ECAM

A MAGAZINE DEVOTED TO PROFESSIONAL DEVELOPMENT & TECHNOLOGY UPGRADATION

ELECTRICAL CONTRACTORS' ASSOCIATION OF MAHARASHTRA ESTD - 1925

Total No. of Pages: 46

APRIL 2025

Rs. 50.00

Indian Electrical Contractor & Trader

Regd. No. MCE/80/2024-26
at Mumbai Patrika Channel, Mumbai GPO, Mumbai-1,
on 27th & 28th of Previous month. R.N.I. No. 11498 / 57
Date of Publishing 26th of Every Previous Month

Organ of the Electrical Contractors' Association of Maharashtra (ECAM)

pressfit®

NO HEROES TV ADS

ONLY GREAT PRODUCTS

AT BETTER PRICES

PVC CONDUIT PIPES | CASING -CAPPING
BUILDING WIRES | MULTI-CORE CABLES
SWITCHES | MODULAR BOXES | MCB | RCCB

1800-2121-770
pressfitindia.com

APPROVED BY THE EXPERTS, ADMIRED BY THE WORLD.

AKALMAND BANO, SAHI CHUNO.

RR KĀBEL
WIRES & CABLES

INDIA'S ONLY WIRE WITH
REACH • RoHS
CE • CPR Compliant

ANTI-RODENT ANTI TERMITE

HIGHER INSULATION RESISTANCE

MORE THAN 101% CONDUCTIVITY

100% ELECTROLYTIC COPPER

Email : digitalsupport@rrglobal.com | Website: www.rrglobal.com | Follow us

उमेश रेखे
प्रभारी अध्यक्ष,
इकॅम

"ECAMEX 26" ची घोषणा

नमस्कार प्रिय सभासद बंधूनो /भगिनिंनो,

प्रत्येक वर्षाच्या मार्च महिन्यात आपण सर्व सभासद बंधु आपल्या आर्थिक वर्षाच्या समाप्तीमुळे व्यस्त असतो. त्यामध्ये सरकारी क्षेत्रात काम करणाऱ्या बंधुंची बिलांच्या पूर्ततेसाठी लगबग चालू असते, तसेच येणाऱ्या नवीन आर्थिक वर्षाच्या तयारीसाठी आपण व्यग्र असतो. तसेच नवीन वर्षातील नवीन उपक्रमांची बांधणी करणे गरजेचे असते.

गेल्या महिन्यात जळगाव, धुळे-नंदुरबार, कोकण, पिंपरी चिंचवड, पुणे विभागात विविध उपक्रम अतिशय उत्तम रित्या राबविण्यात आले. तसेच सार्वजनिक बांधकाम विभाग, अदानी, बेस्ट, विद्युत निरिक्षक, महावितरण या विभागांतील समस्यांबाबत विविध संस्थांशी पत्रव्यवहार, बैठका याद्वारे संपर्क करून प्रश्न सोडविण्याबाबत आपल्या संघटनेच्या पदाधिकाऱ्यांनी पाठपुरावा केला असून त्याद्वारे विविध प्रश्नांना वाचा फोडून ते प्रश्न मार्गी लावण्यात काही प्रमाणात यश मिळाले आहे. सदरहु प्रश्न मार्गी लावताना सभासदांचा त्यामध्ये उत्तम सहभाग होता व अशीच एकी आपण दाखविल्यास आपण आपले उर्वरीत प्रश्न नक्कीच मार्गी लागतील, अशी आशा वाटते.

मागील वर्षी आपल्या संघटनेच्या १०० व्या वर्षा निमित्ताने आपण "ECAMEX 24" चे आयोजन केले होते. त्यावेळी आपण दर दोन वर्षांनी मोठया प्रमाणावर प्रदर्शनाचे आयोजन करण्याचे ठरविले होते. त्या दृष्टीने "ECAMEX 26" या नावाने जवळपास ४०० स्टॉलचे प्रदर्शन आयोजित करण्याचे योजिले आहे. मागील प्रदर्शनात सर्व सभासद, स्टॉलधारक, पदाधिकारी, जाहिरातदार यांच्या उदंड सहकार्यामुळे सदरहु प्रदर्शनाचे अत्यंत भव्य दिव्य व उत्कृष्ठ नियोजन आपण करू शकलो होतो.

"ECAMEX 26" या प्रदर्शनासाठीही आपल्या सर्वांच्या अशाच सहकार्याची अपेक्षा करतो. प्रदर्शनामध्ये "ECAMEX" हा ब्रँड नेम तयार करण्यासाठी आपण सर्वांनी कंबर कसावी व सदरहु प्रदर्शन अतिशय भव्य दिव्य तसेच उत्कृष्ठ नियोजनबध्द होण्यासाठी आपणा सर्वांच्या सहकार्याची अपेक्षा करतो.

भारतीय संस्कृतीप्रमाणे 'गुढीपाडवा' निमित्ताने सर्वांना शुभेच्छा व येत्या गुढीपाडव्याच्या निमित्ताने आपल्या "ECAMEX 26" या प्रदर्शनाची मुहुर्तमेढ उभारून ती यशस्वी करण्याची शपथ आपण घेऊया!

धन्यवाद!

POLYCAB
IDEAS. CONNECTED.

Schneider Electric
L&T SWITCHGEAR
SAFE & SURE

:hager
MCB & ELCB

legrand

HAVELLS

GI CABLE TRAYS

Finolex Cables Limited

BRIMSON
WIRES & CABLES

BRIM PLAST
WIRES CABLES
INSTRUMENTATION CABLES

AUTHORISED DISTRIBUTORS & STOCKIST

MANIBHADRA
ELECTRICALS PVT. LTD.

: 703915 6555 / 98198 73073 / 99208 73073
#4, Shahviri Bldg., 37/41, Picket Road, Mumbai-400 002.
Mo.: 9619873073 Tel.: 022-46068506/2207 1314/2207 7168/2207 4276 • Hotline : *7005
Email : info@manibhadra.in • Website : www.manibhadra.in

देवांग ठाकूर
महासचिव, इकॅम

इकॅमच्या कार्यतत्पर विभागांचे अभिनंदन!

नमस्कार मित्रांनो,

इकॅम धुळे नंदुरबार विभागाच्या वतीने दिनांक ७ मार्च २०२५ रोजी मे. देवराज इलेक्ट्रोमॅकेनिकल यांच्या फॅक्टरीवर कंपनी सचिव श्री. आकाश फुलेदवरे व त्यांचे सहकारी कर सल्लागार श्री. तेजस अमृतकर यांनी सेमिनार आयोजीत करून औद्योगिक, शेतीविषयक कर्ज व सबसिडी यासंदर्भात इकॅम धुळे नंदुरबार विभागाच्या सभासदांना मोलाचे मार्गदर्शन करून उद्योजकांना नवी दिशा दिली. या प्रसंगी इकॅम धुळे नंदुरबार विभागाचे पदाधिकारी आणि सभासद उपस्थित होते.

इकॅम धुळे नंदुरबार विभागाच्या वतीने दिनांक ८ मार्च २०२५ रोजी जागतिक महिला दिनाचे औचित्य साधून मातोश्री वृध्दाश्रम धुळे येथे अन्नदान करण्यात आले. या प्रसंगी इकॅम धुळे नंदुरबार विभागाचे पदाधिकारी उपस्थित होते.

सार्वजनिक बांधकाम विभागाच्या दरसुचीमध्ये ओव्हरहेड चार्जेस फक्त १०% दिले जायचे. स्थापत्य विभागाप्रमाणे ठेकेदाराचा नफा १०% व ओव्हरहेड चार्जेस १०% देण्यात यावे अशी मागणी इकॅमने सार्वजनिक बांधकाम खात्याकडे लावून धरली होती. नुकत्याच दिनांक १२ मार्च २०२५ रोजी झालेल्या व्हिडिओ कॉन्फरन्सींग द्वारे झालेल्या चर्चेमध्ये दरसुची २०२५-२६ चा दर पृथकरण फॉरमॅटमध्ये ओव्हरहेड चार्जेस २०% देण्यात आला आहे. आपल्या खूप दिवसाच्या संघर्षास हे यश मिळाले आहे.

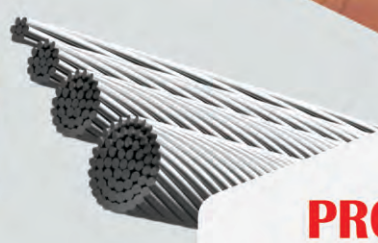
दिनांक १८ मार्च २०२५ रोजी मे. अदानी इलेक्ट्रिसिटी यांनी इकॅम संचालकांना व सभासदांना एकत्र बैठक दिली. बैठकीत ठेकेदारांना येणाऱ्या अडीअडचणींच्या मुद्दयांबाबत चर्चा विनिमय करण्यात आला. आणि त्या मुद्दयांमध्ये सुधारणा करण्याचे तसेच त्यावर निर्णय घेण्याचे आश्वासन अदानीच्या अधिकाऱ्यांनी आपणास दिली आहे. या प्रसंगी श्री. कल्पेश पटेल, श्री. हरेश उदेशी आणि अदानीच्या उत्तर विभाग संबंधीत सभासदांनी या चर्चेत भाग घेतला होता.

सर्व सभासदांना कळविण्यात येत आहे की आपण ECAMEX 26 प्रदर्शन आयोजित करणार आहोत. त्या प्रदर्शनास यशस्वी करण्यास आपला हातभार लागणे गरजेचे आहे. आपणास मी आवाहन करीत आहे की आपण या प्रदर्शनामध्ये स्टॉल बुकींग करण्यासाठी प्रयत्न करावेत. तसेच आपणास ECAMEX 26 प्रदर्शनाच्या अनुषंगाने काही महत्वाच्या सुचना द्यायच्या असतील तरी आपण त्या इकॅम मुख्य कार्यालयाला कळवाव्यात.

NASIK POWER CONDUCTORS

Manufacturer of Electrical Conductors

- BIS Approved
- MSEDCL Approved
- ISO 9001:2015 Certified
- ISO 14001:2015 Certified



PRODUCT RANGE

- AAC Conductors (IS 398:Part 1)
- ACSR Conductors (IS 398:Part 2)
- AAAC Conductors (IS 398:Part 4)
- Aerial Bunched Cables (IS 14255:1995)

MAHAVITARAN
MAHARASHTRA STATE ELECTRICITY DISTRIBUTION COMPANY

npc.nasik@gmail.com

9765643909,9922503909

Works : W-29 (B), Ambad MIDC, NASHIK - 422 010.

Regd. Office : Shop No. 5, Gurukul Apartment, Guru Campus,Near LIC Office, Pune Road, Nashik Road, NASHIK - 422 101.

Technical advances in the Control and Switch Gears

Satish Sinnarkar
Editor, IECT

The control gear and switchgear industry has witnessed significant technical advancements in recent years, driven by the need for improved efficiency, reliability, and safety. Here are some key developments:

Now smart Control Gears are readily available. Here the Integration of IoT sensors and communication protocols enables real-time monitoring, predictive maintenance, and optimized performance.

In addition the Digital Control Systems, such as programmable logic controllers (PLCs) and remote terminal units (RTUs), offer enhanced flexibility and scalability.

The Energy-Efficient Designs of the new control gear designs focus on minimizing energy losses, reducing heat generation, and optimizing system efficiency.

As regards the technical advances in Switchgears, a GIS technology is introduced. They are called Gas-Insulated Switchgears. This GIS technology offers compact, low-maintenance, and environmentally friendly solutions for the high-voltage applications. Similarly. AIS designs are also introduced. These

Air-Insulated Switchgears (AIS) AIS designs have improved, with enhanced safety features, reduced maintenance requirements, and increased reliability.

