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seem NEWS

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society of
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and managers

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Message from President

We are all enthusiastic about substituting fossil energy by renewable energy . We welcome this on counts of reduction in emissions and reduction in import bills of fossil fuels. Can we all sigh that sigh of relief. The recent IEA study on the metals and minerals which go into manufacturing of solar cells and battery systems tell a hidden story. Here again these saviour metals and minerals are not evenly distributed geographically. This puts us in disadvantageous situation of having to be dependent on imports. Rare earth elements are essential for EV systems . Copper in abundance is required for EV , PV and large scale electrification Lithium , cobalt, nickel, manganese , graphite etc are critical for storage systems . All these are concentrated in few countries like China, Australia , Chile, Democratic Republic of Congo. The supply security and reliability of these elements will be crucial for decarbonisation efforts. International diplomacy and dynamics will thus continue to dominate our national energy management strategy and tactics. Energy professionals need to be on the watch out for opportunities to contribute to reduce vulnerabilities of our energy economy.

Jai Hind!

Dr. M.C. Jain
National President , SEEM



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View Point

Accelerate Energy Efficiency - Relieve India from tyranny of import burden

The recent geopolitics is bringing our energy economy discussion to the fore again. Between the twin factors of energy security and energy economics, while the former appears bereft of immediate threat, the latter is on a precarious perch. The exorbitant rise in price of crude in the wake of the ongoing war is having a telling effect on our economy. We were aspiring to break into 5 trillion dollar club and probably these factors are likely to slow our entry. That apart we should pick sufficient lessons from this vulnerability and brace up for such risks hence forth too.

As our SEEM President warns us elsewhere, the much touted solar energy program also may run into similar crisis as there again we are dependent on imported metals and minerals which support the solar photo voltaic panels and storage battery devices.

This calls for extreme prudent use of energy. We sustainable energy professionals have a great role to perform in this historic juncture. India needs to brace up for low carbon growth. Our growth requirements are enormous and at the same time the climate challenges are staring at us.

One of the recent publications from IEA tells us that the countries which resorted to aggressive energy efficiency measures are now reaping benefits of lower consumer costs, lower energy import bills and lower emissions.

Digitalisation enabled automation can provide the impetus needed for accelerating the energy efficiency. Adaptation of automation by large companies are no brainer and require scant policy support. But the millions of small industries where the energy efficiency gets least priority needs policy and finance support to adopt such interventions. If imaginative measures are made available to these millions, not only their energy bills will come down, they get used to a new way to look at productivity in general and more importantly, the resource productivity too. This automation environment will even prompt ideas in circularity which ultimately will translate to reduction in emissions and the Nation's energy import bills too.

As energy professionals it is now time for us to summon our skills in innovation to accelerate energy efficiency culture in the country. We have to garner all our faculties and hasten the decarbonisation through efficiency improvements deploying new age technologies of artificial intelligence, machine learning, data analytics and so on.

Such a movement can deliver the nation from being on tenterhooks whenever a geopolitical tension erupts on some part of the globe. And that can also lead us to a smooth entry to the much coveted five trillion dollar club faster

Jai Hind!

G Krishnakumar
Immediate Past National General
Secretary & Chief Operating Officer





PROGRAM

Technical Talk on “Reactive Power Management in Electrical Systems” on 2nd April 2022

SEEM Kerala Chapter is organising a technical talk on “Reactive Power Management in Electrical Systems” on 2nd April 2022 at 07:00 PM to 08:00PM.

Reactive Power is a key component driving most of the Electrical machines in a power system. Proper management and balancing of Reactive power is a mandate to maintain power factor between prescribed limits. The increased penetration of Energy Efficiency and Renewable Energy to modern Power Systems through Inverter air-conditioning, Variable frequency drives, LED lighting, Energy storage, E-Mobility solutions, Power converters etc. have lead to power quality problems. The management of reactive power in such systems is most challenging task and the same plays a vital role in efficiency and reliability of Electrical systems.

Er. Aneesh Rajendran, Energy Technologist, Energy Management Centre, Kerala and the Joint Secretary – SEEM Kerala Chapter is the presenter.

