> <li>Prof. (Dr.) R. V. G. Menon</li> <li>Shri. S. M. Vijayanand</li> </ul> </li> </ul>
	05th-12th 7 WORKING DAYS 2021 JAN 11th MONDAY	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches • ECBC compliance checking using simulation software Panel discussion on 'Elected Representatives and Energy Conservation' Speakers Dr. M. P. Prameswaran Prof. V. K. Damodaran Prof. (Dr.) R. V. G. Menon
	O5th-12th 7 WORKING DAYS 2021 JAN 11th MONDAY	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches • ECBC compliance checking using simulation software Panel discussion on 'Elected Representatives and Energy Conservation' Speakers Dr. M. P. Prameswaran Prof. V. K. Damodaran Prof. (Dr.) R. V. G. Menon Shri. S. M. Vijayanand Energy Conservation Act - 2001
	05th-12th 7 WORKING DAYS 2021 JAN 11th MONDAY	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches • ECBC compliance checking using simulation software Panel discussion on 'Elected Representatives and Energy Conservation' Speakers Dr. M. P. Prameswaran Prof. V. K. Damodaran Prof. (Dr.) R. V. G. Menon Shri. S. M. Vijayanand Energy Conservation Act - 2001 Er. Johnson Daniel Key Takeaways of Presentation • Understanding Energy Conservation Act 2001
	O5th-12th 7 WORKING DAYS 2021 JAN 11th MONDAY	Batch - 8 ECBC Master trainers & Experts Key Takeaways of Presentation • Awareness on ECBC and KSECBC Rules 2017 • ECBC compliance approaches • ECBC compliance checking using simulation software Panel discussion on 'Elected Representatives and Energy Conservation' Speakers Dr. M. P. Prameswaran Prof. V. K. Damodaran Prof. (Dr.) R. V. G. Menon Shri. S. M. Vijayanand Energy Conservation Act - 2001 Er. Johnson Daniel Key Takeaways of Presentation





Shri. Kadakampally Surendran Hon. Minister for Co-operation Tourism and Devaswoms

WEBINAR ON

## Sustainable Development in Tourism sector

Presentation by: Shri. Jayan P. P. (C-DAC)

#### Key Takeaways

Energy efficiency in hospitality sector Energy audits in hotels and case studies Fuel switching in House Boats







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Energy Management Centre Kerala



Smt. J. Mercykutty Amma Hon. Minister for Fisheries Harbour Engineering and Cashew Industry

# Energy Efficiency in Fisheries Sector

Presentation by: Shri. George Varghese (Energy Auditor)

### Key Takeaways

Behavioural change and best practices Energy efficient equipment Energy audits and case studies









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Energy Management Centre Kerala



Shri. K. Krishnankutty Hon. Minister for Water Resources



Presentation by Shri. B. V. Suresh Babu (Energy Auditor)









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## **PROFILE OF SPEAKERS FOR THE WEBINAR**



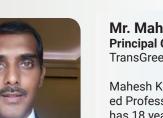
Dr. J. Nagesh Kumar Former Director NPC Chennai

Mrs. Samhita.M

Dr. J. Nagesh Kumar is a Mechanical Engineer with post graduation in Energy Management from NPC. He also holds a Doctorate in Energy Efficiency in the field of Gas Turbines. He had been in the field of Energy Efficiency for almost three decades with National Productivity Council during which he was cultivated to use productivity practices leading to energy efficiency. He is now the Director of Centre for Energy, Environment and Productivity (CEEP). He is one of the authors for the Guide Books on Energy Efficiency for the National Certification Examination for Energy Managers and Energy Auditors.







Managing Director Ela Green Buildings & Infrastructure Consultants Pvt. Ltd.

Samhita M, LEED AP, IGBC AP, ECBC Master Trainer & Expert, Edge Auditor & Expert and USGBC Faculty is the Managing Director of Ela Green Buildings & Infrastructure Consultants, a company founded in March 2009. An architect from Anna University, Samhita's academic qualification also includes a PGPM from Great Lakes Institute of Management, Chennai. Prior to starting Ela, she worked with Ashok Leyland Properties and the CII Green Business Centre, Hyderabad where she was associated with all the prestigious projects of CII ranging from developing of rating systems and formulating framework for certification of Green Buildings.