We also have to mention the Hybrid Switchgears. This is a combination of GIS and AIS technologies and provides optimal solutions for specific applications, offering compactness, flexibility, and cost-effectiveness.

There are a few Material Advancements also. We can talk about the New Insulation Materials, such as SF6-free gases and eco-friendly alternatives which reduce the environmental impact and improve system safety.

Deep Research is going on the high-temperature superconductors aiming to improve efficiency, reduce energy losses, and increase the overall performance of control gears and switch gears.

The Integration of IoT sensors and communication protocols is enabling the real-time monitoring, predictive maintenance, and optimized performance.

If we Implement the advanced communication protocols, such as IEC 61850 and IEEE 1815, they facilitate seamless communication between control gears, switchgears, and other system components.

We have to consider Cybersecurity also.

The implementation of secure communication protocols, such as TLS and SSL, will ensure the confidentiality, integrity, and authenticity of data exchanged between control gears, switchgears, and other system components.

It is interesting to note that the Integration of intrusion detection and prevention systems (IDPS) helps detect and prevent cyber threats, ensuring the reliability and security of control gears and switchgears.

These technical advancements in control gears and switchgears have significantly improved the efficiency, reliability, and safety of electrical power systems.

EARTHWAY® TECHNOLOGIES

Complete Earthing & Lightning Solution

Scan the QR code to see website

PRODUCTS MANUFACTURING OF

HDGI EARTHING ELECTRODE | PURE COPPER EARTHING ELECTRODE | COPPER BONDED ROD | COPPER BONDED EARTHING ELECTRODE | ADVANCE EARTH FILL COMPOUND | LIGHTNING ARRESTER ESE LIGHTNING PROTECTION SYSTEM | DIGITAL LIGHTING COUNTER / LIGHTNING STRIKE COUNTER / RECORDER EARTH PIT CHAMBER | COPPER PLATE | COPPER GI / ALU STRIP | ALL TYPE INSULATOR |TOWER WITH ACCESSORIES

EARTHWAY TECHNOLOGIES LLP

Plot No. A-30, Wadad Layout, In front of NH06 Express Hwy, Near MIDC, Amravati-444 701 Maharashtra
Mob - 08408020303 Email: earthwaytllp@gmail.com, info@earthwaytechnologies.com

www.earthwaytechnologies.com

ISO 9001 CERTIFIED | ISO 14001 CERTIFIED | ISO 45001 CERTIFIED | CPRI | MSME Ministry of MSME, Govt. of India | UL | IEC | CE | RoHS COMPLIANT | MADE IN INDIA

CONTENTS

INDIAN ELECTRICAL CONTRACTOR AND TRADER
OFFICIAL ORGAN OF THE 'ELECTRICAL CONTRACTORS' ASSOCIATION OF MAHARASHTRA

Regd. No. MCE/80/2024-2026 • RN 11498 / 57 • Vol.74 • No. 892 • APRIL 2025

CREDITS

INDIAN ELECTRICAL CONTRACTOR & TRADER
is edited, printed and published by
Mr. Satish P. Sinnarkar on behalf of the
Electrical Contractors' Association of Maharashtra at Stock Exchange Tower - 1st Basement, Dalai Street, Fort, Mumbai 400 023, on or about 28th of every month and printed at **Shrirang Printers Pvt. Ltd.** 302, Wadala Udyog Bhavan, Wadala, Mumbai 400 031.

Editor, Printer & Published Office

Campaign masters

311, 3rd Floor, Shree Krishna Commercial Centre, 6, Udyog Nagar, S. V. Road, Goregaon (West), Mumbai - 400 062. Mobile : 9821039722 I
Email : info.cmasters@gmail.com

Indian Electrical Contractor & Trader

Editor - **Satish Sinnarkar** - 9821039722
Asst. Editor - **Prasanna** - 8861357898
Marketing Head - **Aashish Rejeshirke** - 9821375185
Marketing Executive - **Kaushal Ball** - 9270663417
Subhash Jadhav - 9920523871
Design & DTP - **Yatin Pawshe**

MASSAGES :

04 PRESIDENT'S DESK

06 GENERAL SECRETARY

08 EDITOR'S DESK

ARTICLE / NEWS

12 India's Renewable Energy Push Breaks Records – but Can It Overcome Post-bid Hurdles?

14 Floating Solar Panels

16 LTO (Lithium-Titanate-Oxide) batteries:

MNRE updates DCR norms for solar cells

18 India-US trade : Piyush Goyal meets US Trade Representative, highlights 'India First' approach amid Trump tariff threats

22 NEWS

24 India-US trade : Piyush Goyal meets US Trade Representative, highlights 'India First' approach amid Trump tariff threats

26 CEA notifies draft CEA (Installation and Operation of Meters) (5th Amendment) Regulations, 2025

28 India's clean energy transition is rapidly underway, benefiting the entire world

30 Polar Lighting Poles

33 CEA issues guidelines for sharing fiber cores of OPGW/UGFO cables for power system applications

39 Designing a Sustainable Future - Vivek Bhandari

मराठी बातम्या/लेख

36 ऊर्जा आणि मानवी संस्कृती –प्रियदर्शिनी कर्वे

३८ एसी कसे वापरावे ?

ORBIT®
THE POWER OF PEOPLE

WIRES & CABLES

POWER WITH SAFETY
ALWAYS IN YOUR HANDS

www.orbitcables.com sales@orbitcables.com

Green LEAD FREE

99.9% HIGH PURITY COPPER

Energy saving

Low emission on toxic gases

ECO FRIENDLY 25%

Higher flexibility

SCAN THE QR CODE

ORBIT WIRES (INDIA) LIMITED
Survey No. 2450, Ahmedabad Mehsana Highway, Near Scoda Tubes Limited, District – Mehsana, Gujarat – 382705.

India's Renewable Energy Push Breaks Records – but Can It Overcome Post-bid Hurdles?

India has set a new benchmark in its renewable energy ambitions, issuing a record 73GW (gigawatts) of utility-scale renewable energy tenders in 2024, according to a joint report by the Institute for Energy Economics and Financial Analysis (IEEFA) and JMK Research & Analytics. This marks the second consecutive year that the country has surpassed its 50GW target, underscoring its commitment to a greener economy. However, the surge in tendering activity has also exposed a series of post-bidding challenges that could slow India's ambitious renewable energy rollout.

According to the report, market stakeholders cite the lack of a resilient power evacuation infrastructure as the most significant risk factor for India's renewable energy market development. "Sluggish growth of power evacuation infrastructure is waning developer interest in participating in new auctions. Additionally, the state electricity distribution companies (DISCOMs') are reluctant to enter into long-term power sale agreements (PSAs) until they have concrete visibility on the power evacuation readiness, which decides the project's commercial operation date (COD). The commissioning date of a project will ultimately determine the applicable bracket of interstate transmission system (ISTS) charges as indicated by the Union ministry of power in its ISTS waiver expiration trajectory."

"The gap between the tendering, allotment and project realisation will likely widen until the market streamlines and transmission infrastructure develops. Blending the tariffs monthly or quarterly may partly address the PSAs signing challenges, but the Union ministry of new and renewable energy (MNRE) is still preparing its wide-scale implementation," the report says.

The report highlights a significant shift in the nature of tenders issued, with nearly half comprising non-traditional renewable energy technologies such as wind-solar hybrid projects and battery energy storage systems (BESS). This change reflects a growing demand from energy offtakes for improved power reliability and grid stability.

"The evolution of renewable energy tenders demonstrates that market stakeholders are actively working to overcome shortcomings," said Vibhuti Garg, director for South Asia at IEEFA.

One of the key concerns flagged by the report is the rise in tender under-subscription. In 2024, around 8.5GW of tenders went under-subscribed, five times higher than in 2023. Analysts attribute this to complex tender designs, aggressive bidding during reverse auctions, and delays in the readiness of the ISTS infrastructure.

Another major hurdle is the backlog of unsigned PSAs, which now exceeds 40GW, leading to uncertainty for investors and project developers. The Solar Energy Corporation of India (SECI) alone accounts for 12GW of these unsigned agreements.

The report further reveals that between 2020 and 2024, around 38.3GW of utility-scale renewable energy projects were cancelled, representing 19% of the total capacity tendered during this period. The primary reasons include tender design issues, location challenges, project complexity and delays in finalising PSAs.

"Delays in project implementation pose a significant challenge to India's renewable energy target for 2030," says Ashita Srivastava, senior research associate of JMK Research.

Industry experts argue that, while the government's 50GW annual target has helped accelerate renewable energy deployment, it has also placed pressure on tendering agencies to issue bids and finalise auctions without securing off-take agreements. This has led to delays in power agreements and, in some cases, project cancellations.

To maintain momentum, the report recommends that authorities establish annual targets not just for tender issuances, but also for the allotment of projects and execution of PSAs.

"In addition to issuing tenders, the government should ensure that implementing agencies secure the necessary offtake agreements before finalising bids," Deepalika Mehra, research associate at JMK Research, says.

As India continues its push toward 500GW of non-fossil fuel capacity by 2030, addressing these post-bidding challenges will be crucial to sustaining investor confidence and ensuring the country's green energy revolution does not lose steam.

"For viable renewable energy tendering market growth, the central government must give equal impetus to all facets of the tendering process, from request for selection (RfS) issuance, allotment and power agreement signings. In addition to issuance, the government must specify annual targets for allotment and power agreement executions. That will ensure the renewable energy implementing agencies (REIAs) issue bids only after planning for requisite offtake agreements. In addition, stricter enforcement of renewable purchase obligations and associated penalties is imperative to sustain renewable energy demand," the report concludes.

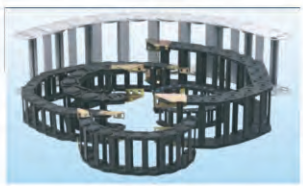
A. HARILAL & CO. PVT. LTD.

169, Lohar Chawl, Ground Floor, Amrit Niwas, Kantilal M. Sharma Street,
Mumbai - 400002. **Telfax :** +91-22-2208 5553 / 5554 • 2209 5882
Talkfree : *7814 • **E-mail:** ahcopl@gmail.com

8779202045

AUTHORISED DISTRIBUTORS

TEKNIC
Quality Controlgear







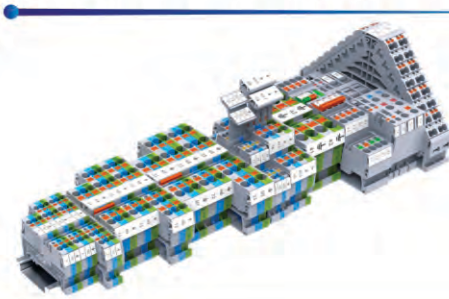

SHAVISON
Peripherals for Industrial Automation


TRISECT
Cast Aluminium Control Station



BOX
IP68 Aluminium Enclosures

connectwell
THE RIGHT CONNECTION



Floating Solar Panels

Floating solar panels, also known as floating photovoltaic (FPV) systems, are solar panels installed on floating STRUCTURES on water bodies, such as lakes, reservoirs, or oceans.

Here are some details:

Benefits

1. Water Conservation: FPV systems can help reduce water evaporation from reservoirs and lakes, conserving this precious resource.

2. Increased Energy Generation : Floating solar panels can generate more electricity than traditional land-based solar panels due to the cooling effect of water.

3. Reduced Land Use : FPV systems can be installed on water bodies, reducing the need for land acquisition and preserving agricultural land or natural habitats.

4. Improved Water Quality : FPV systems can help reduce algae growth and improve water quality by providing shade and reducing nutrient runoff.

