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अध्यक्षांच्या कलमातून....





प्रिय सभासद बंधूनो आणि भगिनिंनो,

'दीपावली' नंतर आपण थेट भेटत आहोत. बरेच सभासद दीपावली नंतरच्या सुट्यांमध्ये आपल्या परिवाराला वेळ दिल्यामुळे उत्साहित, प्रफुल्लित होऊन आपल्या व्यवसायात मग्न होत आहेत.



उमेश रेखे अध्यक्ष, इकॅम

आपण आपल्या व्यवसायात पारंगत आहात परंतु आपल्या व्यवसायात येणाऱ्या



अडीअडचणी तसेच येणारे नवीन तंत्रज्ञान याबाबत आपण आपले ज्ञान अद्यावत (Upgradation) करणे आवश्यक आहे. त्यासाठी आपण संघटनेमार्फत विविध सेमिनार, कंपनींना भेटी या द्वारे कार्यरत असतो. त्याचा लाभ सर्वांनी घेणे आवश्यक आहे.

नुकत्याच आपल्या राज्याच्या विधानसभा निवडणूका पार पडल्या असून नवीन मंत्रिमंडळ स्थापन झाल्यावर सार्वजनिक बांधकाम विभाग तसेच महावितरण कंपनीमध्ये काम करणाऱ्या आपल्या सभासदांच्या विविध प्रश्न सोडविण्याबाबत संघटनेमार्फत आपण प्रयत्न करणार आहोत. याबाबत आपल्या संघटनेच्या विविध समित्या कार्यरत असून लवकरच याबाबत आपल्याला यश मिळेल असा विश्वास मला वाटतो.

आपली संघटना या जानेवारीमध्ये १०० वे वर्ष पूर्ण करीत असून त्याबाबत संघटनेतर्फे एका मोठया कार्यक्रमाचे आयोजन करीत असून त्यासाठी १५ जानेवारी हा दिवस आपण राखीव ठेवावा व सदरहु कार्यक्रमाला मोठया संख्येने उपस्थित रहावे ही नम्र विनंती.

आपल्या संघटनेचे मुखपत्र असलेले IECT मध्ये कायम आपल्या सभासदांच्या तंत्रज्ञानामध्ये सुधारणा व्हावी तसेच नवीन उत्पादनांच्या माहितीचे लेख विविध मान्यवरांमार्फत प्रकाशित केले जातात. त्याद्वारे सभासदांनी अद्यावत (Upgrade) होणे आवश्यक आहे.



२०२५ या सालात पदार्पण करताना १ महिना बाकी असून आपल्या सर्वांची सर्वतोपरी भरभराट व्हावी यासाठी नवनवीन संकल्पना साकार करणे गरजेचे आहे.

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महासचिवांच्या कलमातून.....



देवांग ठाकूर महासचिव, इकॅम

शताब्दी वर्षातील उत्साहवर्धक कार्यक्रम



नमस्कार मित्रांनो,

इकॅम जळगाव विभागाची १३ वी वार्षिक सभा दिनांक २५ ऑक्टोबर २०२४ रोजी संध्याकाळी ४.३० वाजता हॉटल कमल पॅराडाईस, जळगाव येथे खेळीमेळीच्या वातावरणात संपन्न झाली. सदर प्रसंगी विद्युत साहित्याचे प्रदर्शन आयोजित करण्यात आले होते. या वार्षिक सभेला तसेच प्रदर्शनाला सभासदांचा उस्फुर्त प्रतिसाद मिळाला. इकॅमतर्फे प्रभारी अध्यक्ष श्री. उमेश रेखे, महासचिव श्री. देवांग ठाकुर तसेच विभागीय चेअरमन आणि संचालक उपस्थित होते. वार्षिक सभेनंतर सुरूची भोजनाचा कार्यक्रम आयोजित करण्यात आला होता.

इकॅम धुळे नंदुरबार विभागाची १० वी वार्षिक सभा दिनांक २६ ऑक्टोबर २०२४ रोजी संध्याकाळी ५.३० वाजता हॉटेल रेसिडेन्सी, धुळे येथे खेळीमेळीच्या वातावरणात संपन्न झाली. सदर प्रसंगी विद्युत साहित्याचे प्रदर्शन आयोजित करण्यात आले होते. या वार्षिक सभेला तसेच प्रदर्शनाला सभासदांचा उस्फुर्त प्रतिसाद मिळाला. इकॅमतर्फे प्रभारी अध्यक्ष श्री. उमेश रेखे, महासचिव श्री. देवांग ठाकुर तसेच विभागिय चेअरमन आणि संचालक उपस्थित होते. वार्षिक सभेनंतर सुरूची भोजनाचा कार्यक्रम आयोजित करण्यात आला होता.

इकॅम कोकण विभागाची ५ वी वार्षिक सभा दिनांक ९ नोव्हेंबर २०२४ रोजी संध्याकाळी ५.३० वाजता रेडीओ क्लब, कुलाबा येथे खेळीमेळीच्या वातावरणात संपन्न झाली. सदर प्रसंगी विद्युत साहित्याचे प्रदर्शन आयोजित करण्यात आले होते. या प्रसंगी मे. वाशी इंटिग्रेटेड सोल्युशन्सचे संस्थापक संचालक आणि मार्गदर्शक श्री. मदन डोडेजा यांनी सर्व सभासदांना मार्गदर्शन केले. या वार्षिक

सभेला तसेच प्रदर्शनाला सभासदांचा उस्फुर्त प्रतिसाद मिळाला. इकॅमतर्फे प्रभारी अध्यक्ष श्री. उमेश रिखे, महासचिव श्री. देवांग ठाकुर तसेच विभागिय चेअरमन आणि संचालक उपस्थित होते. वार्षिक सभेनंतर सुरूची भोजनाचा कार्यक्रम आयोजित करण्यात आला होता.

दिनांक ०५ नोव्हेंबर २०२४ रोजी सार्वजनिक बांधकाम विभागाच्या अतिरिक्त मुख्य सचिव सौ. मनिषा म्हैसकर मॅडम यांची इकॅम शिष्टमंडळाने मंत्रालयात सदिच्छा भेट घेतली. याप्रसंगी इकॅमचे महासचिव श्री. देवांग ठाकुर, इकॅमचे सार्वजनिक बांधकाम समितीचे चेअरमन श्री. प्रविण बडगुजर आणि इकॅम ठाणे विभागाचे चेअरमन श्री. निलेश तिवरामकर उपस्थित होते. सदर प्रसंगी सार्वजनिक बांधकाम विभागाच्या अतिरिक्त मुख्य सचिव सौ. मनिषा म्हैसकर मॅडम यांचा सत्कार करण्यात आला. याप्रसंगी CSR, Bid Capacity आणि कामांच्या निधींची अनुपलब्धता यावर चर्चा विनिमय करण्यात आला. सदर बाबत आपणास सकारात्मक प्रतिसाद मिळालेला आहे.

दिनांक ०५ नोव्हेंबर २०२४ रोजी उर्जा विभागाच्या अप्पर मुख्य सचिव सौ. आभा शुक्ला मॅडम यांची इकॅम शिष्टमंडळाने मंत्रालयात सदिच्छा भेट घेतली. याप्रसंगी इकॅमचे संचालक श्री. पुरन सागर, श्री. कल्पेश पटेल आणि अन्य संचालक उपस्थित होते. याप्रसंगी नवीन विद्युत जोडणीसाठी B.E.S.T. आस्थापनेमध्ये ऑनलाईन अर्जामध्ये चाचणी अहवाल स्विकारण्याबाबत चर्चा विनिमय करण्यात आला. सदर बाबत आपणास सकारात्मक प्रतिसाद मिळालेला आहे. नवीन विद्युत जोडणीसाठी B.E.S.T. आस्थापनेमध्ये ऑनलाईन अर्जामध्ये चाचणी अहवाल स्विकारत नव्हते. या संदर्भात २०२१ पासुन इकॅमच्या वतीने संचालक श्री. पुरन सागर यांनी अविरत प्रयत्न करून सरकार दरबारी पाठपुरावा केला. आपल्याला कळविण्यास आनंद होत आहे की इकॅमच्या पाठपुराव्याला यश आले असून B.E.S.T. आस्थापनेमध्ये ऑनलाईन अर्जामध्ये चाचणी अहवाल अनिवार्य झाला आहे. त्याबद्दल श्री. पुरन सागर आणि सर्व मुंबई संचालकांचे अभिनंदन.

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The Editor's Desk





Growing Business Opportunities in the renewable energy in India

Satish Sinnarkar Editor, IECT

India's renewable energy sector is buzzing with opportunities, driven by the government's ambitious targets and policies. The country aims to reduce its carbon footprint by 45% by 2030 and achieve net-zero emissions by 2070.¹

Here are the key areas of Opportunities in this sector.

As regards Solar Energy, India has set a target of 500 GW of renewable energy capacity by 2030, with solar energy playing a significant role. The government has allocated ₹10,000 crores for the Centrally Sponsored Scheme for Solar Power (Grid) in the Union Budget 2024.

Coming to the source of Wind Energy, India has an off-shore wind energy target of 30 GW by 2030, with potential sites identified. The government has also introduced policies like the Wind-Solar Hybrid Policy to promote the use of wind and solar energy together.

In the case of Green Hydrogen, India aims to produce 5 million tonnes of green hydrogen by 2030, with the National Green Hydrogen Mission allocated ₹19,744 crores.

Another important point is of the Energy Storage. With the growing demand for renewable energy, energy storage solutions like batteries are becoming increasingly important. Here also there will be huge opportunities of business. Many of the Government Initiatives and Policies in this regard are framed to get fastest results. Like the Production Linked Incentive (PLI) Scheme. The government has introduced the PLI scheme to promote domestic manufacturing of solar PV modules and other renewable energy equipment. Another initiative is the National Renewable Energy Act. The government is planning to introduce the National Renewable Energy Act to provide a comprehensive framework for the development and promotion of renewable energy in India.

There are huge Investment Opportunities in the renewable energy sector. Renewable Energy Certificates (RECs) is one such opportunity. RECs are tradable certificates that represent the environmental attributes of one megawatt-hour of renewable electricity.

Secondly, Green bonds are specifically earmarked for financing renewable energy projects and offer an attractive investment opportunity for investors looking to support sustainable development.

Overall, India's renewable energy sector offers a wide range of business opportunities, driven by government policies and initiatives. As the country continues to transition towards a low-carbon economy, the demand for renewable energy solutions is expected to grow, making it an attractive sector for investors.

I am sure ECAM members will take up these opportunities and grow their business.









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Lip-service and Neglect: The Plight of India's Job-creating MSMEs

Every political formation in India pays lipservice to the critical role of micro, small and medium enterprises (MSMEs). Contributing nearly 30% to India's GDP and employing over 1.24mn (million) people, MSMEs are the backbone of the nation's economy. An MSME ministry was formed in 2007 under the United Progressive Alliance (UPA), while the National Democratic Alliance (NDA) introduced a series of initiatives, including better credit support, digital adoption, technology upgrades, credit guarantees and skill development to help this sector.



Sucheta Dalal Courtsey : Moneylife

That is not all. On 29 May 2015, the MSME ministry's notification, titled "Framework for Revival and Rehabilitation of MSMES", promises to address the biggest concern of Indian entrepreneurs in this segment– coercive recovery practices by banks. This framework outlined steps to identify early signs of financial distress and required lenders to establish committees to explore recovery and hand-holding options, before classifying loans as non-performing assets (NPAs) or initiating coercive recovery action.