Meeting link : <https://tinyurl.com/ys4kd5v3>

Don't let this opportunity slip, Register now!

For queries, kindly contact: Mr. Richu Zachariah

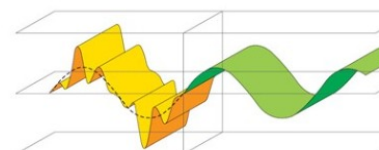
Joint Secretary – Academics, SEEM

Mob: 9400770648



“Reactive Power Management in Electrical Systems”

Technical Talk on 02nd April 2022 at 7.00 PM IST



Key Takeaways

- Reactive Power Compensation
- Types of Compensation
- Automatic Compensation
- Relation of Harmonics and Reactive Power
- Case studies



Er. Aneesh Rajendran
Energy Technologist
Energy Management Centre Kerala

He is a Certified Energy Auditor of BEE and deployed in the NMEEE & DSM division of EMC. He is handling various Energy Efficiency projects and Energy conservation activities including Energy Audits in various sectors. He have been a vital part of research projects focussed on LVDC, Sustainable Tourism projects, Solar powered house boats, optimal placement of EV Charging stations in utility grid. He is a peer reviewer of leading IEEE conferences. His professional experience spans over a total period of 13 years.

Platform: ZOOM meeting

Meeting Link

<https://tinyurl.com/ys4kd5v3>



Society of Energy Engineers and Managers (SEEM)

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REPORT

Webinar on Extra Low Voltage DC for Building Applications

A Webinar on the topic “**Extra Low Voltage DC for Building Applications**” was organized by the Society of Energy Engineers and Managers, Kerala chapter in association with SEEM student's chapter, Amal Jyothi College of Engineering Kanjirapally on 15th March 2022 at 6:30 P.M. The guest speaker **Ms. Rani Chacko**, Assistant Professor, Certified Energy Manager, Department of Electrical and Electronics Engineering, Amal Jyothi College of Engineering.

The student coordinator Archa S welcomed the participants to the webinar and invited the resource person.

Mr. Rani Chacko addressed the gathering with warm greetings, and began the presentation on the topic “Extra Low Voltage DC for Building Applications”. She started the session with an introduction to renewable energy resources and later continued the discussion on the need for ELVDC, Voltage levels in the LVDC system, LVDC topologies. It was also interesting to know about the funded projects related to the topic. She also illustrated how the rural areas of India have been empowered with the technology of inverter-less Solar-DC systems. The participants were very much involved in the presentation and had the chance to interact with the speaker. During the questionnaire section, the participants actively raised their questions and doubts regarding the topic. The speaker enthusiastically replied to all the queries and provided a clear idea about the topic of discussion. The participants and the speaker had a good interactive session, and she concluded the presentation by expressing her gratitude towards the organizers.

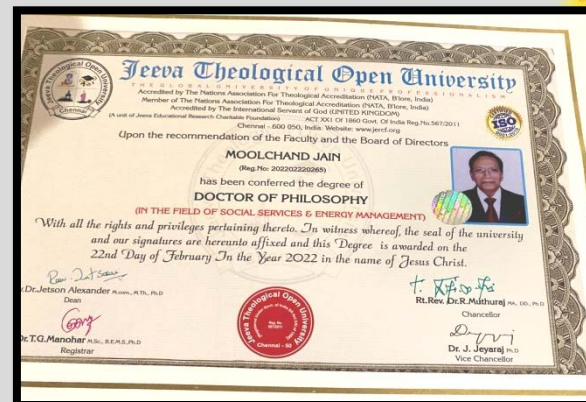
The webinar ended with the Vote of Thanks given by **Er. Aneesh Rajendran**, Energy Technologist, EMC, Joint Secretary (Policy and Government), SEEM Kerala Chapter. He thanked the resource person **Ms. Rani Chacko** for the informative and interactive presentation also acknowledged the efforts of the program coordinator **Mr. Richu Zachariah**, Joint Secretary (Academics), SEEM Kerala Chapter and the student coordinators for their active support in making the program a success.