Challenges

1. Higher Installation Costs : FPV systems are more expensive to install than traditional solar panels due to the need for specialized floating structures and anchoring systems.

2. Durability and Maintenance : FPV systems require specialized materials and designs to withstand aquatic environments and ensure durability.

3. Environmental Concerns : FPV systems can potentially harm aquatic life or disrupt ecosystems if not designed and installed properly.

Design and Installation

1. Floating Structures : FPV systems use floating structures, such as pontoons or rafts, to support the solar panels.

2. Anchoring Systems : Anchoring systems, such as mooring lines or anchors, secure the floating structure to the water body.

3. Solar Panel Mounting : Solar panels are mounted on the floating structure using specialized racking systems.

4. Electrical Connections : Electrical connections are made between the solar panels, inverters, and transmission lines.

Applications

1. Water Supply Reservoirs : FPV systems can be installed on water supply reservoirs to generate electricity while conserving water.

2. Irrigation Canals : FPV systems can be installed on irrigation canals to generate electricity and reduce water evaporation.

3. Industrial Water Bodies : FPV systems can be installed on industrial water bodies, such as cooling ponds or wastewater treatment plants.

4. Offshore Platforms: FPV systems can be installed on offshore platforms to generate electricity for oil and gas operations or other marine activities.

Case Studies

1. Japan's Mega-Float: Japan's Mega-Float is a 1.2 MW FPV system installed on a reservoir in Tokyo.

2. China's Three Gorges Dam : China's Three Gorges Dam has a 150 MW FPV system installed on its reservoir.

3. India's Floating Solar Plant : India's floating solar plant in Kerala is a 500 kW FPV system installed on a water reservoir.

Conclusion

Floating solar panels offer a promising solution for generating renewable energy while conserving water and reducing land use. While there are challenges to be addressed, the benefits of FPV systems make them an attractive option for various applications.

Vashi INTEGRATED SOLUTIONS SINCE 1978
Excellence Every Time

ONE STOP INTEGRATED SOURCING
& PROCUREMENT PARTNER FOR ALL
INDUSTRIAL & COMMERCIAL NEEDS

ISO 14001 CERTIFIED

A RATED

SPECIAL PRODUCT OFFERINGS FOR
PROJECT CONTRACTORS & DEVELOPERS

POLYCAB IDEAS. CONNECTED.

Wires & Cables

Finolex

Wires & Cables

POLYCAB IDEAS. CONNECTED.

Fans

legrand®

Modular Switches & Accessories

ABB

Modular Switches & Accessories

ANCHOR by Panasonic

Modular Switches & Accessories

POLYCAB IDEAS. CONNECTED.

Modular Switches & Accessories

Finolex

Conduits & Accessories

POLYCAB IDEAS. CONNECTED.

Conduits & Accessories

ANCHOR by Panasonic

Conduits & Accessories

PHILIPS

Lighting

BAJAJ Inspiring Trust

Lighting

dowell's

Lugs & Glands

legrand®

Cable Tray & Busbar Trunking

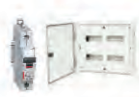
SIEMENS

MCB – DBs

ABB

MCB – DBs

legrand®



MCB – DBs

ANCHOR by Panasonic

MCB – DBs

ABB

Ring Main Unit

ABB

Plug and Sockets

ANCHOR by Panasonic

EV Smart Charging

POLYCAB IDEAS. CONNECTED.

Water Heaters

CORPORATE WEBSITE

BUYONLINE ECOMMERCE

VASHI APP

sales@vashiisl.com

vashiisl.com

LTO (Lithium-Titanate-Oxide) batteries:

What are LTO Batteries?

LTO batteries are a type of lithium-ion battery that uses lithium-titanate-oxide (LTO) as the anode material instead of traditional graphite.

Key Characteristics:

1. Long Cycle Life : LTO batteries can last for up to 20,000 charge/discharge cycles, making them suitable for applications requiring high durability.

2. Fast Charging : LTO batteries can charge quickly, with some systems achieving 80% charge in under 30 minutes.

3. High Safety : LTO batteries are designed with safety in mind, featuring a lower risk of thermal runaway and explosion compared to traditional lithium-ion batteries.

4. Wide Operating Temperature : LTO batteries can operate effectively in a wide temperature range, from -30°C to 55°C.

Applications:

1. Electric Vehicles : LTO batteries are used in some electric vehicles, particularly those requiring high-performance and long lifespan.

2. Renewable Energy Systems : LTO batteries are used in solar and wind power systems to store excess energy generated during the day for use during periods of low energy generation.

3. Industrial Applications : LTO batteries are used in various industrial applications, such as robotics, medical devices, and telecommunications.

4. Grid-Scale Energy Storage : LTO batteries are used in grid-scale energy storage systems to stabilize the grid and provide backup power during outages.

Advantages:

1. Improved Safety : LTO batteries offer improved safety features compared to traditional lithium-ion batteries.

2. Longer Lifespan : LTO batteries have a longer lifespan, reducing the need for frequent replacements.

3. Fast Charging : LTO batteries can charge quickly, making them suitable for applications requiring high power output.

Disadvantages:

1. Higher Cost : LTO batteries are more expensive than traditional lithium-ion batteries.

2. Lower Energy Density : LTO batteries have a lower energy density compared to traditional lithium-ion batteries, resulting in larger battery packs for the same energy capacity.

MNRE updates DCR norms for solar cells

The Ministry of New and Renewable Energy (MNRE) has issued revised domestic content requirement (DCR) norms for solar cells, specifying that only those based on crystalline-silicon technology and manufactured in India using undiffused silicon wafers (black wafers) will qualify as domestically produced.

These wafers fall under Customs Tariff Head 3818, and all manufacturing processes, from wafer to solar cell, must be carried out within India. Solar cells made using imported diffused silicon wafers (blue wafers) will not be eligible under MNRE's DCR-mandated programmes. Thin-film solar modules are exempt from this requirement, and those manufactured in integrated Indian factories will continue to qualify under DCR mandates. The updated norms have raised concerns over the limited supply and rising costs of DCR-compliant solar modules, impacting key government initiatives such as the PM Surya Ghar: Muft Bijli Yojana and the Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan. Supply constraints could challenge the implementation of these large-scale renewable energy schemes, potentially affecting project timelines and investment strategies in the sector.

Indonesia unveils third-largest floating solar plant

The Government of Indonesia has launched a massive floating solar plant on the Cirata Reservoir, 107 km southeast of Jakarta, marking a major step in its renewable energy transition. Covering 4 per cent of the reservoir's surface, the plant consists of 13 arrays capable of generating 192 MW, making it the world's third-largest floating solar installation. The project was developed through a partnership between Indonesia's state-owned utility company and UAE-based renewable firm Masdar. Currently, 12.3 per cent of Indonesia's electricity comes from renewable sources, with plans to add 60GW by 2040, requiring an estimated USD172 billion in investment. Global efforts to scale up clean energy, including initiatives by the World Economic Forum, emphasise the need for substantial funding and collaboration to achieve net-zero emissions by 2050.

How to detect earth fault in DC Power System

Detecting earth faults in DC power systems is crucial for ensuring the safety and reliability of the system. Here are some methods to detect earth faults in DC power systems:

1. Voltage Measurement Method

1. Measure the voltage between the positive and negative DC buses and the earth ground.
2. Compare the measured voltage with the reference voltage.
3. If the measured voltage exceeds the reference voltage, an earth fault is indicated.

2. Current Measurement Method

1. Measure the current flowing through the earth fault detection circuit.
2. Compare the measured current with the reference current.
3. If the measured current exceeds the reference current, an earth fault is indicated.

3. Insulation Resistance Measurement Method

1. Measure the insulation resistance between the DC buses and the earth ground.
2. Compare the measured insulation resistance with the reference insulation resistance.
3. If the measured insulation resistance is lower than the reference insulation resistance, an earth fault is indicated.

4. Earth Fault Detection Relays

1. Use specialized earth fault detection relays that can detect earth faults in DC power systems.
2. These relays typically use a combination of voltage and current measurements to detect earth faults.

5. Monitoring Systems

1. Implement a monitoring system that continuously monitors the DC power system for earth faults.
2. Use sensors and detectors to monitor the system and provide alerts in case of an earth fault

Earth Fault Detection Techniques

1. Pulsed Voltage Method : Applies a pulsed voltage to the DC system and measures the resulting current.
2. DC Injection Method : Injects a DC current into the system and measures the resulting voltage.
3. Oscillating Voltage Method : Applies an oscillating voltage to the DC system and measures the resulting current.

Important Considerations

1. System Configuration : Consider the system configuration, including the presence of multiple DC sources and loads.
2. Earth Fault Types : Consider the types of earth faults that can occur, including line-to-ground and line-to-line faults.
3. Detection Sensitivity : Ensure that the detection method is sensitive enough to detect earth faults at an early stage.
4. False Tripping : Ensure that the detection method is designed to minimize false tripping.

By implementing these methods and techniques, you can effectively detect earth faults in DC power systems and ensure the safety and reliability of the system.

Electrical exhibitions in India in 2025

Dates: June 14–16, 2025 at the International Trade Expo Centre in Noida
Dates: June 27–29, 2025 at the CIDCO Exhibition & Convention Center in Navi Mumbai
Dates: August 1–3, 2025 at KTPO in Whitefield, Bengaluru
Dates: November 7–10, 2025 at HUDA Grounds in Sector 29, Gurugram

India Electronics Expo

Dates: March 19–21, 2025 in New Delhi
The 10th edition of this expo will showcase India's electronics manufacturing, innovation, and technology

Other electrical exhibitions in India

LED Expo Mumbai, April 3–5, 2025
Pro Wave Expo, April 24–26, 2025
Bharat Solar Expo Udaipur, May 2–4, 2025
EFY Expo, May 15–17, 2025
Automation Expo, August 11–14, 2025
ElectricNation Expo, September 18–20, 2025
India International EV Show, December 5–7, 2025
Battery India Expo, December 5–7, 2025

India-US trade : Piyush Goyal meets US Trade Representative, highlights 'India First' approach amid Trump tariff threats

Goyal's US visit follows discussions between US President Donald Trump and Prime Minister Narendra Modi, where both leaders expressed their intention to negotiate the initial phase of a comprehensive Bilateral Trade Agreement (BTA) by fall 2025.

Amid Donald Trump's tariff threats, Commerce Minister Piyush Goyal recently held a "forward-looking" discussion with US Trade Representative Jamieson Greer, focusing on advancing a mutually beneficial bilateral trade agreement. Goyal emphasised that India's approach will align with the principles of "India First," "Viksit Bharat," and the nation's Comprehensive Strategic Partnership.

Sharing insights from the meeting on his X timeline, Goyal highlighted the commitment to strengthening trade ties. "Had a forward looking discussion with @USTradeRep Jamieson Greer on a mutually beneficial Bilateral Trade Agreement. Our approach will be guided by 'India First', 'Viksit Bharat' and our Comprehensive Strategic Partnership."

Bilateral trade agreement

Goyal's US visit follows discussions between US President Donald Trump and Prime Minister Narendra

India, US committed to boost trade to $500 bn, negotiations on for 'strong' pact in 6-8 months, says Goyal

Union Minister of Commerce and Industry Piyush Goyal on has said India and US are committed to increasing bilateral trade to $500 billion and the two countries are negotiating a 'strong' trade agreement within the next 6-8 months. "...In the next 6-8 months, by establishing a strong trade agreement, we are committed to increasing trade to $500 billion," the minister was saying on the sidelines of CII's India-Qatar Business Forum meet.