The Reserve Bank of India (RBI) was tasked with the implementation of the notification; yet, according to the National MSME Borrowers Association, this directive was ignored. Lenders ignored the notification, later arguing in court that it was non-binding. Consequently, MSMEs facing financial difficulties find themselves stripped of assets and embroiled in legal battles, having often pledged personal assets to secure formal credit.

Even though top banking officials acknowledge that the system is skewed against MSMEs, nobody makes the effort to change things. In contrast, the biggest corporate defaulters, such as Jatin Mehta (Suraj/Winsome Diamonds), Mehul Choksi (Gitanjali Gems), Nirav Modi, Vijay Mallya and the Sandesara family of Sterling Biotech, have been allowed to abscond and run away abroad, leaving lenders with bad loans of tens of thousands crore rupees.

In scores of cases, banks have written off as much as between 80%-90% of their loans. The latest and most high profile one is Anil Ambani. Advocate Mathew J Nedumpara, who has fought many MSME cases, says, Reliance Communications owed Rs49,000 crore to 53 banks; but the Mumbai bankruptcy court allowed it to be settled for just Rs455 crore or 0.92% of the total debt! His companies are still considered eligible to bid for government defence contracts. Indian banks wrote off bad loans worth Rs14.56 lakh crore in the nine financial years starting 2014-15, mostly on account of large borrowers; but one never hears of these defaulter industrialists losing their private homes. On the contrary, they continue to live in luxury and hire the most expensive lawyers to fight their cases.

In stark contrast, Manisha Mehta, president of the National MSME Borrowers Association, said at a



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press conference on 25th October that no bank or lender—not even the State Bank of India (SBI)—had ever constituted a committee to help stressed MSMEs, as required by the 2015 notification. Instead, lenders exploited their lack of legal knowledge to initiate ruthless recovery action shaming them through advertisements, rather than helping them.

Ms Mehta, who is herself battling recovery actions, says that lenders obtained a judgement from the Bombay High Court order saying that the 2015 notification was not binding on them, since provisions of the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI Act) override other Acts including the MSME Act. Meanwhile, the MSME ministry as well as RBI seem to have done nothing for nearly 10 years to ensure implementation.

A glimmer of hope appeared on 1 August 2024 when the Supreme Court ruled in *M/s Pro Knits vs Canara Bank* (along with a clutch of other appeals) said that the 2015 notification is, indeed, binding. Terming the Bombay High Court's ruling 'highly erroneous', the apex court said that the May 2015 notification has statutory force.

However, this ruling offers cold comfort for MSMEs whose assets have already been seized through coercive action under the SARFAESI act. Especially since the Court decided not to direct their matters to be heard afresh by the high court.

Although MSMEs facing future distress may benefit from the Court's decision, those who have already lost their businesses and assets are left with limited recourse. Many of the examples shared by the MSME Association are heartrending, because each of them represents entrepreneurs who staked everything to follow their dreams.

For instance, Radhakrishan Dhanjal of Kamal Construction Company, a high net-worth individual, mortgaged his home against cash-credit facilities and a bank guarantee, only for the lender to repossess the house when he was hospitalised. He alleges that the home was worth 10 times his borrowing. All he can do now is fight a costly and unequal legal battle against a powerful institution.

Similarly, Mahesh Kumar, proprietor of MSE Industries, wrote a touching letter to the prime



minister on 9 February 2023, after losing his business. He and his wife set up a company in 2007, to cater exclusively to Bharat Heavy Electricals Limited (BHEL) at Trichy. All was well until 2017, when they were hit by glitches and teething troubles in implementation of the goods and services tax (GST).

They were unable to get their GST validated or to generate e-way bills for purchase orders. Filing a litigation did not work nor did the government help small entrepreneurs struggling with GST registration. This led to cascading issues resulting in delays in paying BHEL and loan defaults, which could have been resolved. Instead of assistance, the bank refused to restructure loans or accept a one-time settlement offer of Rs2.95 crore. Instead, the MSME unit was repossessed and auctioned for a paltry Rs2.92 crore, says, Mr Kumar, who alleges that the market value was Rs12 crore. The bank continues to demand repayment of Rs6.7 crore and has humiliated him by publishing his photos as a defaulter for a whole year. Approaching the debt recovery tribunal (DRT) would require him to pay 50% of the outstanding loan upfront which is both steep and impractical.

Manisha Mehta's own company, Perfect Infra Engineers, was a successful unit that suffered badly after large clients, such as Lavasa Corporation and Unity Infra Projects went bankrupt. Despite repaying 55% of the Rs9.5-crore loan, she faced coercive recovery actions, including the sale of her residential property pledged with the bank. Her factory in Pune was forcibly seized leaving her tied up in litigation before multiple forums.

Her story exemplifies the injustice faced by MSMEs who, unlike large corporations, lack protection and are subjected to shabby treatment and harsh recovery measures, although they are the real jobcreators in India.

While finance minister Nirmala Sitharaman called for a comprehensive analysis of job-creation at a World Bank event, perhaps her ministry could start by examining how MSME policies and banking practices affect job-creators. These small enterprises, which are the real engines of job growth, deserve far better support from government as well as banks. mahindra^{Rise}



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"Our target within the next 4 to 5 years is to become an end-to-end Trusted GC partner"

Mr. Kamlesh Shah

Chairman and MD Listenlights Pvt. Ltd.

Shri Satish Sinnarkar, editor and publisher for IECT Magazine, had a detailed talk with Shri Kamlesh Shah, Chairman and Managing Director of Listenlights, one of the successful contracting businesses in Mumbai. This company is known for implementing high moral values in day-to-day business transactions. All the teammates' conduct is channelled by promoting spiritual foundations. Mr Shah believes in "SOCH", the foundation of growth. A few excerpts are presented here for the benefit of the readers of IECT.

Q Firstly, Kamlesh Ji, I would like to know about you. Your education, training and inspirations. How you start this business? How did the journey begin?

A-I did my B.E. in Electrical engineering, and during engineering time only, I thought I would not do a job for a long time and would start my own business. However, the family background did not have any monetary power as such. Contracting is one business that could be started without much finance; one could start with small projects. After passing engineering, I concentrated on getting a job in an electrical contracting firm only. I left offers from a few well-known companies paying high salaries compared to a private contracting firm but offering profiles other than contracts. I joined a company called Pan Electricals. They are also members of ECAM. So I got my first job there. Later, I was lucky to get a Crompton Greaves contract division job. I worked for three and half years and then started my own contracting business. This is how it all started.

Q: Who guided you in this startup course?

A–I had my friends. We used to talk and discuss how to go ahead. One of the friends was living in my society only. He was also an electrical engineer. So we started this firm together.

Q: What type of work did you start with, and what are the amounts involved?

A- Amount-wise, it used to be five thousand, fifteen

thousand, etc. We started working with residential works. Residence projects of 1 bedroom, two bedroom, etc., and later, we got a significant breakthrough. We saw an advertisement in the Times of India in 1985 for the registration of electrical contractors for CMC Ltd. Today, CMC Ltd may be known to a few people. it was a government organisation responsible for setting up mainframe computers. All government organisations, including the railway, air India, shipping corporations, Nhava Sheva Port Trust, etc., started computerisation through CMC Ltd., and we got an opportunity to work for them on electrification requirements. First computerised railway ticket was issued on our installations. Even Nhava Sheva Port Trust, Air India, BSE etc started computerisation through our installations.

Q After registering with CMC, there must be a tender system?

A-Yes. Tender was there. However, due to our quality and commitment, we secured the majority of jobs for our company. So that was a big breakthrough. Earlier, we used to do smaller or midsize jobs, and people called us electricians. Now, we have our own identity in the electrical contracting market. So it was a significant change for us.

Q During this journey, was there any experience where you were cheated or you felt that this is not a very good line or you wanted to back out?



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Q Any family backing during this period?

A- My monthly salary was Rs. 3500 in 1983 when I left my Crompton Greaves job. So when I jumped into this business, I was not sure of earning equivalent to the salary initially. This jump was possible due to the backing of the family.

Q How much time do you give for business?

A-Typically, from morning 10 am to 7 pm. Meeting the schedule committed is paramount. I have spent nights, if required, and stayed at the site. There is no such time limit for a very hectic schedule. I have worked on all Sundays for the initial 10-15 years.

Q After CMC, another breakthrough?

A- Another breakthrough was the growth of IT sector in India. Around the year. 2000 we did many jobs for the IT sector. It was a major breakthrough when we entered into large contracts. We have worked for Wipro, Infosys and all major IT companies, IT parks and Infra work for their buildings.

Q You got any opportunity outside India?

A-Yes. We did a job in Dubai as well.

What was that experience?

The ease of doing business. I realised what it takes for the government authorities to implement such measures. I give you an example. It was a trade-free zone where we executed the project. My electrical engineering degree was allowed as a license to sign the Test Report in Dubai. No test report from a locally registered entity was required. That was an excellent experience.

Q Then how do you come in contact with the contractors' association?

A- To tell you precisely, we took a dealership for ELCB when the ELCBs were made mandatory. Since ELCB was compulsory, all contractors from Bandra to Borivali were coming to us to buy ELCB. So that way, I established contact with other contractors like Pankaj Muni, Sunil Saraf, Yogendrabhai, etc. These contacts brought me to ECAM

Q In the electrical contractors' association I don't find many examples of this kind of growth. What do you think was lacking or what was your speciality? What is the reason behind this?

A- I will talk about myself before talking about others. First, I give importance to ethics. We do not compromise on ethics. We always try to give our best to customers. We never compromise on Quality. We have always invested in people, processes and technology. I



growth. So we have always invested in this thought. We have followed certain principles. The purpose of our organisation is to give peace and growth to everyone with whom we interact. How do we provide this peace and growth to everyone? We laid down six spiritual foundations to be followed by all when interacting with a customer, a vendor or a colleague. Everyone should follow these guidelines. That's how we could manage. That approach has proved successful.

Q I never saw you in the liaising work. You were always in the actual contracting field.

Each of the fields requires specific abilities. I have the ability for contracts.

Q But today we have 3000 members in ECAM. But very few are actually on the growth path. In many cases the second, third generations are not entering the contracting business. What must be the reason? They don't find a career here, what do you say?

A- Again, I will reiterate ethics and Quality. None of these can be compromised. If we want to establish our identity in the market, this is the only way. The impression of a contractor in India is of a person who will cheat. Our trade is not respected. We need to change this perception. We shall have to earn respect by establishing ourselves as an honest business. This is one of the reasons why the new generation is averse to entering the field. I am proud to say we have developed that credibility.

Q Last time when we were talking with Shri Gopal Kabra of R R Kabel, he was also on the same line of thinking. He even suggested that the Ecam name should be changed to an association of electrical solution providers and not electrical contractors. Does the contractor's word have no dignity or reputation in the market? Is it true?

A -It is specifically true for India. Thekedar word is associated with contractors and needs to gain more respect in the market. Not only electrical contractors but also other contractors. Thekedar word implies dishonesty. That is not helping the community. This is a general trend. But we can break that trend. We have done that. Everyone can do that. That is my belief. Let us start at each organisational level; one should strive for integrity and dignity.