#### Mr. Mahesh Kumar M Principal Consultant TransGreen Sustainability Solutions

Mahesh Kumar M is Certified Energy Auditor, ECBC Master Trainer, IGBC Accredited Professional, GRIHA Certified Professional and an EDGE Expert and Auditor. He has 18 years' experience in Energy Efficiency, Building Efficiency, Green buildings and Sustainability. Currently working as Principal Consultant at TransGreen Sustainability Solutions. Working stints with ERNST & YOUNG, DSCL ESCO, INTESCO ASIA and Powertech Energy Auditors.





Er. Rajesh Deshpande Director Energetic Consultants (P) Ltd.

He is Certified Energy Auditor and have 25 years of experience working with Energy management Industry and has conducted more than 100 Energy Audits. He is part of Energy Efficiency programmes in Municipal, Pharmaceutical, Chemical, Food, Textile, Hospitality industries. He have provided Energy Efficient HVAC system designs for Low RH control systems in Engineering and pharma sector.

Mr. Mathew Joseph Vice President Apar Technologies Pvt. Ltd.

Mr Mathew is the Head of Artificial Intelligence Labs for CIMB Bank. An Alumnus of the University of Chicago and a keynote speaker, he is known for his thought leadership in the area of Artificial Intelligence and Machine Learning. He is also a mentor for many start-up companies in the Artificial Intelligence domain. He has over 29 years of experience of innovation, software development, Technology Consulting and Project management. Earlier he worked with IBM, Siemens and TCS and is a certified Project Management Professional and a certified Industry Consultant.



Dr. Shaji James P Associate Professor Kerala Agricultural University

Dr. Shaji James P is working in the field of Farm Power, Machinery and Energy in KAU for the last 25 years. He has developed a number of implements and gadgets in agricultural sector. He received the prestigious Jawaharlal Nehru Award of ICAR for the year 2002 for his doctoral research on high rate bioreactor for energy production from cassava starch factory effluent.



Mr. Akshay Kumar Gupta Director Passive Design Consultants

Akshay is an Environmental Engineer/Architect and has a decade of professional work experience as a Green Building Consultant in the UK and India. He is an IGBC Accredited Professional, GRIHA Certified Professional & Evaluator, LEED AP BD+C, BEE Certified ECBC Master Trainer and BEEP Certified Green Building Charette Conductor. He has deep understanding in design and analysis of building envelope, HVAC systems, occupant's behavior and comfort in both indoor/outdoor environments. Being a firm believer in dissemination of knowledge & skills, he has been involved in conducting many professional training workshops across India.



**Dr. M.G. Gharpure Director** Yajna Fuel Services, Thane, Maharashtra

Dr. M. G. Gharpure is a graduate in Chemical Engineering from VNIT. Nagpur. He obtained both M.Tech and PhD from IIT Bombay. He has professional experience of 30 years. He has an overseas experience for reputed industries in Pakistan, Sri Lanka, Middle East, Tanzania, Kenya, Mali, Togo. Dr. Gharpure represented India for SAARC summit on Energy, and was honoured by Institution of Engineers (India) for "outstanding contribution in energy sector – 2011".



#### Mr. Kumar Biplab BEE ECBC Master Trainer

Kumar Biplab is an Energy Engineer & Govt. Registered Valuer (Plant & Machinery) with 10+ years of experience in project management liaising and coordinating with clients, vendors & consultants, 9+ years in energy audits, energy simulations, retro-commissioning works, site execution, technical delivery. He has experience of working with advanced technologies, including but not limited to, Combined Heat & Power, District Heating & Cooling, Thermal Energy Storage, Geothermal Heating & Cooling systems.



#### Er. Paraman Radhakrishnan Director

Devki Energy Consultancy Pvt. Ltd., Vadodara, Gujarat, India

He has 34 years' experience in conducting Industrial & Building Energy Audits and Training Programmes on Energy Management. He did consulting assignments on Energy Efficiency and Integrated Energy & Water Audits in India, Kenya, Tanzania, Uganda, Nigeria, Senegal, Indonesia, Thailand, Saudi Arabia, USA, Mexico, Germany, Denmark, Netherlands, Ireland, France, Luxembourg, Czech Republic, Estonia & Italy.