This comes in the backdrop of Donald Trump's announcement of imposition of reciprocal tariffon trade partner countries to address "longstanding imbalances". Meanwhile, a Bloomberg report maintained that India and the US have agreed to cut tariffs on certain goods as part of the proposed mutually-beneficial trade deal between them. Further, top officials in India have said that the country will continue to cut import taxes as the government looks to work around US President Donald Trump's plan to impose reciprocal tariffs on trading partners.

Further, at another event, Finance Minister Nirmala Sitharaman had said, "We are building to be an investor-friendly country, and as a result, the duty cuts and the rationalization that have been announced is a continuing process and we shall keep doing that."

Piyush Goyalmaintained that once his US counterpart takes charge, both countries will discuss the contours of the pact. When asked if the pact would have chapters related to goods, services and investments, he said, "My counterpart has not yet confirmed in the US...After the (confirmation), we will do talks and then only we can decide the way forward."

The US and India bilateral trade in goods and services stood at $190.08 billion ($123.89 billion in goods and $66.19 billion in services trade) during 2023. During the year, India's merchandise exports to the US stood at $83.77 billion, while imports stood at $40.12 billion, leaving a trade gap of $43.65 billion in favour of India.

During 2021-24, the US was the largest trading partner of India and is one of the few countries with which India has a trade surplus.

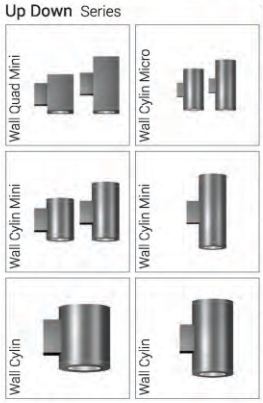
Landscape Redefined

K-LiTE

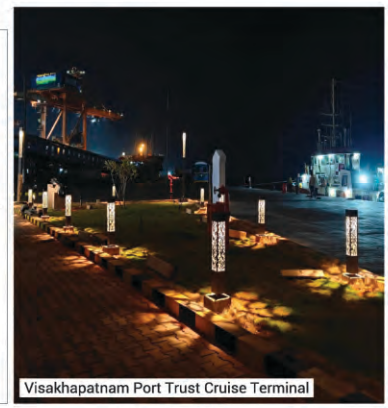
Flood Light Series

Path Finder Series

Up Down Series



Decorative Bollards



In-Ground Series

Jado Wood Bollards

Nebula Series

Elements Series

K-LiTE

K-LiTE INDUSTRIES PVT.LTD

D-10, Ambattur Industrial Estate,
Chennai - 600 058.
Tel : 26257710, 48581950
Cell : 95000 79797, 95000 85511
Email : info@klite.in
Website : www.klite.in

Modi, where both leaders expressed their intention to negotiate the initial phase of a comprehensive Bilateral Trade Agreement (BTA) by fall 2025. The leaders also committed to appointing senior representatives to spearhead these negotiations.

During their recent meeting, President Trump and PM Modi resolved to expand trade and investment, aiming to enhance prosperity, bolster national strength, encourage innovation, and strengthen supply chain resilience. A significant milestone set during the discussions was “Mission 500,” an ambitious goal to more than double bilateral trade to USD 500 billion by 2030.

Challenges

President Trump, during his second term, has reiterated the need for tariff reciprocity, indicating that the US will match tariffs imposed by other nations, including India. The US has frequently raised concerns over India's high tariff rates, suggesting that achieving fair trade would require strategic adjustments.

US Trade Secretary Howard Lutnick recently expressed interest in negotiating a broad-based trade agreement with India. Speaking at the India Today Conclave, Lutnick noted that finding a mutually beneficial solution would necessitate mutual understanding and cooperation. He emphasised the importance of considering the entire trade relationship rather than focusing on individual products.

Both nations have demonstrated their commitment to enhancing trade relations, with ongoing discussions set to shape the future of India-US economic cooperation.

India-US trade pact to be mother of all deals: Goyal

India is set to initiate discussions with the US on a potentially game-changing trade pact, described by Commerce and Industry Minister Piyush Goyal as the "mother of all deals." The proposed bilateral trade agreement aims to strengthen economic ties between the two nations, offering significant opportunities to complement each other's strengths in a turbulent global economy.

India will soon start discussing a trade pact with the US that will potentially be the “mother of all deals”, commerce and industry minister Piyush Goyal said on Friday.

“We will soon begin discussions with the Donald Trump administration on a strong and comprehensive economic partnership, and a bilateral trade deal,” he said at the Invest Kerala Global Summit.

Goyal added that the trade deal will provide huge opportunities for both the nations to work together and complement each other's strengths in a very turbulent world.

Earlier this week, the minister indicated that India and the US could explore tariff reductions and other concessions under the proposed trade deal. However, he added that the scope of the agreement—whether it will cover goods, services and investments like a full-fledged free trade agreement (FTA)—would be determined during negotiations between the two sides.

At the Kerala investor summit, Goyal also highlighted ongoing trade discussions with the EU, the UK and Oman. “We are in talks with Bahrain to establish an FTA similar to a Comprehensive Economic Partnership Agreement (CEPA), and we hope to begin the process soon,” he said.

Goyal said India's economy is on track to grow from $4 trillion to $30-32 trillion by 2047 and urged global investors to seize the opportunity. Giving an example, Goyal said an automobile manufacturer that invested $200 million in 1999 has repatriated $12 billion in royalties and dividends over the past decade, in addition to $12-13 billion in current equity valuation. “This is just one example of what India can offer to both investors and for those around the world,” Goyal said

With a consumer base of 1.4 billion people, India presents a massive business and growth opportunity, Goyal said, encouraging investments in the services sector, technology, data centres, machine learning and artificial intelligence.

APS POWER SYSTEMS PVT. LTD.

POWER & AUTOMATION SOLUTIONS

ABB
VALUE PROVIDER

Electrical Automation Products & Complete Industrial Automation Solutions

PLC, HMI, SCADA

AC & DC DRIVES

SERVO MOTORS & DRIVES

DCS

SOFTSTARTERS

LOW VOLTAGE SWITCHGEAR

Authorized Dealers

ESSEN®
Electrical Control Accessories

HEAVY DUTY
LIMIT SWITCHES

MICRO SWITCHES

MINIATURE
LIMIT SWITCHES

ABB-Authorised Service Station

Control Panels

Containerized Solutions (E-Rooms)

Head Office: 69 Mistry Industrial Complex, Cross Road A, MIDC, Andheri (E), Mumbai - 400 093 India.
Works & Warehouse: D-26, MIDC, Phase-II, Village Sagaon, Kalyan-Shill Road, Dombivli (E), Thane - 421 204
Branch Office: 209, R-Square, Warje, Mumbai-Bangalore bypass, Pune - 411 058
T: +91 22 2687 0107/+91 99877 80506 **E:** apssales@apspowers.com / apswarehouse@apspowers.com
www.apspowers.com

***2006-2024** - Retained number 1 position with ABB for L.V. drives and Automation products.*

NHPC connects 300 MW Bikaner solar PV project with ISIS

NHPC Limited has reported that its 300 MW Bikaner solar photo voltaic (PV) project has been connected with inter state transmission system (ISTS) and started injecting 31 MW power in the grid as on March 31, 2025. The commercial declaration of part capacity of 100 MW in phases shall be intimated in due course. The complete 300 MW solar project is likely to be commissioned by August, 2025.

PFCCL incorporates NES Pune East New Transmission

PFC Consulting Limited (PFCCL) has incorporated a special purpose vehicle (SPV) naming, NES Pune East New Transmission Limited for development of "Network Expansion scheme in Maharashtra for removal of Transmission Constrains in Pune Region-I (765/400 kV Pune East)". The Maharashtra State Electricity Transmission Company Limited has placed a letter of intent and has appointed PFCCL as bid process coordinator for the purpose of selection of bidder as transmission service provider to establish the above mentioned transmission system through tariff based competitive bidding process.

KEC International secures new orders worth Rs 12.36 billion

KEC International Limited has secured orders of Rs 12.36 billion across various segments. The business has secured orders for transmission line and substation in Middle East (UAE and Kuwait. It has also secures orders for substation from a private tariff based competitive bidding player in India. Further, the business has also secured orders for supply of various types of cables in India and overseas.

SWREL secures two new domestic LoAs from private IPPs

Sterling and Wilson Renewable Energy Limited (SWREL) has received two new domestic letter of awards (LoA) from private independent powerproducers (IPPs), and has been declared L1 in a 200 MW alternate current (AC) solar project.

The cumulative order value of the three domestic projects combined is about Rs 14.70 billion. The company received its first LoA for a wind engineering, procurement and construction (EPC) of a 69.3 MW wind balance of plant, and 58 MW AC / 75 MWp direct current (DC) solar balance of system, along with 132 kV / 33 kV pooling substation in Rajasthan. The company has achieved L1 for a turnkey solar project of 200 MW AC / 260 MWp DC photo voltaic (PV) plant in Gujarat, India from a leading PSU developer. The company has also received a LoA for a PV plant in Rajasthan, India from a domestic IPP.

Resonia wins Ananthapur-II REZ Phase-I project to integrate 4.5 GW of renewable energy in Andhra Pradesh Resonia Limited, earlier known as Sterlite Grid 32 Limited has successfully secured the bid for the "Transmission System for Integration of Ananthapur-II Renewable Energy Zone (REZ) Phase-I" project.

The project was awarded through the tariff based competitive bidding process in 2025. Through the special purpose vehicle, the company will build this green energy project on build, own, operate, transfer basis, for a period of 35 years.

Waaree Energies inaugurates 5.4 GW solar cell manufacturing facility in Gujarat

Waaree Energies Limited has inaugurated a 5.4 GW solar cell manufacturing facility in Chikhli, Gujarat. Spread across 150 acres with a built-up area of 101 acres, the facility is equipped with high-efficiency solar cell technology.

The manufacturing facility is designed to enhance India's domestic solar manufacturing capabilities and reduce reliance on imports.

3M Science. Applied to Life.™

We have your solution.

From electrical tapes to high voltage cable accessories, 3M aims to offer smart and efficient solutions for your electrical installation needs.

3M Power Cable Accessories

Electrical Solutions you can rely on.

3M Locating and Marking Solutions

Trace the underground assets with ease.

3M Electrical Insulation & Sealing Tapes

Designed to make your job easier.

To know more, connect with 3M specialists.
Scan the QR code or write to us.

3M Electrical Markets Division,
48-51, Electronic City, Hosur Road,
Bengaluru, Karnataka – 560 100 | India
Toll Free #: 1800-425-3030 | Email: 3mindiaelectrical@mmm.com
Mobile: +91 99302 12503 (Regional Sales Head)

KEI Industries Ltd. becomes Principal Partner with Royal Challengers Bengaluru (RCB) for the upcoming Men's T20 league 2025 season 18th

KEI Industries Ltd., one of the India's leading wires and cables manufacturer today announced its strategic association with Royal Challengers Bengaluru **as Principal Partner for the upcoming Men's T20 league 2025 , 18th season**. The association will help KEI Industries strengthen its growing brand and business presence nationally. **The cricketing season has begun on 22nd March 2025 at Eden Gardens, Kolkata**.

Aligned to the association, **the players and official members of Royal Challengers Bengaluru franchise will be sporting the KEI logo on the back of their official match jersey.** The logo will also be prominently visible during the on-ground matches of the franchise. The brand will have the right to use player images and team logo for internal use and promotional purposes. The association will also be amplified across, print, outdoor, television, digital and social media platforms which will run through the entire duration of the tournament.

Royal Challengers Bengaluru don green jersey in one of the their matches as a symbol of their commitment to supporting sustainability initiatives. This conscious decision aims to raise awareness about environmental protection and the importance of fostering greenery. By leveraging our platform and influence, we hold the imagery rights for the green jersey, encouraging fans, partners, and the wider community to engage in these efforts.