Q Last week I attended the annual general meeting of Nashik region of Ecam. There is one very senior person, Mr. Lakaria. You might be knowing. He also suggested that internal competition should be avoided. One contractor should take the entire contract and distribute it among fellow contractors. But that is not happening.



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which is the root of the problem. Some restraints are required. It is a personal choice of how one wants to be looked upon in his trade, in his community, and in the eyes of clients, vendors, and sub-contractors, how he wants to project himself. He has to decide. He has to stand up.

Q So coming to Listenlights, first of all everybody wants to know why Listenlights? When you have nothing to do with lights

A -Yes. When we started our business, the first few jobs were at discotheques. Discotheques were famous in the early 80's. We got a maintenance contract for one of the discotheques in Mumbai, and that led to new contracts for discotheques. Because of these initial discotheque jobs where the lights reverberate with sound, the name Listenlights was thought of.

Q. Are you still in the lighting field anyway?

A-Lighting is part of our projects.

Q. Listenlights' progress is very fast during the last 10-15 years. How is your management part? Are you looking after everything? Family support? How is infrastructure created for management?

A- As I told you, we have always concentrated on people, processes, and technology. We have the right person in place for every department, including marketing, business development, technology, testing and commissioning, engineering, HR, etc. I need help to reach each corner of these departments. These people take care of their respective tasks. That is what I told you earlier: the Right people are an essential part of business. One man cannot look after every aspect of business unless you have the required support from the right person. As entrepreneurs, we are 'jack of all, master of none'. You require a master in each field to support business. I also have support from my son.

Q In the same line I would like you to explain 'Soch' which you have told me last time. How would you develop that idea in mind and implement it?

A- I would like to give credit to the management consultant we had engaged with. He taught us that we should have a purpose for our business first and how we will achieve it. Every businessman follows his inner purpose, but most of the time, unknowingly. We defined our purpose as **"We exist to make this world a better place by striving to provide growth and peace to everyone by uplifting, supporting and building capabilities of people and businesses."**. To achieve this purpose, we have set 6 principles of conduct; we called them spiritual foundations. This is our "Soch"

Q. Kamlesh Bhai, you were general secretary of Ecam. Before also you were in the managing committee. You gave sufficient time for association meetings. What do you think about the 100 years' journey of Ecam? Till today. Because you have seen it inside out.



A- Journey is so far so good. We want to concentrate on how Ecam will be projected in future. We should have a voice in every policy-making department or government

department where laws are made for electrical business. This capability should be developed. Secondly, nowadays, we are facing a lack of trained manpower. White collar and bluecollar both. We should have training facility in association to train the electrical contractors and their staff. Also, electrical engineers must have basic knowledge of how work is done in various projects. This training should be given through the Ecam to enhance the capability of the business and its members.

Q. Actually what I have noticed is, because I have also been associated with Ecam for the last 25 years, I noticed that very few people are interested in knowing new things, technology etc. Suppose today there is a lot of development in alternate sources of energy and huge opportunities for business. But I see very few people taking interest in this. What can the association do about it?

A- You are right. This particular aspect needs to be explored in terms of how we can help our members to look for these new opportunities.

Q. There was a great opportunity in the metro railway. I don't see any company in our association getting any job in the metro project. As an ex general secretary any initiative taken by you which could not be completed, any such ideas you have in mind?

A-During the time I was Secretary, We had tied up with OEMs for seminars and Seminar sponsorships throughout the year. Such initiatives must be taken by the association and conduct various types of programmes for sustainability and to enhance technical knowledge in required fields for our members. An atmosphere of continuous learning needs to be developed to enter new businesses and explore new opportunities.

Q. One more point I would like your views on is electrical safety. Thousands of people die every year due to electrical accidents. This is the most delicate subject today and most of the time the blame comes on the contractors. What is your opinion? How can contractors contribute? or how government policies can influence?

A- I feel there are three reasons. Firstly, even after buying as per BIS standards, the contractor is not sure of getting goods of the right specifications. (Government role to enforce law). Secondly, due to commercial reasons, the contractor himself chooses inferior material. Thirdly, there is a Lack of proper workmanship. Even after the correct specification of the materials at

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the site, you are unsure of the safety factor unless the installation is done with the correct practices. This leads to the loss of property and lives. One can not measure the loss of lives and property.

Q. But do you think that if the national code is strictly implemented, the accidents will come under control?

A- The start of the National Electrical code is good. The state electrical and PWD departments are pushing changes into the system and there are some NGOs pushing the measures across the nation, by holding seminars and workshops. They are spending their own resources of time and money. They are doing this with the support of a few OEMs. I think this should change the scenario in the coming time. The laid down measures are good. It is in line with the requirements of the nation and the world.

Q. Again coming back to business, after 5 years where you see Listenlights? Any merger, joint venture or something?

A- Yes. We have charted on a path for the next five years. We want to be a trusted GC partners in the coming 5 years. Today we have already expanded in the field of HVAC and Plumbing apart from electrical. We have been taking on various projects as MEP contractors for the last 5 years.. Within the next 4 to 5 years, our target is to become an end-to-end Trusted GC partner. So we can execute the civil work as well. We are expanding our geographical footprints also. We are moving outside India also.

Q. Coming back to your personal life. During this hectic schedule of controlling and expanding business, how do you take time for your leisure, family, social work or anything?

A- That is an ongoing process. One of my hobbies is reading books. Without reading, I do not sleep any day. Traveling to various places is another hobby of mine.

Q=Have you any recent tours?

A-In September, I went to Eastern Europe for a family vacation. In the social context, I think everyone in the country should be educated. So we are contributing towards education in a big way. We are contributing towards the environment also by planting trees. Our people are going to NGOs to support them physically also. It is not just that a cheque is given. Every regional office is associated with one NGO. Our people go there, understand their requirements and fulfil the cause. In this way, they get attached to the organisation. Recently we have been involved in Beach Cleaning also and donated Sand Sifters. We have sponsored the cleanup programme.

These all are in Maharashtra or other states also?

We have given a contribution to one school in Gujarat. This school is for adivasi children. We have

contributed to make a talav to collect rain water. we have contributed to planting trees in Gujarat. It is not restricted only to Maharashtra . In Maharashtra also we have



contributed to one Adivasi District where medical operations were done without continuous availability of electricity. So, we have provided the transformer and a DG set. The company has set some goals. We want to achieve specific targets in the next 5 years. We have received help from KPMG to set up ESG goals..

Q. Sir, Is your family also involved in this?

A- My son has joined me after taking engineering and management training in the U.S. Many new ideas are coming from him also. This generation has many ideas to implement

Q. In the same context I would ask you the last Question about the new generation entering in the contracting business, electricals, consulting engineers etc. They are trying to enter this business with a startup or something. What advice will you give? Many startups have failed.

A-. For the younger generation to enter in business I would like to advice older generation के लगाम छोड़ो. अगर आपको नेक्स्ट जेनरेशन को बिज़नेस में लाना है तो उनको उनकी तरह काम करने देना पड़ेगा. अपने तरह काम करने की आशा न रखिये.

Q. ये तो बिज़नेस के सेकंड जेनेरेशन के लिए आपने कहा. **In general the new comers in this field** जिनको कोई फॅमिली बैकग्राउंड नहीं है, उनके लिए पैसा कमाना इतना ही उनके दिमाग में रहता है. उनको क्या आप एडवाइस देंगे. किस तरह से उन्हें आगे बढ़ना चाहिए. आपका खुदका एक्साम्पल दे सकते हैं.

A-. आपका गोल नकी करो. The way I set my goal to become a contractor. After getting the engg. Degree, I did not accept a job in 2-3 companies where I was getting more salary, but not the field of contracting. I chose a job with a contractor at a much lower salary. This is an example of myself. So, your goal should be very clear. And follow that goal consistently. I had also spent sleepless nights when I was struggling. I continued because of the support of my family. Follow your goals with hard work and ethics. Only then will you be able to achieve your goal.

Q. This year, Ecam will be completing 100 years on the 9 January 2025. One concluding function is going to be held in Mumbai. So I want you to congratulate the members and also give them some ideas for going ahead and taking ahead the association.

A- It is a matter of pride that the association is completing 100 years. It is a big milestone in the life of any association. I congratulate my brother contractors for the achievement while remembering our predecessors' vision and dedication. Going ahead, we all should work in one direction where Ecam can be taken to new heights. Doing the right kind of work, wherever we work. That can only bring us glory, nothing else.

Thank you very much, Kamlesh Ji.



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Recently, itorrent had participated in the EPS exhibition held at Pune. Mr Kaushal Bali, the representative of IECT interacted with Mr Naresh Bishnoi and Mr Sanjay Bishnoi. Both have answered the questions asked by Mr Bali.

- 1. As a participant of EPS Expo here in Pune, what is your expectation?
- A. iTorrent has always been focusing in networking and market opportunities by showcasing Leadership in Earthing and LPS

We expect getting connected to key stakeholders including EPC contractor's, consultants and decision – makers in the electrical and power Sector by Building partnerships that can enhance iTorrent Industries' growth trajectory while exploring Renewable Energy Synergies, Market Insights and Feedback Collections.

Also we expect this would strengthen our Regional Presence and help in Lead Generation & Business Opportunities by creating Brand Credibility and Awareness

- 2. Any new launches here? Or any new business development? Or any new plans? Please explain.
- A. We are proud to announce our recent association and approval by leading renewable energy giants such as TATA Power Renewable and Avaada, adding significant credibility to our portfolio. Through this milestone, we aim to raise awareness among other renewable energy brands and contractors, providing them with confidence in the reliability and quality of our products."
- 3. Are you exporting your products? How is the response in the international market? Do you have any suggestions for government?

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- A. Yes, we have been exporting our materials to countries in Africa, including Kenya and Uganda, where there is a growing demand for bulk manufacturers capable of meeting their expectations. However, the Indian market remains our primary focus, as it represents a vast and dynamic landscape where we strive to meet demand despite the challenges of operating as a standalone vendor. As a proud Indian enterprise, iTorrent Industries prioritizes serving the domestic market first. In the future, we aim to expand further into international markets if the need arises.
- 4. As you know, we are representing electrical contractors. What do you expect from us? How we can co operate each other?
- We believe a strong synergy between iTorrent Industries and electrical contractors can enhance project outcomes while fostering a long-term and mutually beneficial relationship.

At iTorrent Industries, we deeply value collaborations with electrical contractors, as they play a crucial role in ensuring the successful implementation of our solutions by providing expertise and feedbacks. We are committed to offering you robust technical support, training, and product documentation to facilitate smoother project execution and build trust with end clients. We ensure consistent supply and competitive pricing for our partners, helping contractors maintain project timelines and budgets without compromising quality.

5. Are you interested in organising seminars, workshops or factory visits of electrical



- A. We would be delighted to arrange educational sessions focused on the latest innovations currently shaping the market. These sessions will not only benefit both us and the contractors by enhancing our understanding of electrical standards, particularly in the context of earthing systems, but will also ensure everyone stays updated with the most advanced products and solutions available today.
- 6. Please tell us about your hobbies, travelling, art, culture, csr etc.
- A. At iTorrent Industries, we believe in a well-rounded approach to life, balancing work with personal passions and social responsibility.

We enjoy exploring innovative technologies, staying connected with trends in engineering and renewable energy, and fostering creativity in our approach to challenges. Personally, I have a keen interest in art, culture, and traveling, which helps broaden my perspective and inspires innovation in business.