#### Er. Ahammed Kabeer T A Chief Technical Officer & Energy Expert Alenso Energy

Mr. Ahammed Kabeer T A has more than 21 Years Experience in the field of energy and involved in Energy Efficiency assessment and audit, Electrical audit, GHG audit, ECBC & LEED Assessment, Power Quality Audit, HVAC Audit, Safety audit, Indoor Air quality Audit, EHS Audit, Technical Due diligence audit of commercial buildings, Data centers, Industries and Power plants.

**Er. Amit Chadha** Head of Digital Services Schneider Electric India Pvt. Ltd.

He heads the Digital Services business at Schneider Electric, primarily focusing on Service transformation through Smart technologies powered by IoT, Artificial intelligence and Cloud based platforms to bring operational efficiency in the facilities. In his 21+ years career, he has held key positions in various organizations driving business initiatives involving Energy Management & Power Quality solutions, Software, automation, consultancy and Advisory Services like ISO 50001.

#### Er. Febin K. V. M. Business Development & Offer Manager Schneider Electric India Pvt. Ltd.

He holds a Mechanical Engineering degree from Bangalore Institute of Technology, started off his career as an IBMS Project Management specialist and has over 10 years of experience in the field of commercial buildings, the world of building automation, digitization and IoT". He has worked with the top companies in the domain like Honeywell and United Technologies Corporation (UTC).

#### Er. N Mohan Dy General Manager & Head

EV Charging Infrastructure, Energy Efficiency Services Ltd.

He is an experienced professional with over 14 years of experience in the field of policy planning, conceptualization and implementation of energy efficiency programs. He presently heads, Electric Vehicle Charging Infrastructure (EVCI) Department at EESL. He has played a pivotal role in incorporating and developing a digital ecosystem for operational efficiency and performance improvements in the charging infrastructure.

#### **Ar. Ankit Bhalla Dy Manager-Technical** GRIHA Council, TERI, New Delhi

Ankit Bhalla graduated from Jamia Millia Islamia, New Delhi in 2011 with a B.Arch degree; he enrolled for a master's program in the field of Energy Efficiency and Sustainability from CEPT University Ahmedabad where he was awarded with the Best student of the Year (2012) and Best Research Awards (2013). He has also received Rising Star award from TERI for his efforts and hard work for green building rating development in 2014.

#### Mr. Vevaik Mahajan Director

UEDC

Vevaik Mahajan is an IGBC AP (Indian Green Building Council Accredited Professional) BEE Certified ECBC Master Trainer. Before founding UEDC, Vevaik worked at various international engineering firms like dbHMS and KJWW where he handled and managed overall India operations and took companies to the successful heights with his unique and innovative ideas and approaches. He offered his clients one-of-its-kind services that helped bridge the gap between international design and local construction realities in India.



#### ER. Ananthapadmanabhan G S Lead Energy Strategist (Analytics & Automation) Smart Joules Pvt Ltd

He is currently leading a team of energy engineers working under the umbrella of Analytics and Automation through the Building Energy Management System. The team works with the mission to eliminate energy waste through innovations in continuous energy optimization. Under his aegis the team manages 16 sites across India through the Building Energy Management system. His areas of interests are centralized air conditioning, data oriented operational optimization of water cooled chiller plants and machine learning applications for energy efficiency.





#### **Dr. P. Dhamalingam** Accredited Energy Auditor EnSave Consultancy and Training Pvt Ltd, Chennai (Former Director NPC, Chennai)

Dr. P. Dharmalingam has over 35 years of Experience in conducting Energy Audits in India and abroad. He has carried out PAT cycle consultancy and detailed Energy Audits for a wide range of Industrial Sectors and Buildings. His professional credentials include being co-author for Indian National Guide book on Energy Efficiency and establishment of CETEE (Centre of Excellence for Training on Energy efficiency).

#### Dr. Jahangeer K Abdul Halim Technical Director LJ Energy Pvt Ltd, Singapore (ESCO)

Dr Jahangeer a registered Professional Engineer (Mechanical) with the Professional Engineer Board Singapore, graduated with a bachelor's degree (B.Tech, Mechanical) from College of Engineering Trivandrum, Master of Science (M.Sc.) in Mechanical Engineering from National University of Singapore in 1998. He was awarded a Research Scholarship by the National University of Singapore (NUS) in 1999 to undertake a research project on solar energy and was awarded a Master of Engineering (M.Eng.) degree in 2002.