Webinar on “Importance of Energy audits in Industries”

Society of Energy Engineers and Managers, Karnataka Chapter organised a webinar on “Importance of Energy audits in Industries” on 12th March 2022 at 07:30pm - 08:30pm. **Dr. R. Sivakumar was the presenter who is the Cluster Leader GEF - UNIDO - BEE Project on “Promoting Energy efficiency and Renewable energy in selected MSMEs”** Holds a Master's Degree in Embedded Systems and obtained his doctorate from Anna University. He has 25 years of field experience in Plant maintenance, Projects, Energy conservation, Energy efficiency training and Commissioning etc. He explained about the benefits of energy audits in Industries and shared case studies based on his experience in industrial energy audits. A Q&A session was conducted at the end of the presentation.

SEEM President Shri. M. C. Jain is awarded Ph.D.

SEEM national President, Shri. Mool Chand Jain is awarded Ph.D in the field of Social Service and Energy Management from Jeeva Theological Open University on 22nd February 2022.





PROGRAM



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31 Lessons
Registration Fee: INR 500
Certificate Awarded



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This is the 21st National Certification Examination of Energy Managers and Energy Auditors, conducted by the Bureau of Energy Efficiency. This exam certifies energy managers and energy auditors in India.

This course will take you through Paper - 1 of the 4 books that needs to be referred during this examination.

Topics Of Interest

- Energy Conservation Act 2001 & Related Policies
- Energy Scenario - Global & Indian
- Energy & Financial Management
- Energy Monitoring & Targeting
- Project Management Cycle
- Renewable Energy
- Measurement & Verification
- Material & Energy Balance

For more details and registration, please

Paper 1 [Click Here](#)

Paper 2 [Click Here](#)

Paper 3 [Click Here](#)

Paper 4 [Click Here](#)

Contact :

Mr. Mohammed Arshad

Mob : 87448 15570

E-mail

: training@greentree.global

Registration fee:

Paper 1 – Rs. 500 + GST

Paper 2 – Rs. 1250 + GST

Paper 3 – Rs. 1250 + GST

Paper 4 – Rs. 1500 + GST

Total Cost – Rs. 4500 + GST

If you would like to register for all 4 papers, the fees will be only Rs. 4000 + GST.



PROGRAM

SEEM Vice-President Mr. R. Jayakumar is one of the speakers on CAHOCON2022

SEEM National Vice-President Mr. R. Jayakumar is speaking in the 6th edition of CAHOCON 2022 the Pre conference Workshop on "Infrastructure Utility Service in Healthcare – Critical Issues" on 1st April 2022 at 08:00AM to 05:00PM.

6th Edition CAHOCON 2022
PRE CONFERENCE WORKSHOP

THEME:
INFRASTRUCTURE UTILITY SERVICES IN HEALTHCARE- CRITICAL ISSUES

VENUE:
RAJAGIRI HOSPITAL, KOCHI

1 April
8:30 AM – 5 PM IST

The preconference workshop is a collaboration of thinktank and industry experts on Healthcare Infrastructure & facility systems, aiming to sensitize and educate the Facility & Management professionals on areas such as designing, management and audits, ensuring patient safety

REGISTER

HIGHLIGHTS

- HVAC systems - Industry Experts insights into design, performance, and maintenance
- Power monitoring
- Designing energy efficient systems for hospitals
- Electrical safety audits
- Fire protection - Latest trends and technologies in active & passive systems
- Automated solutions for Efficient Hospital facility management
- Facility walk through
- PANEL DISCUSSIONS - MANAGING MAINTENANCE & CRITICAL ISSUES IN HOSPITAL UTILITY SERVICES

WHO SHOULD ATTEND

Hospital administrators, Hospital Engineers, MEP Engineers, Fire & Safety professionals, Hospital Project Heads, Hospital Design Engineers, Hospital Facility Managers.