KEI, a renowned leader in innovative solutions, has unveiled its next generation living eco-friendly solutions designed to promote sustainability. These cutting-edge advancements signify a significant stride towards building a greener and more sustainable future.

Speaking on the association, **Mr Anil Gupta, Chairman -Cum- Managing Director, KEI Industries Ltd.** said, *"We are delighted to announce our partnership with Royal Challengers Bengaluru, which is one of the most popular and strongest cricketing brands. KEI is one of the leading wires & cables player serving customers across 65+ counties globally and we see a great synergy between both the brands. The players of international stature and their consistent bold performance gives a synergy with the product features of brand KEI. India is a cricket frenzy nation and with this partnership, we aim to leverage the upcoming cricketing festival to build and strengthen our brand awareness and connect with our target audience across the globe."*

BENLO®

A product of **BENTEC** INDIA LTD.

YOUR SAFETY OUR PRIORITY

CORPORATE OFFICE
150 Upen Banerjee Road, Kolkata 700060
Email - info@bentecindia.com

MUMBAI OFFICE - BENTEC INDIA LTD,
504, Aditya Banara Heritage, Behind Orbit Mall, Mind Space
off Link Road, Malad (West), Mumbai - 400064 (Maharashtra),
Phone - 022 28712686/87 , Mobile - 09324287968/ 7303928980

BRANCHES

Ahmedabad, Bangalore, Bhubaneshwar, Chennai, Cochin, Delhi, Hyderabad, Indore, Jaipur,
Lucknow, Mumbai, Nagpur, Patna, Punjab, Pune, Raipur, Ranchi, Srinagar, Surat.

Speaking on the occasion, ***Rajesh V Menon, COO of Royal Challengers Bengaluru****, said, "We are excited to extend our partnership with KEI Wires & Cables. KEI's commitment to sustainability aligns perfectly with RCB's values, particularly with our annual green match aimed at promoting environmental awareness. This collaboration will provide KEI with a valuable opportunity to connect with our large and engaged fan base, and we are confident that we can deliver significant value to KEI Wires & Cables through this partnership."*

"Speaking on the association, **Mr. Manoj Kakkar, Executive Director (Sales & Marketing), KEI Industries Ltd. said**, *"KEI has been actively involved in promoting regional sports, cricket, and their association with the T20 league goes back to 2016. This partnership with Royal Challengers Bengaluru will help brand KEI to instantly connect with the millions of viewers watching the event across India and abroad. The brand has also planned a series of fan engagement activities and meet & greet sessions for key channel partners with players during the tournament and in multiple cities."*

Sharing his thoughts on the association, **Mr Akshit Diviaj Gupta, Director, KEI Industries Ltd.** said, *"I am delighted to announce our partnership with Royal Challengers Bengaluru. We are committed towards encouraging and elevating the realm of sports in India. The lovability and fan following of RCB will help to increase KEI brand recognition across the nation. This engagement will further strengthen our relationship with the customers, and we are positive about exploring more opportunities to expand our business."*

During the occasion, **Mr. Govind Sharma, Marcom Head of KEI Industries**, emphasized the growing consumer inclination towards sustainable solutions. He stated that consumers increasingly prioritize eco-friendly products when given the option. *"At KEI Industries, we are deeply committed to environmental stewardship and strive to leave a positive impact on the world. Our latest range of eco-friendly products underscores our dedication to sustainability and the creation of a better future for generations to come."* Mr. Sharma also highlighted that the association of KEI Industries with RCB serves as a strategic pathway for us to achieve these sustainability goals.

Media Contact Information

KEI Industries Ltd.
Mr. Govind Sharma
Marcom Head
9873561756

Concept Public Relations
Yaash Raju +91 9442263033
yaash@conceptpr.com
R Jayaraman +91 9884351547
r.jayaraman@conceptpr.com

CEA notifies draft CEA (Installation and Operation of Meters) (5th Amendment) Regulations, 2025

The Central Electricity Authority (CEA) has notified the draft CEA (Installation and Operation of Meters) (5th Amendment) Regulations, 2025.

As per the amendment, a key change includes the revision of the definition of 'interface meter,' which will now refer to a meter used for accounting and billing of electricity at the point of interconnection between electrical systems of generating companies, licensees, and consumers, directly connected to the inter state transmission system, intra state transmission system, or distribution system, and those permitted open access at voltage levels exceeding 650 volts. Additionally, the amendment introduces provisions ensuring that consumers connected at voltage levels not exceeding 650 volts and permitted open access shall be supplied electricity through smart meters as per relevant IS standards. The regulations also mandate that advanced metering infrastructure systems must align with the 'guidelines for standardisation and interoperability in advanced metering infrastructure systems for end to end communication between smart meter, head end system, and meter data management, as issued and updated by the authority.

Suzlon secures 204.75 MW wind order from Jindal Green Wind under C&I

Suzlon Group has secured an order from Jindal Green Wind 1 Private Limited, a wholly owned subsidiary of Jindal Renewables, for the supply of 204.75 MW wind power capacity.

The new capacity will be deployed in the Karur region of Tamil Nadu and will contribute to powering steel plants in Chhattisgarh and Odisha. Suzlon Group will supply 65 S144 wind turbine generators with hybrid lattice towers, each rated at 3.15 MW. The energy generated will be used for captive consumption in steel plants, supporting operational sustainability and India's green energy transition.

VITAL™ Electrocomp

Din Rail Terminal Blocks | PCB Connectors | Barrier Terminals
Fuse Holders | Micro Switches | Toggle Switches
Push Button Switches | Power Entry Components

INTERNATIONAL STANDARD TERMINAL TECHNOLOGY

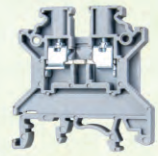
CE cULus E247782 RoHS

MUT 4

32A/500V

MET 4

32A/500V

RM2.5CU

24A/1000V

RM2.5U

24A/1000V

RM4U

32A/1000V

RM4U BC

32A/1000V

RM6U

41A/1000V

RM10U

57A/1000V

RM16U

76A/1000V

RM25U

101A/1000V

RM35U

125A/1000V

RM50U/70U ✸

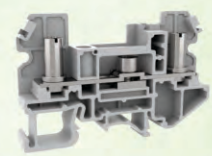
192A/1000V

RM4FU/UL

6.3A/800V

RM4DD

32A/1000V

VDT4

41A/800V

VET4

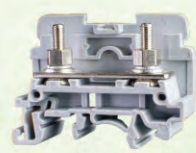
4 mm²

VET6

6 mm²

VBB35/50/70

150A/1000V 192A/1000V

VST4 - SO/NO

41A/1000V

END CLAMPS


VGMH6

GROUP MARKER

END PLATES


SCREW TERMINALS

MARKERS


SHORTING LINKS

MUT4, RM2.5CU, RM2.5U, RM4U, RM6U

DIN RAIL

35 x 7.5 mm 15 x 5 mm
White & Yellow Plated

Off./Works: 830/2, GIDC Estate, Makarpura, Vadodara, Gujarat, India - 390010

Office: +91 92279 79802/4 | Sales/Support: +91 92279 79801/3

Email: sales@vitalelectrocomp.com | order@vitalelectrocomp.com

Web.: www.vitalelectrocomp.com

India's clean energy transition is rapidly underway, benefiting the entire world

Dr Fatih Birol, Executive Director

Amitabh Kant, CEO of NITI Aayog (National Institution for Transforming India) Commentary

India's announcement that it aims to reach net zero emissions by 2070 and to meet fifty percent of its electricity requirements from renewable energy sources by 2030 is a hugely significant moment for the global fight against climate change. India is pioneering a new model of economic development that could avoid the carbon-intensive approaches that many countries have pursued in the past – and provide a blueprint for other developing economies.

The scale of transformation in India is stunning. Its economic growth has been among the highest in the world over the past two decades, lifting of millions of people out of poverty. Every year, India adds a city the size of London to its urban population, involving vast construction of new buildings, factories and transportation networks. Coal and oil have so far served as bedrocks of India's industrial growth and modernisation, giving a rising number of Indian people access to modern energy services. This includes adding new electricity connections for 50 million citizens each year over the past decade.

The rapid growth in fossil energy consumption has also meant India's annual CO_2 emissions have risen to become the third highest in the world. However, India's CO_2 emissions per person put it near the bottom of the world's emitters, and they are lower still if you consider historical emissions per person. The same is true of energy consumption: the average household in India consumes a tenth as much electricity as the average household in the United States.

India's sheer size and its huge scope for growth means that its energy demand is set to grow by more than that of any other country in the coming decades. In a pathway to net zero emissions by 2070, we estimate that most of the growth in energy demand this decade would already have to be met with low-carbon energy sources. It therefore makes sense that Prime Minister Narendra Modi has announced more ambitious targets for 2030, including installing 500 gigawatts of renewable energy capacity, reducing the emissions intensity of its economy by 45%, and reducing a billion tonnes of CO_2.

These targets are formidable, but the good news is that the clean energy transition in India is already well underway. It has overachieved its commitment made at COP 21- Paris Summit by already meeting 40% of its power capacity from non-fossil fuels- almost nine years ahead of its commitment and the share of solar and wind in India's energy mix have grown phenomenally. Owing to technological developments, steady policy support and a vibrant private sector solar power plants are cheaper to build than coal ones. Renewable electricity is growing at a faster rate in India than any other major economy, with new capacity additions on track to double by 2026. The country is also one of the world's largest producers of modern bioenergy and has big ambitions to scale up its use across the economy. The IEA expects India to overtake Canada and China in the next few years to become the third largest ethanol market worldwide after the United States and Brazil.

However, even as it sets its sights on net zero, India faces a number of pressing near-term challenges. The sharp increase in commodity prices has made energy less affordable, and tight markets are increasing energy security risks for the world's third largest energy importer. There is still a lack of reliable electricity supply for many consumers. Continued reliance on traditional fuels for cooking causes unnecessary harm to many people's health. Financially ailing electricity distribution companies are impeding the urgent transformation of the sector. And high levels of pollution have left Indian cities with some of the poorest air quality in the world.

KEW

www.kewelectricals.com

Automatic Transfer Switch (KTS)

Smarter Switching Solutions

- Range : 63A - 3200A
- Ref. Std.: IS/IEC60947 - 1&3
- No. of Frames : 4
- Four pole execution
- Built - in Controller
- Generator Control
- Split LCD Display
- Fire Linkage Control
- Available in open / sheet steel execution

Low Voltage Panel Solutions

FRP Solutions

Floor Standing & Wall Mounting Enclosures

- Solar Distribution Systems
- Circuit Breakers
- Fuse & Fuse Holders

Switch Fuse Units -

Cable Trays -

Changeovers -

KEW

An ISO 9001:2015 Company
Paras Compound, S. V. Road, Goregaon (West), Mumbai - 400 104, India.
Phone : +91 22 42764990 / 2676 4990 E-mail : info@kewelectricals. Com
Website : www.kewelectricals.com

India already has a numerous policy measures in place that – if fully implemented – could address some of these challenges by accelerating the shift to cleaner and more efficient technologies. Subsidies for petrol and diesel were removed in the early 2010s, and subsidies for electric vehicles were introduced in 2019. India's robust energy efficiency programme has been successful in reducing energy use and emissions from buildings, transport and major industries. Government efforts to provide millions of households with fuel gas for cooking and heating are enabling a steady transition away from the use of traditional biomass such as burning wood. India is also laying the groundwork to scale up important emerging technologies such as hydrogen, battery storage, and low-carbon steel, cement and fertilisers.