#### Mr. Suresh Kumar M Additional Director

Petroleum Conservation Research Association (PCRA)

He is having more than 22 years of experience in Oil Industry and is a BEE Certified Energy Auditor.





Dr. K P Sudheer Associate Director Research (Agri. Engineering) Head

Prof.(Dr.) K P Sudheer, obtained his B Tech Agricultural Engineering degree from Kerala Agricultural University (KAU), M Tech Agricultural Processing from Tamilnadu Agricultural University (TNAU), PhD Agricultural Engineering from IARI New Delhi and Post doctorate from KU Leuven Belgium. Prof. Sudheer started his career as scientist in Agro Processing Division, CIAE (ICAR), Bhopal. He is presently working as Associate Director of Research (Agril. Engg) in Kerala Agricultural University.

**Mr. Sarath Babu** Jr Sales Manager Popular Hyundai

He has 9 years experience in the Automobile industry. He started his career as a Faculty on project operated by Keltron in 2010-11, later moved to Mercedes Benz Kerala dealer Rajasree Motors as Sales Consultant and worked there for 4 years in 2014-18. Then joined he TVS Mahindra as Assistant Manager on Premium Cars for a span of 6 months. Currently he is with Popular Hyundai as Jr Sales Manager for Electric Cars.





#### Mr. Syed Moazzam Ali Technical Director

"Taiba Engineering Consultants" (TEC MEP Institute)

Syed Moazzam Ali has twenty years of National & International professional experience in Designing of MEP Services for Residential, Commercial & Industrial Buildings. He is involved in imparting professional Designing training on MEP Building services HVAC, Plumbing, Fire Fighting & Green building Energy Simulation (IES-VE, eQuest, DesignBuilder) to working professionals & young Engineers. He has provided project guidance to Engineering Students & helped to bridge the gap between academics & Professional World.

#### Mr. Jitendra Vyas Structural Consultant & GRIHA Evaluator President ISHRAE INDORE CHAPTER

Jitendra K.Vyas is a Structural Engineer, Law Degree, M.B.A. (Information Technology)& PG Diploma in Urban Planning & Development. He has been practicing as structural engineer since years and recently working on upcoming field of green buildings and sustainable built environment as energy consultant. He is handling Govt. Health / Institutional Projects, Banks, Public Sector Undertakings, other institutional and Housing Projects. He has been a competent person under Factories Act 1948 for Indore Special Economic Zone (SEZ).





Er. G. Krishnakumar General Secretary SEEM

G Krishnakumar is a freelance energy consultant and also Charted Engineer.. He is a BEE Certified Energy Auditor, Certified Lead Auditor for ISO 9001, 14001, 50001. He is having more than 35 years of experience. He was the Chief Operating Officer and Hon. Treasurer of Society of Energy Engineers and Managers(SEEM). At present he is the General Secretary of SEEM. He is also a member of Institution of Engineers India (IEI).

**Er. Arun Krishna Gelli Divisional Manager** EVEMS, Ashok Levland Ltd.

He is leading the power electronics team for bringing up innovative solutions in Electric vehicles sub systems such as traction inverters, traction motors, DCDC converters, onboard/off board chargers and electric vehicle controllers. He has prior experience of working with global R&D teams in various organisations such as Siemens and GE, where he has extensively worked on indigenisation of inverters and converters for solar and wind segments.



Mr. Balasubramoniam Sales Manager Aquasub Engineering, Coimbatore

Mr. Balasubramoniam has vast experience in the field of Agricultural equipments manufacturing and installation. He holds bachelors degree and MBA in Agricultural Engineering from Tamil Nadu Agricultural University.



**Er. Sandeep K** Energy Technologist -C Energy Management Centre

Sandeep K is graduate in electronics and communication and holds MBA in Operations and HR.He has 12 years of experience in energy field and is certified Energy Manager of BEE. He also holds post graduate diploma in embedded systems design.





He was the Head of Small Hydro Power Division at the Energy Management Centre-Kerala since December 1998 and worked in the field of Small/Mini/Micro Hydro Electric Power Projects for various Consultancy assignments and projects of the Centre/ State Govt. In addition, he held the additional responsibility of providing expert services to the Power Department, Govt. of Kerala as a member of the Small Hydro Promotion Cell in connection with the opening up of Small Hydro Electric Schemes.