REGISTRATION FEES (INCLUSIVE OF 18% GST)

NON MEMBERS - 2000 INR / 60 USD
CAHO MEMBERS - 1500 INR / 50 USD

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Ms. Sindhu V Menon +91- 9947902774
Help Desk : +91 98703 18781
Register Now: www.cahocon.com

Speakers:

Mr. Vinod Kumar K B
Consultant, Rajagiri Hospital & V B G Consulting Engineers

Mr. K P Dominic
Managing Director Blue & Gray Management Consultants India Pvt Ltd

Mr. Pradeep Dani
Vice President Vijay Systems Pvt Ltd

Mr. Arul Prakash
Assistant Superintendent CMC Vellore

Mr. Prem Chander
HVAC Engineer CMC Vellore

Mr. Ashish Rakheja
Managing Partner Aeon Consultants

Mr. Rajesh Sawant
General Manager Solution Architect, Schneider Electric India Pvt Ltd.

Mr. Jayakumar
Managing Director, Sustenergy Foundation, India

Mr. Arun Verma,
Regional Director High Purity Business and R&D, AAF EEMEA, CIS & SAARC Countries

NEWS

Global wind and solar power growth on track to meet climate targets

The Netherlands, Australia and Vietnam had the fastest growth rates for the renewable sources, switching around 10% of their electricity demand from fossil fuels to wind and solar in the last two years, they said.

"If these trends can be replicated globally, and sustained, the power sector would be on track for 1.5 degree goal," Ember said in their report.

The Netherlands, Australia and Vietnam had the fastest growth rates for the renewable sources, switching around 10% of their electricity demand from fossil fuels to wind and solar in the last two years, they said.

However, despite gains in wind and solar, coal-fired power generation saw its fastest growth since at least 1985, up 9% in 2021 at 10,042 terawatt hours (TWh), or 59% of the total demand rise, the report said.

This came in a year of rapid demand recovery, as 2021 saw the largest recorded annual increase of 1,414 TWh in global electricity demand in 2021, up 5.4% and the equivalent of adding a new India to global demand, they said.

"We're getting closer to that break-even where wind and solar can cover new electricity demand, but we are still not quite there. If we maintain those growth rates we see, we will be there shortly," Jones said.



"If these trends can be replicated globally, and sustained, the power sector would be on track for 1.5 degree goal," Ember said in their report.

The main issue currently slowing the growth rate is on-the-ground constraints like permitting, and if governments want to supercharge growth they need to solve problems slowing deployment, Ember's global lead Dave Jones said.

The biggest demand rise was recorded in China, up 13% in 2021 compared to pre-pandemic levels in 2019, the data showed.

The country relies largely on coal for power production, but passed the one-tenth of power generation from wind and solar landmark for the first time in 2021 along with six other countries, the report said.

China "is installing not only record levels of wind and solar, but also installing record levels of clean electricity like hydro, nuclear and bioenergy which means their coal generation will start falling," Jones said.

"What's not clear is how quickly that will be," he added. China plans to continue to use coal as a vital part of its energy strategy, as it bids to balance economic stability with its longer-term climate goals.

Source::

<https://energy.economictimes.indiatimes.com/news/renewable/global-wind-and-solar-power-growth-on-track-to-meet-climate-targets/90530702>



REPORT

Strengthening the Energy, Water & Agricultural Nexus (SEWA)

A high level stakeholder meet titled "Strengthening the Energy, Water & Agricultural Nexus" was organised on 15th March 2022, at Raipur by SwitchON Foundation under the collaboration with Chhattisgarh Renewable Energy Development Agency. The discussion was primarily around sustainable irrigation using solar pumps and water management for agriculture in the state and promoting deployment of various small-scale renewable energy-based livelihood applications (DRE), and the potential to create long-term jobs.



The event was attended by various departments of the state dealing with these issues including nodal agencies of various livelihood mission programmes. The Chhattisgarh Renewable Energy Development Agency (CREDA) has been actively working towards promoting standalone off grid solar agricultural pumps under Chhattisgarh Saur Sujala Yojana 2022 and the PM KUSUM Yojna, launched in 2019. Under the scheme, the state government has been targeting to provide solar powered irrigation pumps with 3HP and 5HP capacity to over 51,000 farmers. This scheme is implemented by the Energy Department of Chhattisgarh State Government.