A transition to clean energy is a huge economic opportunity. India is particularly well placed to become a global leader in renewable batteries and green hydrogen. These and other low-carbon technologies could create a market worth up to $80 billion in India by 2030. Support from the international community is essential to help shift India's development onto a low-carbon path. To reach net zero emissions by 2070, the IEA estimates that $160 billion per year is needed, on average, across India's energy economy between now and 2030. That's three times today's investment levels. Therefore, access of low cost long term capital is key to achieve net zero.

Polar Lighting Poles

'K-LITE' surface mounted **Polar Lighting Pole**, integrated with LED Lighting Module is an exclusive choice of designers for city beautification lighting blended with architectural appeal. It is designed for a complete range of contemporary designs with single arm, double arm, L-arm, V-Arm, Square arm and Parallel arm.

The pole is engineered to meet the adverse conditions and the pole sections are duly welded using special grooving techniques and high end MIG welding process. The control box is integral and built-in with service door, locking arrangement and safety chain. The MS pole is coated with epoxy zinc phosphate primer and finished using environmentally stable polyurethane based paint. The pole is supplied with necessary foundation hardwares for normal soil condition.

The Polar Lighting Pole lighting arms are integrated with the LED modular lighting system, which is environmental friendly under green lighting category. The LED lighting offers more lumens with lesser power consumption The module is IP 68 protected and the various models were evaluated by an extensive research and understanding of illumination requirements for urban spaces. Choice of drivers for LED takes into consideration the harmonic distortion level (not exceeding 10%) power factor greater than 0.9 and surge protection. The LED modules are individually rated 60 watts. The control gear tray is prewired with terminal connectors, MCB and loop-in loop-out arrangement and located in the control box, integral with the pole.

FEVINO

illuminating life, intelligently

- MNRE/PWD Approved Polycrystalline Solar Panel .
- BIS CERTIFIED Lithium ION / LiFePO4 Battery.
- Solar PWM/ MPPT Charge Controller.
- Easy to install & ready to use .

8000+ Solar High Mast

60000+ Solar Street Lights

4000+ Happy Clients

20+ States

10000+ Sq. Ft. Area

Contact us on

1800 212 2020
Info@fevino.com
www.fevino.com

FEVINO INDUSTRIESE LLP

Corporate Office :
Sr. No. 36/1/1,Sinhgad Rd, Near Lokmat Press, Vadgaon Khurd,
Pandurang Industrial Area ,Pune - 411041., India.

CEA issues guidelines for sharing fiber cores of OPGW/UGFO cables for power system applications

The Central Electricity Authority (CEA) has issued comprehensive guidelines for the usage and sharing of fiber cores in optical ground wire (OPGW) and underground fiber optic (UGFO) cables for power system applications.

The guidelines aim to establish a structured framework for seamless data exchange, real-time monitoring, and reliable operation of power systems. The guidelines recommend uniform fiber allocation to designate specific cores for essential communication and protection while allowing excess fibers for commercial use under periodic review. Entities must comply with CEA regulations, including the technical standards for communication systems and cyber security guidelines. To future-proof communication needs, installations in high-growth areas should consider OPGW cables with 48/96 fiber cores for better capacity and connectivity. For commercial leasing of fiber cores, contracts must include a termination clause, allowing reclaiming of fibers for grid applications within an 18-month notice period.

IMSAFE® LIFE MATTERS

IMSAFE Spray Fire Extinguisher

- Lightweight, handy and aerosol based foam extinguisher
- Innovative point and spray technology
- Non - toxic to humans and pets
- Certified as per BS 6165:2019 standard by an NABL accredited lab
- Safe to use indoors
- Made in India
- Convenient for fires at small heights & ground level
- Post fire residue can be easily cleaned with a damp cloth
- BoV - Preventing Pressure Drop (Zero Pressure Drop) allowing to get minimum 95% discharge.
- Di-Electricity Tested with 35000 Volts with 0.05 milli Amp output to suppress fire on any Electrical Appliances.
- Best to use for suppressing the Fire on any Furniture, Curtains, AC etc.

IMSAFE Throw Fire Extinguisher

- Pick Aim & throw fire extinguisher
- Breaks immediately on impact
- For Class A Fire
- Non pressurized
- Best to suppress fire on Furniture, Floors, Tables or any other Surfaces.
- Non toxic to humans and pets
- UL listed (USA) extinguishing agent
- Suitable for creating fire escape route
- Post fire residue can be easily cleaned with a damp cloth
- Pick, Aim & Throw on Fire
- Made in India
- Comes with a sturdy bottle holder that allows the product to be placed safely on a table.

IMSAFE Fire Blanket

- Resists upto 900° celsius
- As PER EN 1869:1997 tested by a NABL accredited lab
- ISI Mark - tested as per IS 15381:2021 by Bureau of Indian Standards
- Non itchy & asbestos free
- Best to use for suppressing the small kitchen fire
- Best to wrap the body of loved one / Kids to get escape from fire

IMSAFE 5-in-1 Emergency Tool

IMSAFE Multi function 5-in-1 emergency tool is a portable all rounder in itself with varied uses.
• LED torch • Beeper to raise alarm • Emergency beacon light • Cutter for seat belts, wires, ropes etc. • Hammer to break glass surfaces • Magnet to hold emergency tool on any metal surface

MANUFACTURED BY: IMSAFE PRODUCTS AND SERVICES LLP MARKETED BY: IMSAFE SAFETY SOLUTIONS PVT. LTD. UNTIYA VILLAGE ROAD, POR, GUJARAT 391243, INDIA
Customer Care No. : 1800 890 1999 customercare@imsafe.co.in www.imsafe.co.in

LAFIT

Lighting Solutions

- LED Down Lights
- LED Panel Lights
- LED Spot Lights
- LED Surface Lights
- LED Cabinet Lights
- LED Linear Lights
- LED Track Lights
- Mirror Lights
- Foot Lights
- And more....

Credai Plus
LED Spot Light
LFSL1172X

Barrel
LED Spot Light
LFSL1150X

Mateo
LED Spot Light
LFSL929R

Can
LED Surface Light
LFSS1027R

Photon
LED Surface Light
LFSL1120

Bleach Plus
LED Down Light
LFDL1161R

Pasture
LED Down Light
LFDL1002

Cube
LED Surface Light
LFSS1027S

Iker
LED Spot Light
LFSL927R

Bravo
LED Down Light
LFDL1075R

Ishan
LED Down Light
LFDL1010

Mini Credai
LED Spot Light
LFSL1047A

Lafit Lighting Solutions LLP
125, Adhyaru Industrial Estate,
New Sun Mill Compound,
Sitaram Jadhav Marg,
Lower Parel (W), Mumbai - 400013

Experience Centre 1
Unit 2B, Block No. 7, opp. Todi Estate,
New Sunmill Compound,
Sitaram Jadhav Marg,
Lower Parel (W), Mumbai - 400013

Experience Centre 2
25/F, Laxmi Industrial Estate,
Andheri (W), Mumbai - 400053

Contact
+022 2493 5041/42/43
www.lafitlighting.com
contact@lafitlighting.com

ऊर्जा आणि मानवी संस्कृती

–प्रियदर्शिनी कर्वे

आजची जागतिक मानवी संस्कृती खनिज इंधनांच्या पायावर उभी आहे आणि खनिज इंधनाचे व्यापारी नवे ऊर्जासंक्रमण थोपवू पहात आहेत. यासाठी जगभरात अस्मितांचे व अलगीकरणाचे राजकारण करणाऱ्या राजकीय पक्षांना व नेत्यांना त्यांनी पाठबळ दिले आहे. जगभरातील सामान्य माणूस कोणाच्या मागे उभे राहणार, यावर मानवी संस्कृतीचे भवितव्य अवलंबून आहे.

लाकडे पेटवून निर्माण केलेली व नियंत्रणात ठेवलेली आग हा पहिला मानवनिर्मित ऊर्जास्रोत होता. आपले होमो सेपियन पूर्वज आग वापरत असल्याचे पुरावे साधारण सव्वा लाख वर्षांपूर्वीपासून मिळतात. कळपाने भटकंती करणाऱ्या अनेक प्रजाती आहेत. यांचे आणि भटक्या माणसांचेही जगणे स्नायूंच्या ऊर्जेवर अवलंबून होते. माणसांनी त्याला आगीची जोड दिली. वेगवेगळे अन्नपदार्थ एकत्र करून, आगीच्या सहाय्याने विविध स्वादांचे खाद्य बनवणे हे खास मानवी कौशल्य आहे.

आगीच्या शोधातूनच मातीची भांडी भाजण्याचे तंत्रज्ञान विकसित झाले. तांबे हा धातू जमिनीवर शुद्ध स्वरूपात सापडत होता. त्यामुळे दगडांची हत्यारे बनवणारे तांब्याच्याही वस्तू बनवू लागले तर काही विशेष नाही. पण मातीची भांडी भाजण्याच्या भट्ट्यांमध्येच तांबे व जस्त किंवा इतर धातूंचे मिश्रण तापवल्यावर कांस्य (ब्राँझ) तयार होते. तांबे हा तुलनेने मऊ धातू असल्याने त्याची उपयुक्तता मर्यादित होती. कांस्यापासून मात्र दगडाच्या हत्यारांपेक्षा वरचढ हत्यारे बनवता आली. कांस्ययुगानंतर आले लोहयुग. पोलादी हत्यारांच्या सहाय्याने खणणे शक्य झाले व इतर खनिजांच्या शोधाचा मार्ग मोकळा झाला. सर्वच खनिजांपासून मूलद्रव्ये मिळवणे, त्यांवर प्रक्रिया करून उपयुक्त पदार्थांची निर्मिती करणे, यासाठीही प्रामुख्याने आगीचाच वापर होतो. म्हणजेच माणसांच्या शिकारी भटक्या संस्कृतीपासून शेतीवर आधारित नागरी संस्कृतींकडे झालेल्या संक्रमणात आगीची कळीची भूमिका होती.

शेती करायला लागल्यावर माणसांनी आग व स्वतःच्या स्नायूंच्या ऊर्जेबरोबरच पाळीव प्राण्यांच्या स्नायूंच्या ऊर्जेचाही वापर केला – उदा. नांगर, मोट, प्राण्यांनी ओढायचे गाडे, इ. कालांतराने वारा आणि वाहत्या पाण्याची गतिज ऊर्जा वापरण्याचे तंत्रज्ञानही माणसांनी विकसित केले आणि पाणचक्क्या, पवनचक्क्यांचा वापर करून पीठ दळणे, लाकूडकटाई, पाणी उपसणे, अशी विविध कामे केली जाऊ लागली. साधारण १५व्या शतकापासून या ऊर्जास्रोतांच्या मदतीने वस्तू व सेवा पुरवणारे उद्योग जगभरात सर्वत्र होते. असे असूनही १८५०च्या सुमारास 'औद्योगिक क्रांती' झाली असे का म्हणतात?

एकोणिसाव्या शतकात खनिज कोळसा हे परिचित इंधन होते, पण त्याची उपलब्धता व वापर मर्यादित होता. इंग्लंडमध्ये वाफेच्या इंजिनाची निर्मिती कोळशाच्या खाणीत भरणारे पाणी उपसण्याच्या गरजेतून झाली. यामुळे खाणकामाचा वेग वाढला व खनिज कोळसा मोठ्या प्रमाणावर व स्वस्तात उपलब्ध झाला. वाफेच्या इंजिनात सुरुवातीला लाकूडफाटा हेच इंधन वापरले जात असे, पण १ किलो कोळशातून १ किलो लाकडाच्या दुप्पट ऊर्जा मिळते, आणि १ किलो लाकडाची वाढ व्हायला लागणाऱ्या कालावधीत खाणींमधून लाखो टन कोळसा काढता येतो. त्यामुळे वाफेच्या इंजिनासाठी खनिज कोळसा हे इंधन बनले. खनिज कोळशावर चालणारे वाफेचे इंजिन आपल्याला पाहिजे तेव्हा पाहिजे तितकी गतिज ऊर्जा देऊ शकते, हे दिसल्यावर इंग्लंडमधील सर्व उद्योगांमध्ये हे नवे तंत्रज्ञान वापरले जाऊ लागले.