At iTorrent Industries, we are committed to giving back to society. Whether through sustainable practices, supporting local communities, or contributing to education and environmental initiatives, we strive to create a positive impact wherever possible.

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नुकत्याच पुणे शहरात पार पडलेल्या ईपिएस या प्रदर्शनात आयइसिटी मासिकाचे प्रतिनिधी आशिष शिर्के यांनी रेयॉन इल्युमिनेशन्स सोलर सोल्यूशन्स प्रायवेट लिमिटेड, परिचित नाव, रेयॉन सोलर, या कंपनीचे संचालक श्री कपिल टावरी आणि श्री उमेश पाटील यांची भेट घेऊन सविस्तर चर्चा केली. ही कंपनी रिन्युएबल एनर्जी क्षेत्रात काम करत आहे. सौर उर्जा क्षेत्रात सोलर पॅनेल बसविण्याच्या कामात या कंपनीने नाव मिळवले आहे. घरगुती, व्यापारी किंवा औद्योगिक अशा तिन्ही कामात सोलर पॅनेल बसविण्याचे काम ही कंपनी करते. याचबरोबर सौर उर्जा प्रकल्पांचे मेन्टेनन्सही ते करतात.

ईपिएस प्रदर्शनात जी चर्चा झाली त्यतील काही भाग वाचकांच्या माहितीसाठी आम्ही प्रकाशित करत आहोत. श्री. उमेश पाटील श्री. कपिल टावरी रेयॉन इल्युमिनेशन्स सोलर सोल्यूशन्स प्रा. लि.

१. आता इथे ३ दिवस EPS सोलर ही संकल्पना घेऊन प्रदर्शन भरवण्यात आलं आहे. अशा प्रकारच्या एक्सिबिशन मधून तुम्हाला काय expectations आहेत. ?

उत्तर-यातून जे जेनुइन बायर असतात. ज्यांना सोलरची requirement असते असे कस्टमर आम्ही एक्सपेक्ट करतो. आणि आम्हाला पण मार्केट रिच वाढवायला मदत होते. हा असा एक प्लॅटफॉर्म आहे. जिथे विविध लोक एका ठिकाणी भेटू शकतात.

२. काही नवीन प्रॉडक्ट इथे लाँच केलं आहे का?

मुलाखत

उत्तर- इथे आम्ही Topcon चं ५९० वॅट च प्रॉडक्ट होतं ते प्रॉडक्ट लॉच केलं आहे.

३. काही नवीन development नवीन प्रॉडक्ट तुम्ही आणताय का ?

उत्तर- टेक्नॉलॉजि अशी गोष्ट आहे की त्यात continue upgradation होत असतं. Polypanel होत viaficial आले. त्यानंतर आता Topcon आलं. Continue upgrade मध्ये आम्ही स्वतः काम करतच असतो.

४. आता सध्या सोलर ला भारतातच नाही तर overall international market मध्ये सोलर ची Demand आहे. तर international market मध्ये काय एक्स्पोर्ट करता? किंवा त्यात जाण्याची इच्छा?

उत्तर-सध्या भारतातच आमचं खूप चांगलं मार्केट आहे. पण भविष्यात जर अशी संधी आली तर नक्कीच विचार करू

५. सरकारच्या सोलर संबंधी योजनांचा काही फायदा होतो आहे का ?

उत्तर- हो, १००% फायदा होतो. प्रत्येक customer पर्यंत पोचायला सरकारची मदत होते.

६. सरकारला काही suggestions, सल्ले काही त्रुटी असतील

ज्या तुम्हाला face कराव्या लागतायत?

उत्तर-आम्हाला तर नाही म्हणता येणार... पण जे EPC Player आहेत. त्यांच्यासाठी पोर्टल वर जे फास्ट changes करतायत गव्हर्मेंट वाले. त्यावर प्रॉपर अपग्रेडेशन नाही. जे व्हायला पाहिजे ते होत नाही. त्यामुळे EPC Player ना त्रास होतो. त्याकडे लक्ष द्यायला हवं.

७. आम्ही जे represent करतो ती electrical contractor association आहे महाराष्ट्राची. त्याला यावर्षी १०० वर्षे पूर्ण होत आहेत. गेली १०० वर्ष चालणारी electrical contract मधील ही association आहे. आमचे मेंबर्स सगळे license electrical contractor आहेत. तर आमच्याकडून तुम्हाला काय expectations आहेत?

उत्तर- quality work द्या. Chance द्या. तुमच्या सोबत काम करायला आम्ही इच्छुक आहोत. असेच चांगले इव्हेंट करत राहा. नवीन लोकांना संधी मिळतील.

८. आम्ही काही वर्क शॉप, सेमिनार घेतो कंपन्यांसाठी. Exclusively त्यांना एकत्र आणण्यासाठी. अशा प्रकारच्या सेमिनार मध्ये तुम्हाला इंटरेस्ट आहे का?

उत्तर– हो नक्कीच. आम्हाला आमच्या जवळील ज्ञान. माहिती शेअर करायला आवडेल. १२ वर्षांपासून आम्ही गव्हर्मेंटच्या लोकांबरोबर काम करतो आहोत.

९. या सगळ्या business च्या गोष्टी झाल्या rather than business काही अशा सोशल ऍक्टिव्हिटी CSR ऍक्टिव्हिटी करता का?

उत्तर- आम्ही plantation वगैरे करतो. CSR ऍक्टिव्हिटी खूप करतो. आम्हाला ते चांगलं पण वाटतं.





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आज भारत हे एक फार मोठे मार्केट झाले असून या ठिकाणी व्यवसायाच्या अमाप संधी उपलब्ध आहेत



राजेश कुलकर्णी व्यवस्थापकीय संचालक कीट्रॉनिक्स इंडिया प्रा. लि.

कीट्रॉनिक्स इंडिया प्रा लि ही एक नावाजलेली कंपनी असून तिचा झपाट्याने विकास होत आहे. टच इलेक्ट्रिकल स्विचेस हे या कंपनीचे एक महत्वाचे उत्पादन आहे. ३० वर्षांहून अधिक वर्षे या कंपनीचे कार्य चालू आहे. येथील संशोधनांना अनेक पारितोषिके मिळाली असून ग्राहकांचे समाधान हेच या कंपनीचे ध्येय आहे. पुणे येथे नुकतेच इपिएस हे प्रदर्शन झाले त्या प्रदर्शनात कीट्रॉनिक्स इंडियाने भाग घेतला होता. या ठिकाणी आयइसिटीचे श्री राजेशिर्के यांनी कंपनीचे व्यवस्थापकीय संचालक श्री राजेश कुलकर्णी यांना भेटून कंपनीबद्दल व कंपनीच्या उत्पादनांबद्दल माहिती घेतली. या मुलाखतीचा काही भाग आम्ही वाचकांच्या माहितीसाठी येथे प्रकाशित करत आहोत.

• आपले जे आता प्रॉडक्ट आहेत. "Brand of made in kothrud' ती exactly काय कन्सेप्ट आहे.?

उत्तर- हा खूप छान प्रश्न आहे.'made in Kothrud' आम्ही एवढ्या साठी लिहिलं कारण आम्ही जे प्रॉडक्ट बनवतो त्यात इलेक्ट्रिकल स्विचेस, स्मार्ट स्विचेस ज्याला आपण म्हणतो. जे मोबाईल वरून ऑपरेट होतात. दिसायला छान असतात. आणि बरेचसे फीचर्स आहेत. ते चायना वरून इम्पोर्ट होतात. आणि बरेच लोक यामध्ये ट्रेडिंग करतात. After sale service मिळत नसल्याने या प्रॉडक्ट चं नाव मार्केट मध्ये खराब झालं आहे. म्हणून आम्ही असं लिहिलं आहे. 'made in Kothrud' म्हणजे लोकांना विश्वास बसावा की ही कंपनी भारतात, पुण्यात आहे. कॉन्फिडन्स develop व्हावा म्हणून आम्ही असं लिहिलं आहे.

• हे जे प्रदर्शन आहे EPS. हे basically सोलर प्रॉडक्टशी related आहे. तर यातून आपल्याला काय expectation आहेत?

उत्तर- सोलर electric transformers, earthing ह्या सगळ्या गोष्टी power शी related आहेत. त्या व्यक्ती इथे येणं expected आहे. आणि आम्हाला electrician, system integrator यांच्याशी कॉन्टॅक्ट करायचा होता. म्हणून आम्ही हा स्टॉल टाकला.

• एक्स्पोर्ट- इंपोर्ट कुठल्या देशात होतात का?

उत्तर- आमचं जे प्रॉडक्ट आहे. Touch matic जे आम्ही विकतो त्या व्यतिरिक्त आम्ही industrial automation मध्ये सुद्धा भरपूर काम करतो. Smart touch switches हॉटेल्स मध्ये प्रिफर केले जातात. बाहेरच्या देशात आणि भारतात. बाहेरच्या देशात कमीतकमी ३० हॉटेल्स आम्ही system integrate केले आहेत. आणि भारतात ५० हॉटेल्स केली आहेत. हॉटेल्स आणि बंगलो. जी well-furnished घरं असतात त्यात याला प्राधान्य दिले जाते. याची कॉस्ट जास्त नाही. पण मार्केट मध्ये हा ट्रेंड आला नाही. तसं बधितलं तर नॉर्मल पेक्षा जास्त कॉस्ट असते. फीचर्स बधितले तर नॉर्मल पेक्षा यात कोणतेही फीचर्स जास्त मिळत नाहीत. Mechanical switches मध्ये जे मिळतात ते सगळे स्मार्ट मध्ये मिळतात.

• International market चा response कसा आहे?

उत्तर- international market पेक्षा भारतातल्या मार्केटचा response जास्त आहे. कारण भारतात Infrastructure development जास्त आहे हॉटेल्स नवीन उघडली जातायत. अयोध्या, वाराणसी वगैरे ठिकाणी . चायनीज competition जास्त आहे. भारतात genuine manufacture करणारे जसे आम्ही ३१ वर्षे आहोत. असे खूप कमी आहेत. भारताचं मार्केट मोठं आहे.



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• Govt sector policies बद्दल काही suggestions आहेत का? किंवा पॉलिसीजचा त्रास होतो का?

उत्तर-गव्हर्मेंटच्या दोन्ही पॉलिसीज सांगतो ज्या इलेक्ट्रॉनिक्सला बढावा देण्यासाठी त्याचा आम्ही बेनिफिट घेतोय. आमचे इलेक्ट्रॉनिक प्रॉडक्ट आहे. महाराष्ट्र सरकारच्या म्हणण्याप्रमाणे आपण इन्व्हेस्टमेंट केली मग ती कितीही कोटीची असेल ५० कोटी, १० कोटी. सगळी इन्व्हेस्टमेंट १० वर्षात परत

• As electrical contractor association तुमच्या आमच्याकडून काय अपेक्षा आहेत?

उत्तर- Ecam सारख्या संस्थांकडून अशी अपेक्षा आहे की त्यांनी awareness create करावा प्रॉडक्ट च्या बाबतीत. कारण बिजिनेस हा वाढवण्याचा उद्देश असायला हवा. जे इलेकट्रिशिअन आज साधे स्विच विकतायत.