Mr. Arpan Pal Engineer–Building Physics WSP Consultants India (P) Ltd

Arpan Pal is a Felix Scholar and European Campus of Excellence member, holding double Master's degree in Renewable Energy and Environmental Sciences with focus on environment and energy efficiency projects. He started his career in developing UNFCCC-CDM (Clean Development Mechanism) projects in Uzbekistan and Haiti and later, evolved through education and experience into focusing on sustainable building design.



#### Ar. Neha Vyas

She works as Senior Architect- Sustainable Design at Smarter Dharma, Bengaluru. Neha has 8 years of experience in Green Building Consultancy and Sustainable Design. She has worked on over fifty Green Building Final Certification projects for LEED, IGBC and GRIHA for commercial, institutional, residential, airport, existing buildings, etc. Her expertise is design to execution of green buildings, green building certification projects, energy modelling and environmental analysis. She holds M.Arch in Sustainable Architecture from Bharathi Vidyapeeth University, Pune and B.Arch from Mumbai University. She is an ECBC Master Trainer, LEED AP(ID+C) and IGBC AP.



#### Er. Milind Chittawar CEO, See-Tech Solutions (P) Ltd

He is a BEE -Certified Energy Auditor and have more than 27 years of experience working with Energy management Industry and have been undertaking ESCO projects as well. He holds M.Tech Degree in Metallurgy from Vishweshvaraya National Institute of Technology and MBA from IIM Indore. He has won the South Asia Energy Professional Award two times.



Dr. Jacob John Professor & Head Integrated Farming System Research Station

He has been working as an Agronomist in the Kerala Agricultural University since 1999; currently Professor and Head, Integrated Farming System Research Station, Trivandrum, Kerala. His area of specialization is integrated farming/ farming systems, especially in homesteads, and allelopathy. He completed his graduation, post graduation and Doctoral programme in the KAU. He has received 3 International, 4 National and 9 State level awards. He has authored 26 books, 17 book chapters, 3 Technical bulletins and 131 research publications besides several popular scientific articles.





Electrical Engineer with over 13-years of experience in the electrical industry across various functions and locations in India and Germany. Experienced in project management, product lifecycle management, strategy support, business development, solution development and vertical management. Responsible for business development of Future Grid segment in India and ME regions, consisting of Solar PV, Battery Energy Storage Systems, eMobility Heading renewable vertical for Siemens India.



Er. Suresh Babu B. V. Co-Founder & Accredited Energy Auditor OTTOTRACTIONS

He is an accredited Energy Auditor (AEA-33) of Bureau of Energy Efficiency, Government of India having 20 years of experience in energy engineering. He has completed more than 700 energy audits in various sectors. He is an Energy Auditor by profession and has been appreciated by the Government of Kerala by presenting its prestigious "Kerala State Energy Conservation Award" for his commendable achievements and contributions towards energy conservation and management activities in the State of Kerala.



#### Mr. Nishesh Jain Director, PSI Energy Pvt. Ltd.

Nishesh Jain is an expert in Green building design and Rating Systems, Building Physics, Daylight and shading, Natural ventilation in buildings, Renewable energy sources, Thermal performance and Building energy modelling, Acoustics and Artificial lighting. He is an ECBC master trainer, software developer in DesignBuilder Software Ltd, GRIHA India Evaluator and trainer. He has been involved in proposal, management & delivery of 30+ Green Building Projects (GRIHA, LEED, IGBC)



#### Mr. Rana Pratap Poddar Head - Energy Efficiency Projects, Agnikrida, New Delhi & Kolkata

Rana Pratap Poddar, is a performance driven professional with more than 12 years of experience in Green Building Design, Research & Development in Built Environment, Energy Audits, Energy Conservation Programmes and Project Consultancy.Currently associated with Agnikrida, Kolkata as Heading Green Buildings and Energy efficiency projects. Previously associated with PSI energy, New Delhi as Head building energy systems. Previously associated with The Energy and Resources Institute, New Delhi as Research Associate.