Solar pumps have emerged as an alternative to conventional pumps, reducing dependence on unreliable electric supply or high fuel costs. The Chhattisgarh Govt has been prioritizing Scheduled Tribes (ST) farmers, who are among the most marginalized in the irrigation access. Chhattisgarh already has been a leader in the deployment of solar pumps across the country with over 30 per cent of India's solar pump deployments coming from the Saur Sujala Yojana (SSY) scheme. SSY provides about 90–95 per cent subsidy on solar pumps, which is available to any farmer with more than one acre of land ownership. Under SSY, more than 80,000 pumps have been installed in the last five years.

Speaking at the event Shri. Sanjeev Jain, Chief Engineer, Chhattisgarh Renewable Energy Development Agency (CREDA) and Life Member, SEEM said - **"There is an urgent need to shift the energy loads of the agricultural activities to solar energy, switching to Solar Pump makes more economic sense today than ever before and CREDA is leading & committed towards the cause."**

SwitchON Foundation through its SEWA network has been aiming to build, nurture and strengthen the interlinkages between Energy Water and Agriculture while keeping women leadership and livelihood of the farmers in the centre. Currently the SEWA Network has been a major success across Jharkhand and West Bengal, with over 25 active member organizations across various districts of the states.

The Group has been on a mission to promote the use of solar water pumps along with micro irrigation technologies, facilitate community driven water management and Introduce and encourage Climate Smart Agriculture across eastern India.

Through the SEWA Program the group aims to create an ecosystem, for the promotion of solar pumps with micro irrigation, water and soil conservation – in order to achieve the doubling of farmer income while conserving natural resources, adapting and mitigating climate change. It will also ensure exchange of ideas and discussion on the challenges and opportunities in promotion of sustainable agricultural practices.

This discussion was also attended by the farmer community with over 25 organizations adding to the voices from the ground, along with Senior Govt / Administration officers, Foundations, NGOs working alongside CREDA.

Shri. Vinay Jaju MD SwitchON Foundation said – **"We are extremely happy to work under the leadership of Govt of Chhattisgarh in promoting solar pumps, water conservation and sustainable agriculture through the SEWA Network. where we want to create evidence from the ground through our various projects in collaboration with CREDA and other line departments to ensure marginal ST women farmers benefit across the state for sustainable development across Chhattisgarh."**



Shri. Sanjeev Jain, Chief Engineer, Chhattisgarh Renewable Energy Development Agency (CREDA) and Life Member, SEEM is in the middle



NEWS

World to have over 115 mn energy-efficient buildings in 2022

New Delhi: As energy costs spike, the number of buildings globally deploying smart building technologies will reach 115 million in 2026, from 45 million in 2022, a new report showed on Monday.

This growth of over 150 per cent reflects increasing demand for energy efficiency from businesses and residents alike, according to a new study from Juniper Research.

A smart building uses connectivity to enable economical use of resources, while creating a safe and comfortable environment for the occupants.

The research found that non-residential smart buildings will account for 90 per cent of smart building spend globally in 2026, at a similar level to 2022.

"Smart building platform vendors will understandably focus on non-residential use cases, as these provide a stronger return on investment, but they should not neglect the importance of residential deployments, as environmental concerns intensify," said research co-author Dawnetta Grant.

By enabling buildings to monitor and automate common functions, significant efficiency gains can be made, while improving the environment for workers and residents.

The research also found that the global shipments of sensors used in smart buildings will exceed 1 billion annually in 2026 from 360 million in 2022, representing a growth of 204 per cent.

Sensors, when combined with intelligent management platforms, will allow smart buildings to adapt to conditions; matching elements such as lighting, heating and ventilation to live requirements.



Source: <https://energy.economictimes.indiatimes.com/news/power/world-to-have-over-115-mn-energy-efficient-buildings-in-2022/90506985>

Coming soon...





NEWS

Soon, 98% of population will be covered with piped cooking gas: Govt

More than 82 percent of India's land area and 98 percent of the population will be covered with piped cooking gas after the latest round of expansion work, the government informed the [Rajya Sabha](#) on Monday. Bids for the expansion work will be opened on May 12 this year.