Ofcourse साध्या स्विच ची requirement आहे. ती राहणारच आहे. पण मार्केट मध्ये लोकांना अशा ऍटोमेशन स्विच ची गरज आहे. कारण त्यांना माहिती नाहीये. Basically electrician, architect, contractor यांनीच अभ्यास केला नसेल. त्यांना माहिती नसेल तर ते Recommend करू शकणार नाहीत. त्यामुळे awareness create करण्यासाठी आमच्याकडून काही हवे असेल तर आम्ही मदत करू. पण तुम्ही सुद्धा तुमच्या पद्धतीने नवीन ट्रेंड प्रमाणे लोकांमध्ये awareness निर्माण केला पाहिजे.

• आम्ही Technical seminar, events organise केले

मिळते. आम्ही त्यासाठी अप्लाय केलाय सँक्शन पण झालय. सरकार कडून त्याला खूप प्रोत्साहन आहे. दुसरी गोष्ट अशी की जी चायनीज प्रॉडक्ट लो कॉस्ट मध्ये येतायत कारण त्यांना चायनीज गव्हमेंट ची सबसिडी आहे. त्यावर चांगली ड्युटी लावली पाहिजे २५-३०% तर मार्केट मध्ये जे इंडियन manufacturer आहेत त्यांना प्रोत्साहन मिळेल आणि बिजिनेस वाढवता येईल.

• काही नवीन प्रॉडक्ट सध्या लाँच करताय का?

उत्तर- नवीन प्रॉडक्ट म्हणण्यापेक्षा स्विच मध्ये वेगवेगळ्या प्रकारचे फीचर्स आपण ॲड करतो. आता आम्ही एक असं फिचर ऍड केलय की रात्री आपण अंधारात उठतो तेव्हा बोर्डच्या जवळ गेल्यावर त्याला आम्ही सेन्सर दिलाय. त्यामुळे कोणीही माणूस जवळ आला की त्याला कळतो. आणि सेन्सर मुळे वॉशरूम किंवा कॉरिडॉर मधला लाईट आपोआप लागतो. असे फीचर्स... एलसीडी बेस स्वीचेस आहेत ज्यात पिक्चर टाकू शकतो. काही लिहिलं असेल तर ते टाकू शकतो. वेगवेगळे फीचर्स आम्ही ऍड करत जातो प्रॉडक्ट रेंज सेम राहते. परफॉर्मन्स चांगला होत राहतो. Overall product range same राहते.

तर are you interested?

उत्तर- हो आम्ही येऊ ना... ट्रेनिंग देऊ. आमचा खारीचा वाटा सुद्धा असेल त्यामध्ये.. We are definitely interested. असे सेमिनार all over Maharashtra व्हावे. अशी आमची अपेक्षा आहे. फक्त मुंबई, पुण्यातच नाही तर नागपूर, औरंगाबाद (संभाजी नगर) कोल्हापूर, नाशिक अशा सिटीज मध्ये व्हावा. जेणेकरून आम्हाला आमचं प्रॉडक्ट लोकांपुढे ठेवता येईल.

• काही social activities छंद?

उत्तर - कंपनी socially active आहे. आमच्याकडे पावणे दोनशे लोक आहेत. त्यामुळे आम्ही त्यांच्यासाठी किंवा त्यांच्या कुटुंबासाठी खूप गोष्टी करत असतो. Environment awareness साठी खूप गोष्टी करत असतो. जस की सोलर पॅनेल्स लावून एनर्जी develop केलीय. फळाच्या सालापासून खत तयार करतो. Water harvesting करतो. त्या व्यतिरिक्त आमच्याकडे एक पायंडा आहे की आम्ही दर महिन्याला guest lecturer बोलवून कुठल्या ना कुठल्या सोशल विषयावर जनजागृती करून मुलांना मार्गदर्शन करतो.





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Govt looks at setting up refuelling stations along southern coast for green ships



These centres could provide green ammonia and green methanol to the ships as per their requirement.

New Delhi: The Union government is considering setting up green hydrogen refueling stations for green ships along the southern coast of India to cater to vessels on the Indian Ocean, said Abhay Bhakre, mission director for the National Green Hydrogen Mission, said on Thursday.

Speaking at a conference on green hydrogen organized by The Energy And Resources Institute (Teri), Bhakre said that such centres would provide green ammonia and green methanol, both derivatives of green hydrogen, to the ships as per their requirement. Green ammonia is produced using green hydrogen and nitrogen, while green methanol is produced by combining green hydrogen and captured carbon dioxide.

"We are even trying if we can refuel the ships which are passing through southern part of India. We can put the green ammonia or green methanol depending on their requirement...If they are passing through the Indian Ocean, India can refuel them," he said, adding that the government is in discussions with vessel companies to retrofit and convert their ships to green ships which would run on these cleaner fuels.

He said that five ships have already been converted, while there is an order for converting a total of 50 ships and another 200 may be converted going ahead.

Use of biomass

The official also noted that there is a consideration that in the case of green hydrogen refueling stations on highways, priority should be given to using green hydrogen produced through biomass.

"We are planning many fuel stations and definitely there are proposals that when we are putting stations along highways, let's use biomass," he said.

The report released by Teri during the programme noted that globally the use of green hydrogen directly or through green ammonia or green methanol for shipping is being tried out and India could do the same on a modest scale to begin with.

"Kerala could set a target date when all vessels being used for tourism would be carbon free. This would enhance the brand value of Kerala tourism. This can be done by the state facilitating the transition without any financial burden as the higher cost would be passed on to the tourists. Then some coastal green shipping pilot projects can be implemented in a similar manner," it said.

In February, the Union ministry of new and renewable energy rolled out guidelines for undertaking pilot projects for using green hydrogen in the shipping sector under the National Green Hydrogen Mission. The mission was launched on 4 January 2023, with an outlay of ₹19,744 crore up to FY30.



Cable Glands, Cable Terminals & Accessories







Concentrated solar power, a much cheaper solution than batteries for energy storage



By offering cheap energy storage, concentrating solar power has a huge potential. However, it requires international standards to become a competitive market proposition.

Solar thermal energy, otherwise called concentrating solar power (CSP), is a renewable energy that uses the heat of the sun collected by various types of focusing mirrors. The energy from the concentrated sunlight heats a high-temperature fluid in a receiver, goes to a heat exchanger and finally drives a steam or gas turbine to produce electricity.

A very promising renewable energy in the noughties, the market for CSP has however failed to really take off in recent years, and while several plants are being built around the world, most notably in China, prices have not come down sufficiently to make it economically viable. Building and maintaining concentrating solar collector fields in harsh, often desertic conditions is too often more expensive than other forms of renewable energy like solar photovoltaic (PV) energy and wind.

Storing energy cheaply

"The competition from solar PV has taken market

share away from the more complex solar thermal technology, because the prices of solar panels have come down so much over the last 15 years and they are so easy to install, literally plug and play. Solar thermal however has an important advantage over solar PV: cheap energy storage," explains Eckhard Lüpfert, the Chair of IEC TC 117, the _IEC committeewhich prepares standards for solar thermal electric plants.

The typical thermal storage systems consist of insulated storage vessels filled with hot molten salt, with pumps and heat exchangers. According to Lüpfert, the price of thermal storage is much cheaper than lithium-ion batteries, which are currently one of the most used forms of energy storage. "The performance of batteries is improving but thermal energy storage has an important edge and is still about a hundred times less expensive," he states.

An article published in Science Direct stresses that "in areas with a high solar resource, CSP can play a crucial role, thus, significant advances are being made to increase its competitiveness through the improvement of the energy storage systems integrated with CSP". The paper highlights the potential of CSP thermal energy



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storage to stabilize the grid by "being able to generate power during hours of high demand (high price periods, morning and evening), and to store energy efficiently, when electricity demand is low, but renewable energy is available in excess (low price periods, midday)". The idea is for CSP to combine with other renewables such as solar PV and to provide grid-scale energy storage. (To find out more about the different storage systems and technologies used in CSP, read here.)

CSP for industrial process heat

Another selling point for CSP is its use in industries relying on a large amount of energy for heating processes, generally described as industrial process heat. This includes petroleum refining, chemical production, iron and steel, cement, and the food and beverage industries.

To make cement for instance, raw materials such as limestone and clay are ground to a fine powder, which is then heated to a temperature of 1 450 °C in a cement kiln. The heating process relies on energy from fossil fuels, which are huge carbon emitters. Pressure is mounting from all corners for it to decarbonize. While some research is focusing on materials that will require less heating, the concentrated sunlight used to heat transfer fluids in CSP can be employed to provide the high temperatures needed.

CSP can also be used for solar-made fuels, which are drawing increasing interest. (To find out more about this application, read: Understanding solar-made fuels | IEC e-tech).

The absolute need for standards

IEC TC 117 published its first standards in 2017 and has developed key benchmarks for the industry over the last years, all of which are crucial to stabilize the quality of components and installations and to help bring costs down of the various CSP technologies, making them more competitive. Standards also ensure the safety and reliability of CSP systems used around the world. "A CSP plant is not only an electrical installation, it's almost a chemicals process plant. It deals with hazardous materials, such as organic fluids, which are heated at very high temperatures. Ensuring the safety of workers and the plant's surrounding environment is therefore of paramount importance and one of the key focuses for our standards," Lüpfert describes. Looking towards the future, another area standards will be required for is precisely linked to the use of CSP for niche applications, such as industrial process heat. According to Lüpfert, "We can apply the learnings and achievements of STE plants and apply them to process heat industrial applications. We need to broaden the applications of TC 117 Standards. It is often a matter of scaling down what we have already achieved in terms of performance and reliability."

One of the main challenges in the coming years will be to attract the right kind of experts to take part in standardization work. "We have many scientists and researchers, but we need more people who are involved on the ground and experts from industry," Lüpfert indicates.

But there is hope too. "Since COVID, we have changed our ways of working, and meeting online has been a blessing. Thanks to online tools, we have started to attract people who are better qualified for the work we need, notably from the industrial sector. We also use forums like SolarPACES, a technology collaboration platform which enables us to discuss pressing issues relating to CSP, before having the formal constraints of standardization," he says.

As the race to meet zero carbon emission targets accelerates, concentrating solar power technologies can play an important part in ensuring we get there, with the help of IEC International Standards.

Author: Catherine Bischofberger

The International Electrotechnical Commission (IEC) is a global, not-for-profit membership organization that brings together 174 countries and coordinates the work of 30.000 experts globally. IEC International Standards and conformity assessment underpin international trade in electrical and electronic goods. They facilitate electricity access and verify the safety, performance and interoperability of electric and electronic devices and systems, including for example, consumer devices such as mobile phones or refrigerators, office and medical equipment, information technology, electricity generation, and much more.





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Ministry of Coal Launches Mine Opening Permission Module on SWCS Portal



The Ministry of Coal has launched the Mine Opening Permission module on the SWCS portal to streamline and speed up the approval process for opening coal mines. Inaugurated on November 7, 2024, the digital system reduces paperwork, enhances transparency, and promotes efficiency.

The Ministry of Coal has launched the Mine Opening Permission module on the Single **Window Clearance System (SWCS) portal**, enhancing the approval process for opening coal mines. Inaugurated by **Secretary Vikram Dev Dutt** on November 7, 2024, this digital initiative aligns with Prime Minister Narendra Modi's vision of a **"Viksit Bharat"** and a digitally enabled economy. The module aims to simplify and expedite the clearance process, supporting India's energy security and self-reliance goals. By reducing manual paperwork, it fosters an investment-friendly environment and aims to increase coal production.

Key Features of the New Module

Digital Transformation: The Mine Opening Permission module facilitates online applications and real-time tracking, reducing paperwork and processing time.