चीनमध्ये मर्यादित प्रमाणात खनिज तेलाचा वापर पूर्वापार होत

असे, पण १८७५ मध्ये अमेरिकेत खनिज तेलाचे साठे सापडले आणि त्यापासून वेगवेगळी इंधने बनवण्याचे तंत्रज्ञानही विकसित झाले. यातले पहिले इंधन होते, केरोसिन आणि याचा वापर सुरुवातीला दिवाबत्तीसाठीचे इंधन म्हणून केला गेला. अंतर्गत ज्वलन किंवा इंटर्नल कम्बशन इंजिनाचा विकास झाल्यावर आणि जगात इतरत्रही खनिज तेलाचे साठे सापडल्यावर पेट्रोलियम इंधनांचा उद्योगांत व दळणवळणासाठी वापर होऊ लागला.

या नव्या ऊर्जास्रोतांमुळे युरोपातील कारखान्यांची उत्पादनक्षमता कैक पटींनी वाढली. कच्च्या मालाचे नवे स्रोत आणि उत्पादनांसाठी नव्या बाजारपेठा शोधणे ही युरोपीय वसाहतवादामागची महत्त्वाची प्रेरणा होती. आजची जागतिक मानवी संस्कृती निर्माण होण्यात युरोपीय वसाहतवादाचा व पर्यायाने खनिज इंधनांचा मुख्य वाटा आहे.

दुसऱ्या महायुद्धानंतर भांडवलशाहीवादी अमेरिका व मित्रराष्ट्रे आणि साम्यवादी रशिया व मित्रराष्ट्रे या दोन गटांमध्ये शीतयुद्ध सुरू झाले. आमने-सामने न लढता वेगवेगळ्या क्षेत्रांत एकमेकांवर कुरघोडी करायची, ही याची रणनीती होती. यापैकी एक क्षेत्र होते अवकाश संशोधनाचे. मानवनिर्मित यंत्रे अवकाशात पाठवली तर ती चालवण्यासाठी सूर्य व इतर ताऱ्यांमधून बाहेर पडणारी विद्युतचुंबकीय प्रारणे हाच एकमेव ऊर्जास्रोत उपलब्ध आहे. यातूनच सौर विद्युतनिर्मितीचे तंत्रज्ञान आले. दुसऱ्या बाजूला याच काळात अणुविद्युतनिर्मितीचे तंत्रज्ञानही विकसित झाले.

१९६०च्या दशकात अरब देशांनी अचानक खनिज तेलाचा पुरवठा कमी केल्याने विकसित देशांना प्रचंड इंधन टंचाईला तोंड द्यावे लागले. याचवेळी युरोपमध्ये कोळसा खाणकामगारांच्या संघटनांचे संप होत होते. त्यामुळे ऊर्जेच्या बाबतीत स्वयंपूर्ण असणे आणि खनिज इंधनांचे अर्थकारणातील महत्त्व कमी करणे विकसित देशांना गरजेचे वाटले. परिणामतः त्यांच्यामध्ये खनिज इंधनांचे मुबलक साठे असलेल्या भूभागांवर आर्थिक नियंत्रण प्रस्थापित करण्यासाठी चढाओढ सुरू झाली. खनिज इंधनांच्या वापरातून जागतिक तापमानवाढीची समस्या निर्माण होत असल्याचेही याच सुमाराला संशोधकांनी दाखवून दिल्याने या इंधनांना पर्याय शोधण्याच्या प्रयत्नांनाही गती मिळाली.

१९८६ मधील चेर्नोबिल अणुभट्टीतील अपघातानंतर जागतिक जनमत अणुऊर्जेच्या विरोधात जाऊ लागले. यातच २०११ साली त्सुनामीमुळे जपानमधील फुकुशिमा अणुभट्टी बंद करावी लागण्याचीही भर पडली. अणुसम्मीलनावर (फ्युजन) आधारित विद्युतनिर्मिती अधिक सुरक्षित व कार्यक्षम होऊ शकते, पण या संशोधनाची प्रगती फारच कूर्मगतीने चालू आहे. अणुऊर्जा मागे पडल्यावर पवन, सौर, इ. नूतनक्षम ऊर्जास्रोतांना पुढावा मिळाला. पण हे स्रोत मर्यादित आहेत, सर्वकाळ सारख्या प्रमाणात उपलब्ध नाहीत, ऊर्जानिर्मितीसाठी जास्त जागा लागते, अशा मर्यादाही पुढे आल्या. २०१०नंतर मात्र चित्र बदलले आहे. नूतनक्षम

एसी कसे वापरावे?

एसी २६ अंशांवर ठेवा आणि इच्छित असल्यास फॅन चालवा.

कार्यकारी अभियंत्याने ई.बी. (Electric Board) कडून पाठविलेली अतिशय उपयुक्त माहिती : –
एसीचा अचूक वापर : –

उन्हाळा सुरू झाला आहे आणि आम्ही नियमितपणे एअर कंडिशनर (AC) वापरत असल्याने AC चालविण्याच्या योग्य पद्धतीचा अवलंब करूया.

बऱ्याच लोकांना AC 20-22 डिग्री तापमानात चालवण्याची सवय असते आणि जेव्हा त्यांना थंडी जाणवते तेव्हा ते चादर पांघरून घेतात यामुळे दुहेरी तोटा होतो, कसे ते पहा?

आपल्याला माहिती आहे की, आपल्या शरीराचे तापमान ३७ डिग्री सेल्सियस आहे? शरीर २३ अंश ते ३९ अंशांपर्यंतचे तापमान सहजपणे सहन करू शकते.

याला मानवी शरीराचे तापमान सहनशीलता म्हणतात. जेव्हा खोलीचे तापमान कमी किंवा जास्त असते तेव्हा शरीर शिंका येणे, थरथरणे इ. द्वारा प्रतिक्रिया देते.

जेव्हा आपण एसी १९-२०-२१ अंशांवर चालवता तेव्हा खोलीचे तापमान सामान्य शरीराच्या तपमानापेक्षा खूपच कमी असते आणि यामुळे शरीरात हायपोथर्मिया नावाची प्रक्रिया सुरू होते, ज्यामुळे रक्ताच्या अभिसरणांवर परिणाम होतो, जेणेकरून शरीराच्या काही भागात रक्तपुरवठा पुरेसा नसतो, दीर्घकाळापर्यंत अनेक नुकसान जसे की संधिवात इत्यादी अनेक रोग होत असतात.

AC चालवताना घाम येत नाही, म्हणून शरीरातील विष (Toxins) बाहेर येत नाहीत आणि दीर्घकाळापर्यंत बऱ्याच रोगांचा धोका असतो, जसे की त्वचेची एलर्जी किंवा खाज सुटणे, उच्च रक्तदाब, बीपी इ.

जेव्हा आपण अशा कमी तापमानात AC चालवता, तेव्हा कॉम्प्रेसर सतत AC 5 star असला तरीही पूर्ण उर्जेवर कार्य करते, अत्यधिक उर्जा वापरली जाते आणि हे आपल्या आरोग्यासह, खिशातून पैसे उडवते.

AC चालवण्याचा उत्तम मार्ग कोणता आहे ?

तापमान २६ अंश किंवा त्याहून अधिक वर सेट करा.

AC प्रथम २०-२१ अंश तपमान निश्चित केल्याने आपल्याला फायदा नाही.

एसी २६ अंशांवर चालविणे आणि फॅन कमी करणे नेहमीच चांगले असते, २८ अधिक डिग्री अधिक चांगले असते.

यासाठी कमी वीज खर्च होईल आणि आपल्या शरीराचे तापमान देखील योग्य असेल आणि आपल्या आरोग्यावर परिणाम होणार नाही.

याचा आणखी एक फायदा म्हणजे AC कमी विजेचा वापर करेल, मेंदूवर रक्तदाबही कमी होईल आणि बचत शेवटी ग्लोबल वार्मिंगचे परिणाम कमी करण्यास मदत करेल.

समजा आपण AC 26 अंशांवर आणि आपल्यासारख्या आणखी ५ दशलक्ष घरे ही २६ अंशावर AC चालवून दररोज सुमारे १ युनिट विजेची बचत केली तर आपण प्रति दिन ५ दशलक्ष युनिट वीज वाचवितो.

प्रादेशिक स्तरावर ही बचत प्रति दिन करोड़ों युनिट असू शकते.

कृपया वरील माहितीचा विचार करा आणि २६ डिग्रीपेक्षा कमी एसी चालवू नका.

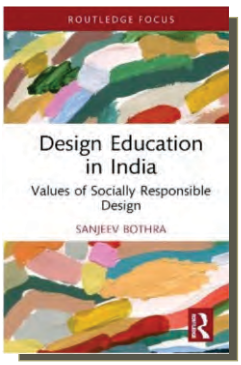
आपले शरीर आणि वातावरण निरोगी ठेवा.

ऊर्जा आणि मानवी संस्कृती

स्रोतांपासून ऊर्जानिर्मितीचा खर्च कमी झाला, आणि ऊर्जा साठवणुकीच्या कार्यक्षम व स्वस्त प्रणाली (बॅटरी) विकसित झाल्या. ऊर्जेचा अधिकाधिक कार्यक्षमतेने वापर करण्याची एलईडी दिव्यांसारखी तंत्रेही आली. नूतनक्षम स्रोतांपासून 'जिथे गरज तिथेच ऊर्जानिर्मिती' असा वेगळा विचारही पुढे आला. दरम्यान अणुऊर्जानिर्मितीही अधिक सुरक्षित झाली व छोट्या अणुभट्ट्यांद्वारे विकेंद्रित पद्धतीने वीजनिर्मिती केली जाऊ लागली. हरित हायड्रोजनसारखी नवी नूतनक्षम इंधनेही आता येत आहेत.

खनिज इंधनांचा वापर पूर्णपणे बंद करणे या शतकात साध्य होऊ शकते, असे आज दिसते. जागतिक अर्थव्यवस्था व समाजकारणावर ऊर्जास्रोतांचा थेट परिणाम होतो, हे इतिहास सांगतो. येत्या दोन-तीन दशकांत नूतनक्षम विकेंद्रित ऊर्जानिर्मिती जागतिक ऊर्जाप्रणालीचा कणा बनली, तर तापमानवाढीचे संकट थोपवता येईलच, पण पर्यावरणपूरकता व सामाजिक समानतेवर आधारित नव्या मानवी संस्कृतीची पायाभरणीही होईल, असे अभ्यासक सांगतात. पण आजची जागतिक मानवी संस्कृती खनिज इंधनांच्या पायावर उभी आहे आणि खनिज इंधनाचे व्यापारी नवे ऊर्जासंक्रमण थोपवू पाहत आहेत. यासाठी जगभरात अस्मितांचे व अलगीकरणाचे राजकारण करणाऱ्या राजकीय पक्षांना व नेत्यांना त्यांनी आर्थिक पाठबळ दिले आहे. जगभरातील सामान्य माणूस काळाची चाके मागे फिरवणाऱ्या या सापळ्यात अडकणार की नवे ऊर्जास्रोत व विवेकाची, विश्वबंधुत्वाची कास धरणार यावर जागतिक मानवी संस्कृतीचे भवितव्य अवलंबून आहे.

