

WORKSHOP ON ENERGY EFFICIENT COLD CHAIN TECHNOLOGIES

Two one-day workshops on “Energy Efficient Cold Chain Technologies” were organized in Kerala, under the leadership of Energy Management Centre - Kerala (EMC) in collaboration with Bureau of Energy Efficiency (BEE) and Federation of Indian Chambers of Commerce and Industry (FICCI), to enhance the energy efficiency of cold storage systems. These workshops, held in Trivandrum on March 5th, 2024, and Ernakulam on March 7th, 2024, aimed to engage stakeholders across the cold chain spectrum, including farmers, dairy, fish, and meat traders, cold storage manufacturers, and consumers.

The workshop organised in Thiruvananthapuram at Hotel Apollo Dimora was inaugurated by Hon’ble Minister of Electricity, K. Krishnankutty in virtual mode in the presence of EMC Director R. Harikumar, Assistant District Industries Officer of District Industries Center (DIC), John J. Latish, President of Thiruvananthapuram Chamber of Commerce & Industry, Raghuchandran Nair, District President of Kerala State Small Industries Association (KSSIA), Pradeep Kumar C. S., Head of Energy Efficiency Division at EMC, Johnson Daniel, and Senior Director of FICCI Energy Division, M.N. Girish.

The workshop conducted in Ernakulam at P G S Vedanta was inaugurated by Anil Kumar P.,



Workshop on Energy Efficient Cold Chain Technologies conducted at Thiruvananthapuram

Director-Marketing of MPEDA in the presence of Head of EMC’s Energy Efficiency Division, Johnson Daniel, Assistant District Industries Officer of DIC, Vinod Kumar, District Vice President of KSSIA, Tom Thomas, Registrar of EMC, B. V. Subhash Babu, and Senior Director of FICCI Energy Division, M. N. Girish.

The workshops featured presentations and expert insights from leading technology providers such as Ecozen Solutions Pvt Ltd, Inficold India Pvt Ltd, Energy Efficiency Services Ltd, Tata Power, Kerala Renewable Energy Entrepreneurs and Promoters Association (KREEPA), Danfoss Industries Pvt Ltd., Rinac India Ltd., Overleap Energy Pvt Ltd., as well as financial institutions like SIDBI. Stalls showcasing energy-efficient and innovative technologies in the cold chain sector were also set up.

Efficient refrigeration systems are indispensable for preserving perishable agricultural and seafood products, milk, meat, and various other goods, especially in regions like Kerala where temperatures can be challenging. The transportation of such products from one location to another necessitates the use of refrigerated storage vehicles. Likewise, refrigeration systems are crucial in retail outlets, where they are accessible to customers. The cold



Workshop on Energy Efficient Cold Chain Technologies conducted at Thiruvananthapuram



Workshop on Energy Efficient Cold Chain Technologies conducted at Kochi

chain, comprising cooling systems from harvest to market, plays a pivotal role in maintaining product quality and extending shelf life.

The government aims to enhance the energy efficiency of cold storage systems in Kerala, with the objective of reducing electricity consumption and ensuring the safe delivery of food products to consumers. Lowering power consumption also

cuts the operating costs of cold storage systems, potentially resulting in significant profits.

These workshops served as vital platforms for raising awareness and fostering collaboration towards embracing energy-efficient practices in the cold chain sector, contributing to a sustainable and resilient future.

Webinars

Activities Pertaining to Assessment Year 2024-25 for PAT 7 & 7A DCs

Energy Management Centre, in coordination with the PAT Cell, organized a webinar on “Activities Pertaining to Assessment Year 2024-25 for PAT 7 & 7A DCs” under the Perform Achieve and Trade (PAT) scheme for DCs in the state of Kerala on 20th March 2024. Johnson Daniel, Head NMEEE, provided a brief overview of the PAT cell's activities and overview of Activities Pertaining to Assessment Year 2024-25. He then welcomed the speaker, Shashidhar Dhareshwar (AEA), for the session and the participants. The session was then handled by Shashidhar Dhareshwar (AEA). DCs in PAT 7 & 7A actively participated in the webinar. Activities during the assessment year for PAT 7 & 7A and M&V Audit after the end of Assessment year were the major topics discussed.



Notification for price of one metric tonne oil equivalent for PAT Cycle III

The value of per metric tonne of oil equivalent of energy consumed for the purpose of PAT rules shall be twenty-one thousand six hundred and fifty rupees (Rs. 21,650) for the year 2019-20 and for the succeeding targeted years shall be such amount as may be specified by the Central Government, by notification in the Official Gazette”.

This price will be applicable for the future ESCerts trading for PAT-III.