#### Mr. Bhoovarahan Thirumalai Aspiration Energy Pvt Ltd, Chennai

As its founder and CEO, Bhoovarahan alias Bhoo defines the strategic direction for AEPL and drives the team with agility. He is a certified PV designer and a regular speaker in both national and international conventions on renewable energy. He is also a serial entrepreneur and investor. Before founding Aspiration Energy, Bhoo co-founded Aspire Systems, a global IT services provider, and currently serves as one of its Directors on the Board. Prior to founding Aspire Systems, Bhoo played a role in helping Larsen & Toubro establish a successful market presence in plastic injection molding machines.



#### Dr. Suresh Kumar P. K. Professor Kerala Agricultural University

Former Research Engineer, KAU-KLDA project on Introducing mechanization package for Harvesting & Threshing of Paddy in Kole lands of Kerala. Also works as Assistant Engineer (Agri.) State Department of Agriculture, Kerala. Twenty two years of research and teaching experience in the field of Farm Power Machinery & Energy. He has published several papers in the field of Farm Power Machinery.



Er. Johnson Daniel Head - NMEE & DSM (Energy Efficiency) Division Energy Management Centre

He is a BEE - Certified Energy Auditor (CEA). His professional profile spanning about three decades includes experience in Plant Energy Systems in manufacturing sector and energy efficiency projects and programmes in industrial, commercial and service sectors.



Mr. R.Suryanarayanan Director Gr.II National Productivity Council

B.E. (Mechanical Engineering), Post Graduate Diploma in Energy Management, Post Graduate Certificate in SQC & OR, Customer Relationship Management, Post Graduate Degree in Software Systems.



#### **Er. Santhosh A.** BEE Accredited Energy Auditor, Athul Engineering Consultants Pvt Ltd

Mr. Santhosh A has over 30 years of national & International consulting experience in developing and managing energy efficiency projects, conducted over 350 detailed energy audit with techno- commercial feasibility studies, Productivity improvement waste minimization studies, benchmarking studies, identification of KPIs for sectors, developing guidelines & setting up standards for MSME sectors which acts as inputs for policy making by central & state government.



Dr. Sathian K. K. Dean (Agricultural Engineering) Kelappaji College of Agricultural Engineering & Technology, Tavanur

He is an Agricultural engineer with more than 25 years of experience. Currently he is the Dean of Kelappaji College of Agricultural Engineering, Thavanoor. He had done his PhD in Water resources at NIT, Calicut. He had published several scientific papers in the field of Agricultural Engineering and water resource management. He is also apart of various consultancy and implementation activities.



#### **Er. I. V. Ramesh Kumar Chief Executive** Maruti Consultants, Hyderabad

I V Ramesh Kumar has over 30 years of experience in the areas of energy efficiency include process and engineering industries, infrastructure projects, railways, national and international buildings, PAT studies. Core competencies are training and consultancy experience in Energy Efficiency Studies, safety audits, due diligence studies and has recognized expertise in this field. Handled consultancy and training projects of World Bank, Asian Development Bank and also international agencies viz. USAID, UNIDO, UNEP, KFW etc.



#### Er. J Srinivasan ACE Enablers LLP

J. Srinivasan is a Graduate from Madras University and possess PGDMM and has an experience of 38 years in the area of Motor dimensioning, Motor testing &Inspection, On-site efficiency testing and analysis, Power Quality audit and solutions, Training and Orientation for IE3 motors and Energy Efficiency in Electrical and Motor systems. He is a Life Member of Energy Fuel Users Association (EN-FUSE) and Indian Institute of Plant Engineers (IIPE). He is Empaneled with FICCI, International Copper Association (India), EESL, Siemens Ltd., and SIDBI.



#### **Er. K. M. Shanavaz** Joint Director Kerala State Productivity Council (KSPC)

He is having an experience of over 15 years in Energy Audit, Industrial Engineering, Industrial Safety, Energy Conservation Building Code (ECBC) compliance analysis, carbon footprint study, Electrical power distribution T & D loss analysis (DISCOMS), Software based Building Simulation, PAT M&V Audit etc..



#### Er. R. Chandru Manager - Product Management & Marketing Larsen & Toubro - Electrical & Automation ESP

He completed Bachelor degree in Electricals & Electronics Engineering from PSG College of Technology, Coimbatore. He has been working in Larsen & Toubro Ltd – Electrical & Automation, since 2009. He has a total 11 years of experience in various fields - Power Quality (Reactive Power & Harmonics), Controlgear and Energy Management Systems. He had presented two technical papers, one in an International conference organized by IEEMA & another in a National level conference organized by CPRI. He also conducted many guest lectures & technical seminars at various forums.