(लेखिका पर्यावरणाच्या अभ्यासक आहेत.)



Designing a Sustainable Future

Vivek Bhandari

As with much else in the world in 2025, the world of education—and more specifically design education (which is perhaps the most inter-disciplinary of all learning fields)—is in a state of flux. Debates about artificial intelligence, climate change, identity politics and the future of the workplace are swirling all around us with accelerated ferocity. India, as a fast-growing economy, is repositioning itself geopolitically, while simultaneously redesigning and reconfiguring many of its institutions, systems and processes. Or, as one could also argue, the present Indian government is re-designing them, re-aligning them as per a cultural, moral and institutional vision considerably at odds with that of Jawaharlal Nehru. These are times of instability and, not surprisingly, there is a sense of uncertainty about the future.

Amid this larger swirl of history, Sanjeev Bothra's book *Design Education in India: Values of Socially Responsible Design* comes as a calming breath of fresh air. In his multi-layered analysis of the evolution of design education, Bothra interrogates the fundamentals of design thinking as the world appears to be at a crucial tipping point in which all received orthodoxies are under critical scrutiny. Where, one may ask, are past visions of holistic and responsible design today, not just in the Indian context, but globally? And how do we find our way out of the several existential predicaments we face today? For Bothra, the answer emerges out of his passion for teaching, which led him to settle on the idea of 'socially responsible design' as the starting point for a regenerative and sustainable future.

Questions of 'design' lie at the heart of all systems, processes and institutions—as well as the material

artefacts—that we rely on as a part of our daily lives. Literally every object in our midst and its usage exists because of a design imagination. Modern design thinking in India has a long and complex history, shaped as much by the vagaries of its colonial past, as by the intellectual currents that drove this movement in Europe in the early 20th century (and before that, the Industrial Revolution). In many ways, the arrival of design education to India was an integral part of post-colonial India's attempt to embrace modernism, something that was central to the Nehruvian vision that animated the earlier decades of independent India. During these early years of post-colonial institution-building, the interplay between modernist forms of knowledge and traditional, indigenous culture threw up a range of fascinating experiments, impacting material culture as well as the urban landscape in complex ways.

The National Institute of Design (NID), founded in 1961 in Ahmedabad, and informed in its content and scope by a vision articulated by the team of Charles and Ray Eames, an eminent American design couple who produced the *India Report* at the request of the then prime minister, Jawaharlal Nehru, was one such pioneering experiment. NID was deeply influenced by the Bauhaus and Ulm design traditions (from Germany) but was also committed to building on India's rich legacy of craftsmanship that had, for centuries, shaped the country's material culture in a sustainable and ecologically responsible way. Through its alumni, the legacy of institutions like NID has had an enduring impact on generations of Indians, among whom Sanjeev Bothra's was a voice of calm and reason.

Some years ago, in his 2016 book, *The Great Derangement*, Amitav Ghosh lamented humanity's 'imaginative failure' in the face of the planet's looming climate catastrophe. More recently, in 2022, the distinguished theorist Nancy Fraser, in the preface of her book *Cannibal Capitalism*, provocatively asks: "Are we toast? Can we figure out how to dismantle the social system that is driving us into the jaws of obliteration? Can we come together to address the entire crisis complex that system has spawned—not 'just' the heating of the earth, nor 'only' the progressive destruction of our collective capacities for public action, nor 'merely' the wholesale assault on our ability to care for one another and sustain social ties, nor 'simply' the disproportionate dumping of the ensuing fallout on poor, working-class, and racialized populations, but the general crisis in which these various harms are intertwined?"

As India hurtles towards a future in which the forces of climate change, the '4th Industrial Revolution'" and nationalist jingoism pervade our mainstream discourse, Bothra's soothing book, through the prism of design education, provides a tentative roadmap for the larger community of planners, designers, educators and institution-builders. His reasoned analysis attempts to guide us on a path out of this morass of disenchantment by outlining the fundamentals of a new paradigm for design education and education more generally.

At the heart of Bothra's ambitious project is a desire to outline the key elements of what he describes as 'socially responsible design'. This multi-layered concept, which emerges out of his career as a teacher and practitioner, is outlined over seven meticulously crafted chapters. Four of these chapters provide the historical and conceptual scaffolding of his construct; one that describes his research and case studies; and two that sum up his core proposals. Bothra places emphasis on the need to build on what we have learnt from the multiple paradigms of design thinking that have impacted the world over the past century (especially India), but have not allowed us to truly confront our world in environmental peril as it exists today. In this, he builds on the ideas of a range of influential voices ranging from William Morris and Paulo Freire on the one hand, to MP Ranjan and the pioneering faculty of NID on the other.

For the past few decades, deliberations about the need to address the needs of India's demographic dividend, i.e., India's predominantly young working population, have been at the centre of discussions about the form and content of our educational practices and institutions. At the heart of these discussions is the creative tension between the need to balance the skilling needs of the youth (so that they may find gainful, sustainable livelihoods); their capacity for critical thinking (so that they may navigate the challenges of life with a sense of perspective); and values (so that they may live ethical and fulfilling lives).*The sad truth, unfortunately, is that the design of an educational system that can reconcile all of these elements within an elegant paradigm still continues to elude us*. Bothra provides us with the foundational vocabulary for a possible solution. The complex relationship between the learning of skills, having a sense of the bigger picture, and a humanistic, moral imagination—all of which are integral for the development of the young when they enter college—has been masterfully distilled by Bothra in his book.

Bothra's argument, elegant in its simplicity, is that it is crucial for designers—and, indeed, this applies to policy-makers, planners and institution-builders, as well as students around the world—to approach real world problems through an elaborate 'filtering system' that requires them to exercise a sense of responsibility not just to clients, consumers, the government, or society; but importantly, to the needs of the environment as well. The technical aspects of what is done on the ground follow from such a filtering process. This is where Bothra confronts the challenge posed by Ghosh and Fraser *And all of these responsibilities have to be filtered through the moral and ethical filter of personal values.* For Bothra, this all-encompassing filtering system—in which the institutional/global is interlinked with the personal—serves as an indispensable and holistic framework to work towards responsible design outcomes. In other words, designers have a responsibility to fulfilling the needs of multiple stakeholders while locating themselves at the centre of the task at hand so as to achieve a complementarity of the self with the world; indeed, a sense of unity or singularity that serves humanity as a whole.

Bothra's is a lofty, idealistic vision—one that is acutely needed in our troubled times. All he asks, in the end, is that we reconcile our journey through life as professionals and social actors with our commitment to our moral core, and to our natural and material environment—so that future generations can live and breathe in peace. For all these reasons, his multi-textured meditation on the foundational attributes of a design education paradigm for India, as we enter the second quarter of the 21st century, is an important contribution in the ongoing debates about the future of learning in our tumultuous times.

Design Education in India Values of Socially Responsible Design

Author: Sanjeev Bothra

Publisher: Routledge, London

Price: Rs. 2,944 (paperback)

(Vivek Bhandari is President of Bhartiya Skill Development University, Jaipur. After a decade as a faculty member of Hampshire College (US), he served as Director of the Institute of Rural Management Anand (IRMA) and has taught at the National Institute of Design (NID), Ahmedabad, for several years.)

great-white.in |

GreatWhite®
Electricals

ALL SEASON
PERFORMANCE, ALL TIME
PROTECTION

BOXit (IP-55) enclosures are designed to withstand extreme weather, ensuring safety and reliability for outdoor power needs. With waterproof construction, anti-rust components and easy-access features, it delivers robust protection and seamless operation. Perfect for outdoor lighting and more, it combines innovation and durability for uninterrupted performance in any season.

BOXit®
WEATHER PROOF BOX IP-55

GreatWhite Global Pvt. Ltd.
13th Floor, B-Wing, Peninsula Business Park, Senapati Bapat Marg, Lower Parel, Mumbai - 400013, Maharashtra.
T. +9122 30036565 | F. +9122 30036564 | E-mail : info@great-white.in | For Trade Enquiries Contact Us On: 1800 30025252.

Editor & Publisher :

Satish Sinnarkar

Indian Electrical Contractor & Trader

Published Since 1950

Publishers

Campaign masters

Media Buying | Advertising | Printing

ESTD - 1925

Organ of ECAM

Official Publication of

Electrical Contractors' Association of Maharashtra

A Pioneer publication of India in the Electrical Sector

Regular features

- Energy Efficienct Lighting
- Cables & Wires
- Electrical Energy Meters
- Flameproof Equipment
- Transformer & Capacitors
- Pumps & Electric Motors, Panels and Control Accessories, Switchgear, Tools Cable Jointing kits
- Electrical Wiring Accessories
- Power Station Protection Relays
- Systems, Meters & Instrumentation
- Electrical Metering & Earthing Systems
- Safety and Security Systems
- Non-conventional Energy sources
- Power Generation / T&D

Contact Details : **Campaign Masters**
311, 3rd Floor, Shree Krishna Commercial Centre, Udyog Nagar, S. V. Road, Goregaon (West), Mumbai - 400 104.
Email : info.cmasteers@gmail.com | Website : www.campaignmasters.in
Follow us on : Tel.: (022) 40129656 | Mobile : 9821039722

Approved

POWERGRID

CPWD

Shreerang Group of Industries

SujeeT INDUSTRIES

PASSION THAT FABRICATE EXCELLENCE

Our Products

- Steet Light Pole (Octagonal, Conical, Tubler)
- Highmast
- Solar Highmast
- Flagmast
- Solar Stuctures
- Hot Dip Galvanizing
- Solar Water Pump
- Earthing Flats
- HT, LT Line Stuctural Component
- Stuctural Heavy Fabrication

SUJEET INDUSTRIES PVT. LTD.

E-21, MIDC Industrial Area Malegaon, Sinnar, Nashik-422113 Maharashtra (India).

9225145222 / 9588492048 / 9225146555

sales@sujeetind.com www.sujeetind.com

Thinking of.....

SAFETY SIGNAGES & EMERGENCY LED LIGHTS ?

Supreme Creation
SAFETY SIGNAGES

Light when you needed...

D/001, Samarth Krupa CHS.,
Near Western Express Highway,
Akurli Road, Kandivali (E)
Mumbai 400101

+91 91522 00534 / 9152206447
info.supremecreation@gmail.com
www.supremecreation.in

CE

PROUDLY MAKING IN INDIA SINCE 1968

RCB ROYAL CHALLENGERS BENGALURU

KEI® Wires & Cables

PRINCIPAL PARTNER

KEI VIKSIT BHARAT KA VIKSIT WIRE

Toll Free No: 1800 410 0000

www.kei-ind.com /keicables

World class **Quality**, Incredible **Range**. Wires and cables **Specialist.**


House Wires


Single & Multicore Flexibles Cables


Winding Wires


Flat Cables


ESP Cables


Stainless Steel Wires


LV Cables


HV Cables


Control Cables


MVCC Cables


CAT 6 Cables


Co-Axial Cables


CCTV Cables


Telephone Cables


Solar Cables


EV Charging Cable & Gun


EHV Cables


Fire Survival Resistant Cables


Instrumentation Cables


Rubber Cables


Marine & Offshore Cables


Thermo-couple Cables

WIDEST RANGE OF WIRES AND CABLES FROM 1.1KV UP TO 400KV

AWARDED Superbrands INDIA Consumer Validated 2025

Registered and Corporate Office:

KEI Industries Limited: D-90, Okhla Industrial Area Phase-1, New Delhi-110020 (India)

Tel: +91-11-2681-8840 / 8642 / 0242 CIN No: L74899DL1992PLC051527

Scan Here