Replying to supplementary questions of members during [Question Hour](#), Minister of [Petroleum and Natural Gas Hardeep Singh Puri](#) said once the award of bidding is done, it typically takes a certain number of years for the infrastructure to be laid.

"After the 11th round of bidding, we would have over 82 percent of our land area and 98 percent of our population complete so that piped cooking gas can be delivered to households," he informed the house.

"The only population that will be left will be some areas in the North East and Jammu and Kashmir because they are widely dispersed. Typically, cooking gas that comes through the pipe is cheaper and more consumer friendly than that supplied through cylinders," he also said.

Puri said that during the [pandemic](#), beneficiaries of the Ujjawala scheme were given free LPG cylinders.

Today the total number of gas cylinders, which stood at 14 crore in 2014, has gone up to 30 crore and "we will cover the entire population and this is a work in progress," he also said.

To another supplementary, the minister said the government is setting up 50 LNG stations in the next few years out of a total of 1,000 that are proposed to be set up.

To another supplement, the minister said state public transport providers and some other state enterprises were being supplied diesel at wholesale rates, which did not factor in dealer commission, etc.

In the aftermath of the pandemic and the military action in one part of the world, global oil prices went haywire and in the process there were wide fluctuations in the prices, he said.



"As a result, the supplies to the wholesalers somehow became more expensive than the supplies at the retail point. A lot of people who were getting discounted diesel started coming and queuing up in retail outlets. I am told that this is a market mechanism functioning issue which should resolve itself very soon as soon as there is stability in the market. The idea is not for anyone to charge wholesalers more than the retail," Puri told the house.

In his written reply to a question, the minister said there was no proposal to come up with an Administered Price Mechanism (APM) for both CNG and LNG to ensure firm prices.

He said petroleum products are outside the ambit of GST. "LNG imports are under open general licensing and any entity can directly import the same," he said..

Source::

<https://energy.economictimes.indiatimes.com/news/oil-and-gas/soon-98-of-population-will-be-covered-with-piped-cooking-gas-govt/90537913>

Assam government signs mining lease agreement with OIL for 8 blocks

Guwahati: The [Assam government](#) on Tuesday signed a Petroleum [Mining Lease](#) (PML) blocks with oil sector PSU major [Oil India Ltd](#) (OIL) for exploration of petroleum products in eight blocks, expecting an annual royalty of over Rs 2,000 crore, officials said.

[Assam](#) government's Geology and Mining Department Director Ananda Kumar Das, and OIL's Executive Director (Frontier Basin) Agadh Medhi signed the deal in presence of state's Mines and Minerals Department Minister Jogen Mohan, and other senior officials.

The 8 PML blocks are Dibrugarh, Dibrugarh Extn, Hugrijan Extn, Borhapan, Borhat, Moran, Dumduma Extn and Mechaki Extn

The Minister said that the Assam Government is expected to receive more than Rs 2,000 crore royalty from OIL annually for the pact.

He told the OIL officials that the Assam government would provide all possible support to the company in its quest for hydrocarbons.

Jogen Mohan requested OIL to enhance the employment generation to the local people.

OIL's Resident Chief Engineer Prasanta Borkakoty said that the company has planned to ramp up crude oil and gas productions by enhancing its exploration and development programme.



Source::

<https://energy.economictimes.indiatimes.com/news/oil-and-gas/assam-government-signs-mining-lease-agreement-with-oil-for-8-blocks/90537682>



NEWS

Tata Power, Rustomjee ink pact to set up EV charging infrastructure across project in Mumbai Region

Tata Power has collaborated with realty developer Rustomjee Group to provide electric vehicle charging solutions across all its residential and commercial projects in Mumbai Metropolitan Region (MMR).

Under this collaboration, Tata Power will install dedicated charging infrastructure for residents of Rustomjee projects in Mumbai region. Electric vehicle owners will have access to a 24x7 charging facility along with maintenance support.

Tata Power will set up 28 EZ charging points at Rustomjee Groups' residential and commercial projects.