Increased Transparency: The system enhances efficiency and transparency, contributing to a more streamlined approval process.

Boosting Investment: By simplifying the clearance process, the module encourages investment and faster

approvals in the coal sector.

Significance in India's Energy Sector

Strengthening Energy Security: This initiative supports faster coal mine openings, contributing to enhanced coal production and energy security.

Supporting Sustainability: The move aligns with the nation's vision of sustainable development by enabling quicker mine operationalization while ensuring environmental standards.

Linking the Past and Present

The launch of this module marks a continuation of the government's commitment to modernizing the coal sector. Since the **launch of the SWCS in January 2021**, digital solutions have been playing a critical role in enhancing the ease of doing business in the coal industry. This new module builds on that momentum, aiming for accelerated growth in coal production, contributing to India's overall energy goals.

SWCS (Single Window Clearance System) Portal

Launch Date: January 11, 2021.

Objective: Simplifies the process of obtaining all necessary clearances and approvals required to operationalize coal mines.

Key Feature: Provides a unified platform for applications related to coal mining projects.

Mine Opening Permission Module: Introduced on November 7, 2024, to accelerate and streamline the approval process for opening coal mines.

Digital Solutions: Reduces manual paperwork, improves transparency, and enhances efficiency.

Real-Time Tracking: Allows applicants to track the status of their applications.

Investment-Friendly: Aims to create a more conducive environment for faster approvals and increased coal sector investment.



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Ministry of Coal Reviews Status of 127 Captive/Commercial Coal Blocks

Coal Production Soars by 33% as Ministry Charts Path to Energy Security



In a significant stride towards strengthening India's energy security and advancing the vision of Viksit Bharat, the Ministry of Coal conducted a comprehensive review of 127 coal blocks on 13th and 14th November 2024. The review meeting was chaired by Additional Secretary and Nominated Authority, Smt. Rupinder Brar. The review encompassed 64 producing coal blocks and 63 nonoperational captive/commercial coal blocks which are in advanced stages of operationalization, spanning Arunachal Pradesh, Assam, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, and West Bengal.

The review of 64 producing blocks showcased remarkable progress in India's journey towards Atmanirbhar Bharat in the energy sector. These blocks achieved an impressive production of 100.08 MT as of November 8th, 2024, marking a substantial 33.35% increase from the previous year. Demonstrating robust operational efficiency, the total dispatch reached 107.81 MT, recording a significant 34.38% yearon-year growth. This achievement underscores India's growing capability in managing its domestic coal resources efficiently, with 55 blocks already in production, one block commencing operations this year, and nine more poised to begin production in FY 2024-25.

During the crucial meeting, special emphasis was placed on strengthening the First Mile Connectivity, production optimization, and

transportation infrastructure, aligning with the government's vision of modernizing the mining sector. Additional Secretary and Nominated Authority urged state government officials and allottees to accelerate the operationalization process, emphasizing its critical role in India's energy security framework.

The Ministry of Coal, as a key driver of India's energy independence, remains steadfast in its commitment to ensuring reliable coal supply. This commitment is fundamental to powering India's ambitious journey towards becoming a developed nation by 2047, as envisioned in the Viksit Bharat. Through strategic planning and efficient execution, the Ministry continues to strengthen India's energy backbone, fostering sustainable economic growth and reinforcing the nation's path towards self-reliance in the energy sector.



Top 10 energy storage companies in India

- Exide
- Amara Raja Group
- Ampere Hour Energy
- Baud Resources
- Nunam L Luminous
- Rays Power Infra
- Statcon Energiaa
- Vyomaa Energy
- Adiabatic Technologies

Conclusion

India's energy storage market is growing rapidly, as of March 2024, the cumulative installed capacity reached 111.7MW/219.1MWh, of which photovoltaic energy storage projects accounted for 90.6%. 40MW/120MWh added in the first quarter of 2024. In order to promote large-scale energy storage projects, the Indian government plans to achieve 32GW/160GWh of energy storage demand by 2030, and install 1.6GW of independent battery storage systems and 9.7GW of renewable energy projects by 2027.

The global energy storage market is also expanding, reaching a market value of \$31.47 billion in 2023 and is expected to grow to \$120-150 billion by 2030. Although India's market size is relatively small, its rapid growth and government support give it an important position in the global energy market.

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Union Minister of Coal & Mines Shri G. Kishan Reddy Inaugurates Coal India Limited Stall at India International Trade Fair 2024



Union Minister of Coal and Mines, Shri G. Kishan Reddy, inaugurated the Coal India Limited (CIL) pavilion today at the India International Trade Fair (IITF) 2024, being held at Pragati Maidan, New Delhi. The event was graced by Secretary, Ministry of Coal Shri Vikram Dev Dutt, and Secretary, Ministry of Mines Shri VL Kantha Rao, along with senior officers. This event highlights India's progress in energy security, innovative mining, and sustainable practices, drawing attention from both national and international visitors.

The CIL Pavilion proudly showcased the newly launched Golden Jubilee logo and mascot "Angara," inspired by the Royal Bengal Tiger. The logo underscores CIL's role as the backbone of India's energy sector, symbolizing innovation and sustainability, while the mascot represents the strength and resilience of India's coal miners.

A significant part of the pavilion highlighted the Ministry of Coal's coal gasification initiative, which has received strong enthusiastic responses across sectors. This initiative is anticipated to create jobs, drive economic growth, and reduce carbon emissions. The Ministry of Coal's Financial Incentive Scheme for coal gasification projects saw an enthusiastic response and robust participation from industry players, indicating growing confidence in the potential of coal gasification as a key enabler of India's transition towards clean coal. With five submissions including three in Category I (Government Public Sector Undertakings or Joint Ventures of PSUs) and two in Category III (Demonstration Projects/Small-Scale Plants) marks an important step toward a low-carbon, diversified coal sector.

CIL's strategic initiatives to acquire critical minerals

such as lithium and cobalt, both domestically and internationally, were also featured. This approach aims to reduce India's import dependency on these vital resources, supporting the growth of various industries reliant on such minerals.

The interactive PM Gati Shakti display provided insights into CIL's integration with GIS-based data along with the mapping of major mines on the PM Gati Shakti Portal. This interface, focused on CIL's assets such as land and mining operations, and enables a cohesive, multidepartmental overview essential for planning largescale, strategic projects under the National Master Plan. The PM Gati Shakti Portal plays a crucial role in facilitating interdepartmental and inter-ministerial coordination, offering an integrated approach for project planning, monitoring, and asset management that enhances transparency and efficiency.

The CIL pavilion featured a detailed showcase of the Enterprise Resource Planning (ERP) system, structured around its seven essential modules: Production & Planning, Materials Management, Finance & Costing, Project System, Human Capital Management, Plant Maintenance, and Sales & Distribution. This display highlighted the ERP system's role as the core repository



for real-time data and integrated reporting across all business functions. The integration of the Hospital Management System (HMS) across 21 hospitals was also presented, illustrating how it enhances patient care from registration to discharge for employees, families, CSR beneficiaries, and external visitors.

The CMSMS and its associated mobile app, Khanan Prahari, launched by the Ministry of Coal, were also

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showcased as effective tools for combating unauthorized mining. The CMSMS platform allows users to report illegal mining activities, track complaints, and monitor outcomes. By enhancing safety and regulatory enforcement, CMSMS serves as an invaluable tool in ensuring the responsible utilization of coal resources.

During the inauguration, the Minister lauded CIL's role in meeting the nation's energy demands while prioritizing sustainability. As the world is largest coal

producer, CIL is committed to adopting innovative, eco-friendly mining techniques, aligning with India's green energy goals. The display also featured CSR initiatives,

including 'Jyoti'—a program for women empowerment and the 'all-women rescue team.' CIL's renewable energy projects and digital exhibits of high-efficiency mining technologies were also highlighted. He also praised CIL's contribution to socio-economic development, particularly through employment generation, rural support, and regional growth in coal-rich areas.

The CIL stall at IITF 2024 offers visitors an interactive experience with experts, highlighting CIL's positive impact on India's economy and environment.

The India International Trade Fair serves as a valuable platform for CIL to engage with stakeholders, industry partners, and the public, promoting transparency and awareness of its role in nation building. The Ministry of Coal and CIL remain committed to ensuring energy security and advancing India's journey towards sustainable, self-reliant growth.



Thermal coal imports plunge by 31% in Oct on slow power generation

India's imports of thermal coal plunged by about a third on an annual basis in October, according to data analytics firms Bigmint and Kpler, due to slowing power generation and higher clean energy output.

Shipments into the world's second-largest coal importer plunged 31.8 per cent to 13.56 million metric tons, Bigmint data showed.

This was the fastest rate of contraction in fifteen months, and the first consecutive decline since July 2023.

Traders expect Indian purchases to pick up in the coming weeks, but that will not be enough to lift total annual imports above 2023 levels as shipments are expected to fall in the last two months of 2024 due to high inventories at ports.

"Despite low industrial activity, traders have bought a high amount of coal into India," said Vasudev Pamnani, director at Indian coal trading firm I-energy Natural Resources Ltd, adding that thermal coal imports for the year 2024 are expected to be flat at about 176 million tonnes. Indian shipments of the fuel used mainly for power generation have been tracking the trajectory of growth in shipments by top importer China over the last year, shoring up international prices.

The decline in Indian imports in October was the first major divergence between imports by India and China since mid 2023.

China's imports of thermal and metallurgical coal rose 29 per cent in October - mainly due to higher thermal coal imports - putting shipments of the fuel on track to reach another record high in 2024.

While price-sensitive Indian buyers have shown a preference for cheaper domestic coal in recent months, analysts say imported coal has a price advantage over the domestic variety in China.

Lower hydropower generation in China has also led to a higher dependence on coal in September, while higher hydro and solar power generation have reduced reliance on coal in India, data on Indian and Chinese government websites showed.





PFCCL transfers two subsidiaries to Powergrid

PFC Consulting Limited (PFCCL), wholly owned subsidiary of Power Finance Corporation Limited, has transferred its two wholly owned subsidiaries to Power Grid Corporation of India Limited (Powergrid).

The subsidiaries, Khavda PSI and 3 Transmission Limited for Rs 79.2 million and Barmer I Transmission Limited for Rs 189 million, were established for the development of transmission systems in specific renewable energy zones in Rajasthan.

Tata Power signs a SPA to acquire Paradeep Transmission Limited for Rs 186.4 million.

Tata Power Limited has signed a share purchase agreement (SPA) to acquire a 100 percent equity stake in Paradeep Transmission Limited, a special purpose vehicle (SPV) as a build, own, and operate a transmission service for Rs 186.4 million.

India shaping up as refining hub, to rely on fossil fuels until 2040, oil minister says

India, the world's No.3 oil importer and consumer, is expected to rely on fossil fuels until at least 2040 and is positioning itself as a refining hub, Oil Minister Hardeep Singh Puri told Reuters on Tuesday.

While global refining centers are downsizing as energy transition progresses at an unpredictable pace, India's rising daily crude utilization means it will rely on fossil fuels until at least 2040, Puri said at the sidelines of a refining conference in Bengaluru. "Our existing refineries will increase in terms of capacity and they will also become regional hubs in terms of providing to other countries," Puri said. India, the world's thirdlargest emitter of greenhouse gases, has pledged to achieve a net zero carbon emission target by 2070. It has a target of 500 gigawatts (GW) of renewable energy by 2030. Puri reiterated that India is looking to scale its refining capacity by 81% to as much as 450 metric tonne per annum (mtpa), from about 249 mtpa, or about 5 million barrels per day (bpd), currently. He did not provide a timeline

Sterlite Power secures orders worth Rs 12 billion in second quarter of 2024-25

NEWS

Sterlite Power has secured new orders worth Rs 12 billion across its global products and services (GPS) business in second quarter of 2024-25.