#### Er. Dinesh Kumar AN Head - ECBC, SHP, S&L (ESS) Division Energy Management Centre

He has technical experience spanning over 23 years, he carried out various energy efficient infrastructure projects, Green Buildings, consulting, Logistic Park development, Environmental Impact mitigation studies and renewable energy integration.



#### Ar. Ashiqua Sulthana Lead Consultant Tropical Greenovation Cluster (TGC)

Architect specialized in sustainable architecture with six years of experience in design and analysis of climate responsive and energy efficient buildings across India. Exposed to advanced and innovative software tools for climate analysis, energy, day lighting, artificial lighting, thermal comfort analysis, etc.Started her career in Sustainability and Green Buildings from The Energy and Resources Institute (TERI) Western Center and later engaged with facilitation of various green certified projects while working at Passive Design Consultants, New Delhi.



#### Er. Subhash Babu B.V. Registrar Energy Management Centre

He has 20 years of experience in the fields of energy efficiency and management. He is a Certified Energy Auditor of the Bureau of Energy Efficiency. He has a vast experience of taking awareness classes for the energy conservation enthusiasts all over Kerala.



**Er. Jayan. P. P Principal Engineer** Power Electronics Group, C-DAC Thiruvananthapuram

He has more than 17 Years Experience in the field of Power Electronics and Power systems. He has been involved in the design, development and implementation of Electric vehicle controls, Energy Efficient Boats, Microgrids technologies, Automotive Power Electronics, Vehicle control unit for ABB, BHEL, CGL, Delta etc.



Er. Naga Venkata Sai Kumar Energy Performance Analyst Integrative Design Solutions

Naga, holds bachelors in Architecture and presently pursuing MS by Research in IT in Building Science - Part time from IIIT-Hyderabad. As Building Performance Analyst in IDSPL, he handles academic and applied research projects related to Building Energy Efficiency and Climate Change. Through his real-time application expertise in IT in Building science, he has been aiding IDSPL to accomplish several national and international technical research projects. Involved in the development of guideline for Energy Conservation Building Code for Nigeria.



Ms. Anindita Talukdar AGM (Strategy and Operations) Neev Energy

She have been working in the area of smart lighting and collaborating with technology partners to enable transformation to future ready technology driven and sustainable cities which are cleaner, better planned cities anchored in an energy efficient ecosystem. Have successfully handled implementation of one of the most prestigious and intelligent lighting project in Odisha. Closely worked on ESCO models for smart street lighting solutions.



#### Ar. Gaurav Shorey Director PSI Energy Pvt Ltd.

Gaurav Shorey has a bachelor's degree in Architecture (B.Arch. School of Planning and Architecture, New Delhi) with a post-graduate diploma in advanced construction management (D.A.C.M – National Institute for Construction Management and Research, Pune). He has 15 years of experience in the green buildings industry and sustainability related education and awareness. He has worked on over one-hundred green building and energy efficiency projects across India and overseas including IIT's, IISER's, AIIMS's.



Er. Reji Kumar Pillai President - India Smart Grid Forum Chairman – Global Smart Grid Federation

Reji Kumar Pillai is the President of India Smart Grid Forum since its inception in 2011 and is also the Chairman of Global Smart Grid Federation since November 2016. He is an internationally renowned expert with over three decades of experience in the electricity sector in diverse functions covering the entire value chain and across continents. He is spearheading a mission to leverage technology to transform the electric grid in India and light every home at affordable cost through sustainable developmental models.



Er. Jiju K Joint Director/ Scientist 'E' CDAC, Trivandrum

He is presently employed in Power Electronics Group(PEG) of Centre for Development of Advanced Computing (CDAC), Trivandrum. He completed his graduation in Applied Electronics and Instrumentation Engineering from the University of Calicut in the year 2006 and started his career as Research Fellow in the PEG of CDAC, Trivandrum. His areas of interests include Smart Metering and Advanced Metering Infrastructure, Embedded System Design, Power Electronics, Renewable Energy, Biomedical, VLSI Design and Real Time Simulation.

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# Energy Conservation in Domestic Sector

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