The company through its Tata Power EZ Charge offering has already set up over 100 EV charging points in Mumbai and over 1,300 charging points across the country.

"We are happy to partner with Rustomjee Group and think our collaboration will hasten the transition to EV adoption in Mumbai. It's a step towards decarbonizing the transportation sector and making EVs more mainstream," said Sandeep Bangia, Head- EV, Tata Power.

Tata Power has been rapidly setting up EV charging infrastructure across the country, helping India adopt environment-friendly mobility. The company already has a partnership with Apollo Tyres, HPCL, TVS Motors, amā Stays & Trails and others to set up and enhance the EV charging infrastructure.

The Rustomjee Group has delivered over 20 million sq ft of space, 280 buildings and 14,000 homes.



Source::
<https://energy.economictimes.indiatimes.com/news/power/tata-power-rustomjee-ink-pact-to-set-up-ev-charging-infrastructure-across-project-in-mumbai-region/90537026>

Tata Power partners with Social Alpha to develop Net Zero programme

New Delhi: Tata Power on Tuesday said it has partnered with Social Alpha to develop 'Net-Zero Industry Accelerator' programme which aims to address air pollution from industrial sources.

In a statement, Tata Power said it has joined hands with Social Alpha to build the programme.

"The accelerator will prioritize industries with the highest carbon footprints and will co-create the innovation ecosystem in partnership with some of the leading industry players in India along with technologies that abate and address air pollution from industrial sources and encourage energy decarbonization, carbon capture, and storage."

Source:: <https://energy.economictimes.indiatimes.com/news/power/tata-power-partners-with-social-alpha-to-develop-net-zero-programme/90530575>



Gadkari reaches Parliament in hydrogen-powered car

Union Minister for Road Transport and Highways [Nitin Gadkari](#) on Wednesday arrived at [Parliament](#) in the country's first first [hydrogen](#) fuel based car.

Demonstrating the car powered by 'Green Hydrogen', [Gadkari](#) emphasised the need to spread awareness about hydrogen, [Fuel Cell Electric Vehicle](#) technology and its benefits to support hydrogen-based society for [India](#).

While speaking to reporters outside Parliament house, the Road Transport Minister said the fuel prices are continuously rising in the international market and its the common man who has to ultimately bear the brunt. "Currently, we import Rs 8 lakh crore of crude oil. If we want to become a self-reliant country then we need to produce hydrogen based fuel in India," he said.

The Minister assured that Green Hydrogen will be manufactured in India. "Green Hydrogen refuelling stations will be established generating sustainable employment opportunities in the country.

India will soon become a Green Hydrogen exporting country," Gadkari said.

"In line with Prime Minister [Narendra Modi](#)'s vision of clean and cutting-edge mobility in India, our government, through National Hydrogen Mission is committed to focusing on green and clean energy," he said.

Asked about the cost of Hydrogen fuel, the Minister said that it is likely to cost people around Rs 2 per KM, way less than other fuels.

Gadkari averred that the government will not just produce it, they also plan to export green Hydrogen. "It is a big revolution," he added.

Source::
<https://energy.economictimes.indiatimes.com/news/renewable/gadkari-reaches-parliament-in-hydrogen-powered-car/90540776>



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15. Create new state and international chapters
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"Energy manager" magazine



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SEEM's aim is to provide a clean and green earth by integrating energy efficiency and conservation of natural resources into activities

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- Immense & distinctive initiatives
- Students to establish & flourish their skills in the Energy sector
- Create opportunities for industry professionals, consultants, entrepreneurs, experts
- To create skill development opportunities to members
- Organizing training programs, workshops
- Organizing technical digest service
- For Certified Energy Managers
- For Auditors and energy professionals
- Organize energy related research
- Energy Equipment Manufacturers, Distributors, Marketing Agencies

Present Network of SEEM



- More than 2567 energy industry professionals
- A network with International / national energy agencies; state designated / nodal agencies and non-government organizations
- Building a network of student chapters



2567 Energy Professionals



National Presence
22 states



15 Chapters &
7 Centers



13 Student Chapters



SEEM Individual Memberships Fee & Benefits

Sl.No	Membership Category	Membership Fee	Annual Fee	Total Amount (Including tax)
1.	Annual Membership / Annual Associate Membership	Rs. 2500	Rs. 500	Rs. 3540
2.	Annual Fellowship	Rs. 3000	Rs. 1000	Rs. 4720
3.	Life Membership	Rs. 6750	Not Applicable	Rs. 7965
4.	Life Fellowship	Rs. 12,000	Not Applicable	Rs. 14160
5.	Student Membership	Rs. 500	Rs. 500	Rs. 1180

Who can join SEEM?