The GPS business of Sterlite Power is focused on high-performance, sustainable products, and specialised engineering, procurement, and construction services.

Saatvik Solar to supply 200MW of advanced solar PV modules to G2H solar

Saatvik Solar has signed a contract with G2H Solar to supply 200 MW of high-efficiency solar photovoltaic (PV) modules for projects across India.

The modules, featuring the advanced 'mono perc bifacial half cut' design with a power rating of 540/550Wp, will be delivered over a 12-month period starting in January 2025.

Nooter/Eriksen Milan awarded major supply contract for 3.6GW Taiba-2, Qassim-2 Power Plants

Nooter/Eriksen Milan, Italy announced in a statement that it has awarded major multi-million-dollar contract in the Kingdom of Saudi Arabia. The project includes the engineering and supply of six HRSGs downstream of HLclass gas turbines, to be installed at the 1,800 MW Taiba2 and 1,800 MW Qassim2 power plants. Once fully operational in 2027, these will be the first power plants in the Kingdom designed with provisions for carbon capture technology, marking a significant step forward in sustainable energy production. The company stated that, we are honored to help shape a cleaner, more sustainable energy future for the Kingdom in line with Vision 2030 and the Saudi Green Initiative. Together with our customer, we're powering a legacy of innovation and sustainability for generations to come.



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NEWS



Under Rs 150 : Transformers Manufacturer Secures Exclusive Technology Partnership to Manufacture Medium Voltage Meters and Sensors for Global Markets

The company's shares have delivered an impressive return of over 170 per cent to its shareholders.

This Small-Cap company engaged in manufacturing electrical equipment, including switchboards, transformers, and vacuum contactors for institutions, industries, and utilities.

Akanksha Power and Infrastructure Ltd announced an exclusive technology collaboration for the manufacturing of medium voltage direct measurement meters and sensors up to 33 kV, as well as controllers for actuatorbased vacuum circuit breakers and vacuum contactors. These products will be manufactured in India under the "Make in India" initiative, in collaboration with Radio and Microelectronics Trading House (JSC "RiM TD"), and will be marketed across Asia, Africa, and Europe.

Today, the shares of Akanksha Power and Infrastructure Ltd were closed the day in green at around Rs 149.30 per share on the NSE. The company's current market capitalization stands at Rs 276.48 crore. Additionally, the shares have delivered a multibagger return of over 170 per cent compared to the final IPO price of Rs 55.

Schneider Electric introduces portable solar power station

The OffGrid portable power station provides power for outdoor adventures as well as in hurricane-ravaged areas.

The OffGrid portable power station from Schneider Electric can be charged by plugging it into an electrical outlet or by the sun with one of the optional solar panels.

It comes in three models, ranging from 300 W to 700 W and battery capacity from 332 Wh to 726 Wh. The models range in weight from 3.3 kg to 6.3 kg.

The 500 W and 700 W models offer AC input; all three offer DC input with a 7909 connector. Output includes USB-A, USB-C and car cigarette lighter. All three are capable of wireless charging up to 15 W.

The OffGrid Solar Panel is optional and comes in 100 W or 200 W models and features a solar conversion efficiency of 23%, the company reports.

Schneider Electric indicates that the LG lithium-ion battery is capable of over 500 cycles with 80% capacity. The power station ranges in price from \$319 to \$650 and comes with a 24-month warranty for parts and labor.

The OffGrid has been put to the test during Hurricane Helene relief efforts through Schneider Electric's donation of 200 units made to the Footprint Project. The non-profit organization sends help in the form of off-grid power to areas affected by climate disasters.



Rs 230,00,00,000 Project : Micro-Cap Company Leads Consortium to Establish India's First Green Hydrogen-Powered DRI Plant

Simplex Castings Limited, in partnership with a consortium of esteemed organizations, is spearheading a revolutionary initiative to establish India's first green hydrogen-powered Direct Reduced Iron (DRI) plant. This groundbreaking project, with a production capacity of 40 tons per day, aligns with the nation's ambitious National Green Hydrogen Mission and the sustainability goals of the Ministry of Steel (MoS) and the Ministry of New and Renewable Energy (MNRE).

The consortium, comprising Simplex Castings, BSBK Pvt Ltd, Ten Eighty Investment, and IIT Bhilai, will leverage state-of-the-art vertical shaft technology to transform the traditional steelmaking process. By substituting carbon-intensive fuels with green hydrogen as the primary reducing agent, this innovative approach will significantly reduce carbon emissions, producing only water as a byproduct. The project, estimated to cost Rs 230 crore, has secured substantial government support of approximately Rs 161 crore (70 per cent of the funding). This significant financial backing underscores India's commitment to promoting green hydrogen technology as a cornerstone of sustainable industrial growth.

Beyond its environmental benefits, this project is poised to drive economic growth by creating jobs and strengthening local supply chains. As India advances its green economy, this pilot plant will serve as a scalable model for clean, sustainable steel production, setting a new benchmark for the industry. By embracing green hydrogen technology, Simplex Castings and its consortium partners are not only contributing to a cleaner and greener future but also reinforcing India's position as a global leader in sustainable industrial practices.









Cybersecurity in the Power Sector : A Critical Need for Resilience



The power sector, often referred to as the backbone of modern economies, faces an increasing range of cyber threats. From utilities generating and distributing electricity to the critical infrastructure that supports them, the sector is increasingly reliant on digital technologies. This digital transformation, while offering numerous

benefits in terms of efficiency, automation, and smart grid capabilities, also opens new avenues for cyberattacks that could disrupt operations, compromise sensitive data, and even endanger public safety. Therefore, cybersecurity in the power sector has become a top priority for governments, energy companies, and regulators worldwide.

The Growing Threat Landscape The power industry is an attractive target for cybercriminals and statesponsored actors due to its critical importance to national security, economic stability, and daily life. Over the past decade, there have been several high-profile cyberattacks on the energy sector. These attacks can range from ransomware attacks on utilities to sophisticated attacks on power grids aimed at causing widespread blackouts. Notable incidents include:

Stuxnet (2010): Although not directly targeting the power sector, the Stuxnet virus, which attacked Iran's nuclear centrifuges, demonstrated how malware could cause physical damage to critical infrastructure, including electrical systems.

Ukraine Power Grid Attack (2015 and 2016): Cyberattacks targeted the Ukrainian power grid, leading to widespread power outages and highlighting the vulnerability of the sector to sophisticated, statesponsored cyberattacks.

Ransomware Attacks (2020-2021): Several high-

profile ransomware attacks targeted US and European utilities, demanding payment for the release of critical operational data or systems.

These incidents underscore the potential for cyberattacks to disrupt power supply, steal sensitive information, or even damage physical infrastructure. As the threat landscape evolves, so too must the strategies to defend critical power infrastructure.

Key Cybersecurity Challenges in the Power Sector

Complex and Legacy Infrastructure: Much of the power sector's infrastructure—particularly in older or developing regions—relies on legacy control systems, many of which were not originally designed with cybersecurity in mind. These legacy systems, often referred to as Industrial Control Systems (ICS) or Supervisory Control and Data Acquisition (SCADA) systems, can be difficult to update or patch, leaving them vulnerable to cyberattacks.

Interconnected Systems: The increasing use of smart grids, sensors, and connected devices has introduced more points of vulnerability. While these technologies improve grid reliability and efficiency, they also create more entry points for potential cyber threats. A compromise of a single device could have cascading effects throughout the grid.

Supply Chain Vulnerabilities: As the energy sector relies on an extensive network of suppliers for equipment and software, cyber vulnerabilities in the supply chain have become a significant concern. Malicious actors may exploit weaknesses in third-party software or hardware that energy companies use to gain access to critical systems.

Operational Technology (OT) and Information Technology (IT) Convergence: The growing integration



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of IT systems (used for business operations) and OT systems (used for controlling physical processes) has created new challenges for cybersecurity. The convergence of these two domains can lead to misconfigurations, weak access controls, and increased opportunities for cyberattacks.

Insider Threats: Employees, contractors, or other insiders with access to critical systems can pose a significant threat, either maliciously or unintentionally. Poor cybersecurity practices, such as weak passwords or failure to update security protocols, can lead to vulnerabilities that insiders may exploit.

Lack of Standardization: While the importance of cybersecurity is widely recognized, there is still a lack of uniformity in cybersecurity standards across the power sector. Different countries, companies, and sectors may have different approaches, making it challenging to coordinate efforts and implement comprehensive cybersecurity measures.

Key Areas for Cybersecurity Improvement

Risk-Based Cybersecurity Frameworks: The implementation of risk-based cybersecurity frameworks, such as the NIST Cybersecurity Framework or the ISO/IEC 27001, is crucial for identifying, managing, and mitigating cybersecurity risks in the power sector. These frameworks provide a structured approach to securing critical infrastructure while ensuring compliance with regulatory requirements.

Regular Patching and System Updates: Regular patching of software, firmware, and operating systems is one of the most basic yet crucial steps in preventing cyberattacks. Power sector companies must ensure that both their IT and OT systems are up-to-date with the latest security patches and software updates.

Advanced Threat Detection and Response: The deployment of Security Information and Event Management (SIEM) systems and Intrusion Detection Systems (IDS) can help power sector companies detect anomalies and potential security breaches early. Artificial intelligence and machine learning-based tools can also improve threat detection by identifying unusual patterns and behaviors across networks.

Employee Training and Awareness: Cybersecurity is not just about technology—it's about people. Regular training programs for employees, contractors, and other stakeholders can significantly reduce the risk of human error, which is often the weakest link in a security chain. This includes training on phishing attacks, password anagement, and safe internet practices.

Network Segmentation: Segregating critical infrastructure systems from non-critical systems can limit the damage caused by a potential breach. For example, separating OT networks from IT networks reduces the risk of a cyberattack spreading across both domains.

Incident Response Planning: A welldefined and regularly tested incident response plan is essential for minimizing the impact of a cyberattack. The ability to quickly identify, contain, and recover from an attack can make the difference between a minor disruption and a major crisis. This includes establishing clear communication protocols with stakeholders, regulators, and law enforcement.

Collaboration with Government and Industry Groups : Cybersecurity in the power sector is a collective responsibility. Collaboration with government agencies, industry bodies, and other energy companies can help share threat intelligence, best practices, and develop a unified response to emerging threats. Public-private partnerships are crucial for strengthening national cybersecurity resilience.

Zero Trust Architecture : Adopting a Zero Trust security model, where no user or device is trusted by default, can further reduce the risk of unauthorized access. This requires continuous verification of user identities, device health, and system integrity before granting access to critical resources.

The Future of Cybersecurity in the Power Sector

The future of cybersecurity in the power sector will likely involve a combination of technological advancements, regulatory enforcement, and cultural shifts toward a more proactive approach to security. With the increasing adoption of renewable energy sources, decentralized grids, and the integration of smart cities, new cybersecurity challenges will arise that require innovative solutions.