The details of the Notification can be obtained from the Link: <https://tinyurl.com/c3k4vezm>



Exciting News: PAT Cycle I & II DCs Eligible for ESCerts Trading in PAT Cycle III

The ESCerts trading for PAT Cycle III was initiated from 9th April, 2024. Designated Consumers of PAT Cycle III can register with the Registry for eligibility in ESCerts trading. Link: <https://tinyurl.com/3wk3u3tx>

Additionally, DCs from PAT Cycles I and II with Positive/Negative ESCerts are permitted to participate in upcoming trading sessions for PAT Cycle III, as per OM No. 45/01/ESCerts Trading/23-24/273 dated 18th April, 2024. For more details: <https://tinyurl.com/3f5dvw5u>

Case study

*Source: Sameeksha

Variable Frequency Drive (VFD) for Refrigeration Compressor Motor

In the pursuit of energy efficiency and operational excellence, businesses across industries are increasingly turning to energy efficient solutions to reduce the cost incurred in their energy consumption. In this case study a dairy manufacturing unit has improved the compressor's trim efficiency by retrofitting refrigeration compressor with a variable frequency drive to take advantage of the improved part load performance.

Problem Identification: Refrigeration compressors experience varying thermal loads, leading to fluctuating motor load percentages from 80% to 25%. During the part load, energy consumption of the motor is more when compared to output with less efficiency.

Solution: Install VFD at the 300 HP compressor motor and Replacement of existing soft starter with VFD along with control system on 300 HP Compressor motor helps to unload the VFD compressor to achieve maximum system efficiency.

Cost-Economics:

Rated capacity of existing refrigeration system	635 TR
Actual TR generated by refrigeration system (on part load)	315 TR
Operating hours	24 hrs/day
No. of days working per annum	365 days
Actual electricity saving after installation of VFD system	840 kWh/day
Unit cost of electricity	₹ 7.86/kWh
Annual electricity savings	306600 kWh
Annual monetary savings	₹ 2409876
Investment to install VFD system	₹ 1,75,000
Payback period	~1 Month

Benefits: With the help of VFD System, around 306600 kWh/annum electrical energy was saved annually worth INR 24 lakhs. This measure reduced 250 tonnes of CO2 emission per annum. Better control of maximum demand of chilling center. Improved life and better reliability of compressor components.



VFD installation at refrigeration compressor motor



Air compressor at refrigeration plant

Small And Medium Enterprises Energy Efficiency Knowledge Sharing (SAMEEKSHA)

is a collaborative platform that pools and shares the knowledge and experiences of various organizations and institutions – Indian and international, public, and private – that are engaged in promoting energy efficiency in the Indian MSME sector. SAMEEKSHA platform is supported by the organisations like the Ministry of Micro, Small & Medium Enterprises (MSME), Government of India, Bureau of Energy Efficiency (BEE), the Swiss Agency for Development and Cooperation (SDC), the Shakti Sustainable Energy Foundation, and The Energy and Resources Institute (TERI).



Attention PAT Stakeholders!

The Kerala State Electricity Regulatory Commission has released the draft 'Kerala State Electricity Regulatory Commission (Adjudicating Procedure) Regulations, 2024'.

Public Hearing: A public hearing on the draft regulations will be conducted. The date and venue of the hearing will be intimated separately.

For More Information: Visit the Kerala State Electricity Regulatory Commission website for updates, announcements, and details on the public hearing.

Link to the draft regulations:

<https://tinyurl.com/yc5m72db>

Or scan the QR code



Standards and Labeling Program for Grid Connected Solar Inverter Launched

Bureau of Energy Efficiency's "Standards and Labeling Program for Grid Connected Solar Inverter" was launched by the Union Power and New & Renewable Energy Minister R. K. Singh in New Delhi on March 15, 2024. The Program will help consumers in getting better-quality inverters which can be used as part of the solar rooftop system. Union Power Secretary Pankaj Agarwal; Secretary, New & Renewable Energy, Bhupinder Singh Bhalla; Additional Secretary, Ministry of Power, Ajay Tewari; Additional Secretary, Ministry of New & Renewable Energy, Sudeep Jain; and Director General, BEE, Abhay Bakre were also present on the occasion.



Hon'ble Union Minister of Power and New & Renewable Energy, R K Singh launching S&L Program for Grid Connected Solar Inverter

The Union Power and New & Renewable Energy Minister emphasized the significant impact of BEE's Standards and Labeling Programs, which have annually reduced carbon dioxide emissions by 60 million tonnes. Stressing the program's importance for both consumers and the system, he underscored its role in achieving substantial energy savings and ensuring product quality essential for global competitiveness, particularly emphasizing

its relevance in boosting the rooftop solar program through grid-connected solar inverters. The Standards and Labeling (S&L) Program for Grid-Connected Solar Inverter has been launched under the voluntary phase, effective from March 15, 2024, until December 31, 2025.

For more details
Scan this QR code

Or click on the link below;
<https://tinyurl.com/4u8ycvxn>



PAT BULLETIN

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