- BEE Certified Energy Auditor
- BEE Certified Energy Manager
- Engineers working in energy related field holding a position of high responsibility with minimum 20 years experience
- Any Degree/ Diploma holders working in the field of Energy Efficiency/ Energy Conservation/ Renewable Energy for the last two years
- Engineering students and students who would like to do research or undertake projects in the energy sector

Benefits to Members

- Opportunities to get your case studies published in SEEM print magazine "Energy Manager"
- Opportunities to publicize your efficiency initiatives in the monthly e-newsletter SEEM News
- Speaking / Presentation opportunities at various forums
- Opportunities to constructively participate in various discussions in the energy sector
- Opportunities to become a SEEM Trainer / Expert Faculty
- Opportunities to become a SEEM Mentor for Student Chapters
- Leadership and participation opportunities in various SEEM programmes
- Networking opportunities with many energy professionals from across the country
- Knowledge enhancement platform in the energy sector
- Right to cast vote at the SEEM Annual General body Meeting
- All communications, which includes: notices about meetings, invitation to events, announcements about the SEEM activities.
- Priority to participate in funded projects carried out by SEEM in the energy sector, on the terms and conditions appropriate to such projects
- Support for addressing relevant grievances

- An opportunity for cross-fertilization of ideas with access to lessons learnt by others

Discounts available to SEEM Members:

- Upto 50% discount on registration fee for seminars / workshops and other training events conducted by SEEM.
- Opportunity to attend workshops and trainings by third parties at special rates offered to SEEM Members
- A discount of 50% on priced publications brought out by SEEM
- Upto 50% discount on applications to SEEM National Energy Management Awards every year
- Discounts on any other programmes/ products or services offered by SEEM

Your membership kit includes:

- SEEM membership ID card
- SEEM Membership Certificate
- Subscription to SEEM print magazine Energy Manager
- Subscription to monthly e-newsletter SEEM News

Membership Categories & Eligibility

Category	Eligibility
Member	Energy Manager / Energy Auditor certified by Bureau of Energy Efficiency
Associate Member	Any diploma / degree holder who is working in the field of energy efficiency/conservation/ renewables for the last two years.
Fellow	Engineers working in energy related field holding a 'position of high responsibility' with minimum 20 years experience and who have been certified as Energy Managers or Energy Auditors by the Bureau of Energy Efficiency, Ministry of Power.
Honorary Fellow	Persons who are qualified to be Fellows invited to join SEEM as Honorary Fellows, subject to the approval of the Executive Council.
Student Member	Engineering students or students who would like to do research or undertake projects/studies in energy related fields.



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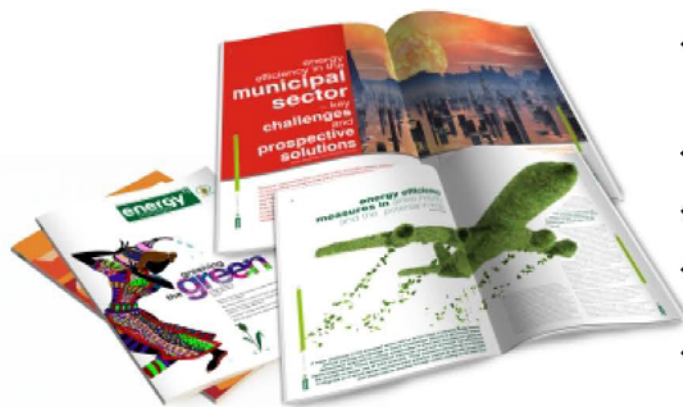
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