Moreover, as the threat landscape continues to evolve, power sector companies must remain agile, continually adapting their strategies to counter emerging threats. Embracing a cybersecurity-first culture will be essential for ensuring that the energy infrastructure of the future remains secure, resilient, and capable of withstanding a new era of digital threats.

Conclusion

Cybersecurity in the power sector is not just about protecting information; it's about safeguarding the critical systems that power modern societies. With the rising frequency and sophistication of cyberattacks, the power sector must prioritize robust cybersecurity strategies to protect against these evolving threats. By addressing the unique challenges of the sector and embracing a collaborative, proactive approach, energy companies can ensure the continued safe and reliable delivery of power in the face of an increasingly digital and interconnected world.







The Role of Lighting and Technology in Modern Spaces



Lighting is more than just a functional aspect of our environment; it plays a pivotal role in shaping the atmosphere, influencing mood, and supporting various activities. With advancements in technology, lighting has evolved beyond simple illumination to become an integral component of design, efficiency, and sustainability. From smart lighting systems to innovative materials and energy-efficient solutions, the role of lighting and technology in modern spaces is profound and multifaceted.

1. Lighting and Its Psychological Impact

Lighting directly affects how we perceive spaces and how we feel within them. The brightness, color, and placement of light can influence emotions, productivity, and overall well-being. Studies have shown that:

Natural light is linked to higher levels of happiness and productivity. Exposure to natural daylight helps regulate our circadian rhythms, which in turn improve sleep, energy levels, and mood. Warm lighting (e.g., yellow or amber tones) is often associated with relaxation and comfort, making it ideal for homes and hospitality settings. Cool lighting (blue or white tones) is known to enhance focus and alertness, making it ideal for workspaces, hospitals, and educational environments.

Technologies like circadian lighting systems, which adjust the light's intensity and color temperature throughout the day to mimic natural daylight, are becoming popular in workplaces and homes. These systems promote better sleep patterns, reduce eye strain, and increase overall productivity. 2. Smart Lighting: The Intersection of Convenience and Control

Smart lighting technology has revolutionized how we interact with light in our homes, offices, and public spaces. With the advent of smart bulbs and lighting systems, users now have the ability to control brightness, color, and even timing remotely through mobile apps or voice commands.

Key features of smart lighting include:

Remote control: Adjusting lighting from anywhere via smartphones or home automation systems like Amazon Alexa, Google Assistant, or Apple Home Kit. Energy efficiency: Smart bulbs, often using LED



technology, consume significantly less energy than traditional incandescent bulbs, resulting in lower electricity bills. Scheduling and automation: Users can set up schedules to turn lights on or off at certain times, or integrate with other smart home devices like security cameras or thermostats for automated scenarios. Mood settings: Many smart lighting systems allow users to select from pre-programmed "mood" settings, such as "relax," "party," or "reading" modes, which adjust the color temperature and brightness to suit the activity.

The growing trend of connected homes has made smart lighting a vital part of home automation, giving people control over every aspect of their environment.

3. Energy-Efficient Lighting: Sustainability and Environmental Impact

As concerns about climate change and energy consumption grow, energy-efficient lighting technologies have become a cornerstone of sustainable building practices.



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LED lighting: Light Emitting Diodes (LEDs) are one of the most energy-efficient lighting options available today. They use up to 85% less energy than traditional incandescent bulbs and last up to 25 times longer. The widespread adoption of LEDs has helped reduce global energy consumption, significantly cutting down carbon emissions.

Solar-powered lighting: Solar lighting systems, which harness energy from the sun, are gaining popularity in outdoor applications. Solar-powered streetlights, garden lights, and even mmercial outdoor lighting systems help reduce dependence on grid electricity and provide a sustainable lighting solution in off-grid locations.

Dimmable and motion-sensor lighting: Dimming systems and motion-sensor technology help further reduce energy consumption by adjusting lighting based on occupancy. In spaces like offices or public buildings, lights automatically turn off when no movement is detected, saving energy without sacrificing safety or functionality.

4. Innovations in Lighting Design and Architecture

Lighting technology has also greatly impacted architectural design, creating new possibilities for how spaces are illuminated.

OLED (Organic Light Emitting Diodes): OLEDs are thin, flexible panels that can be integrated into walls, ceilings, or even furniture to provide soft, uniform light. Because OLEDs are ultra-thin and can be bent or



shaped, they allow architects and designers to create lighting features that were previously unimaginable.



LED strips: Flexible LED strips are now being used in a variety of design applications, from accent lighting in residential spaces to large-scale installations in commercial buildings. These strips can be cut and shaped to fit any space, providing endless possibilities for lighting design.

5. Lighting in Public and Commercial Spaces

Lighting technology plays a crucial role in shaping the experiences of people in public and commercial



spaces. The right lighting can enhance customer experience, increase sales, and create memorable brand identities.

Retail environments: In retail, lighting is used not only to highlight products but also to influence onsumer behavior. Studies have shown that brighter, warmer lighting can increase the time customers spend in a store and encourage more purchases. Smart lighting systems that adjust throughout the day can help create the ideal ambiance for different times or events.

Theatrical and performance lighting: In the entertainment industry, advancements in lighting technology have made it possible to create dramatic visual effects that enhance performances. LED stage lighting offers a combination of color-changing capabilities, energy efficiency, and long life, making it



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Healthcare environments: In hospitals and healthcare settings, lighting technology can aid in the healing process. Biophilic lighting (which mimics natural light) is being used in patient rooms, waiting areas, and other spaces to reduce stress and improve recovery outcomes. Proper lighting can also help patients maintain healthy sleep cycles, particularly in intensive care units or long-term care facilities.

6. The Future of Lighting: The Role of Artificial Intelligence and Automation Looking ahead, the future of lighting technology is tightly intertwined with the development of artificial intelligence (AI) and machine learning. AI-powered lighting systems will be able to automatically adjust to environmental factors, user preferences, and even real-time data. For example:

Al-driven smart lighting systems could learn an individual's daily routines and adjust lighting accordingly, creating optimal lighting conditions without manual input. Smart cities: As cities become more connected, lighting systems integrated into urban infrastructure will communicate with other devices to optimize street lighting, reduce energy usage, and improve public safety.

Moreover, the integration of Augmented Reality (AR) and Virtual Reality (VR) could lead to the development of immersive lighting experiences that merge physical and virtual environments in both commercial and entertainment contexts. Conclusion

The role of lighting in modern spaces has evolved significantly, fueled by advancements in technology. From influencing our mood and productivity to enhancing the aesthetic appeal of spaces, lighting is now a sophisticated and multifaceted tool in design and functionality. As smart technologies, energyefficient systems, and cutting-edge materials continue to emerge, the future of lighting promises to be even more dynamic, interactive, and sustainable. Whether for personal comfort, environmental responsibility, or innovative design, lighting and technology together will continue to shape the way we experience and interact with the world around us.



L&T bags 'ultra mega' order from NTPC to set up thermal power plants in MP, Bihar

Infrastructure major Larsen & Toubro (L&T) on Tuesday said it has bagged an 'ultra mega' order from state-owned NTPC to set up thermal power plants in Madhya Pradesh and Bihar. The company classifies orders above Rs 15,000 crore as 'ultra mega'.

The order was bagged by the L&T Energy CarbonLite Solutions which is a business vertical of L&T, the company said in a regulatory filing.

"L&T Energy CarbonLite Solutions has secured 'Limited Notice to Proceed' (LNTP) from NTPC Ltd for setting up thermal power plants in Madhya Pradesh and Bihar," it said.

The work involves design, engineering, manufacturing, supply, erection and commissioning of boilers, turbines, electrostatic precipitators, auxiliaries, along with the related mechanical, electrical, instrumentation and civil works.

"We look forward to ensuring delivering the



projects with exceptional outcomes that meet our high standards of execution within a strict timeline," Subramanian Sarma, whole-time director and President (Energy), L&T said.







Bangladesh HC Orders Forming of a Highlevel Inquiry Committee To Reevaluate Adani Power Deals: Report

A high court (HC) in Bangladesh has ordered the formation of a high-level inquiry committee by incorporating international energy and legal experts as its members to reevaluate all electricity-related agreements with India's Adani group, says a report from The Business Standard (TBS).

Acting on a writ petition, the bench of justice Farah Mahbub and justice Debasish Roy Chowdhury issued a rule, asking the authorities to explain why instructions should not be given to cancel the lopsided agreements with Adani.

Seeking documents related to the negotiations conducted during the signing of the agreements within a month, the HC also directed the Cabinet secretary to set up the panel within a month and to submit its report within the next two months, the report says.

In 2017, when no imported coal-based power plants were operational, Bangladesh signed a 25-year power purchase agreement with Adani. The country gets electricity from Adani's 1,600MW power plant in the eastern Indian state of Jharkhand.

Quoting an official from the Bangladesh Power Development Board (BPDB), the news report says electricity supplied by Adani costs the country about

Gentari, Juniper, Enfinity, Datta, Sunsure win SJVN's 1.2 GW hybrid power auction

Gentari Renewables India Utilities 2, Juniper Green Energy, EG Energy Development, Sunsure Solarpark RJ One, Datta Infra have secured projects from SJVN Limited's auction for 1,200 MW of inter state transmission system -connected wind-solar hybrid power projects in India (Phase III).

Gentari, Juniper, Enfinity, and Datta won capacities of 400 MW, 300 MW, 300 MW, and 70 MW, respectively, by quoting Rs 3.19 per kWh. Sunsure won 130 MW of its quoted 150 MW at the same tariff, using the bucket-filling method. The tender, issued in July 2024, allows SJVN to enter into a 25-year power purchase agreement with the successful bidders. The generated power will be sold Tk12 (US\$0.1008) per unit.

"This cost is 27% higher than the rate charged by other private producers in India and up to 63% more than that of Indian state-owned plants," *TBS* says.

Earlier this month, after reducing the power supply to Bangladesh by half over unpaid dues, Adani Power set a deadline of 7 November 2024 to cease electricity supply if there was no clarity regarding the settlement of the outstanding amount.

However, later, Adani group issued a clarification, stating that it had not demanded full payment within seven days.

Currently, Bangladesh owes Adani around US\$850mn (million), the report says.

Two senior government officials told BBC they are already processing partial payments to Adani, which supplies 10% of the electricity used by Bangladesh.

"We have addressed payment glitches and already issued a US\$170mn letter of credit to Adani group," a senior official of BPDB told the agency.

Bangladesh stepped up repayments from US\$35mn in July to US\$68mn in September and US\$97mn in October, Fouzul Kabir Khan, energy adviser to the interim government, told BBC.

within India under an intermediary procurement arrangement without central financial assistance, aiming to use established technologies for minimising risk and ensuring timely project commissioning.

NTPC to produce green hydrogen from world's first plasma oxy gasification plant

NTPC Limited will be setting up a green hydrogen production plant through its research and development wing NETRA to utilise plasma oxy gasification of municipal solid waste (MSW) and agri-waste technology.

It is estimated that the plant will produce about 1 tonne of green hydrogen per day. This shall be done by gasifying about 25 tonnes per day of MSW/agri-waste. Additionally, carbon monoxide will be extracted from the hydrogen recovery system and harnessed to produce electricity via a low-calorie gas engine.



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Chetan Lath, Director, Lath Earthing

Lath Earthing is in the manufacturing of earthing and lightning protection devices like copper bonded solid earth rods, earth pit covers, electroplated strips and many such products. Recently, IECT representative interacted with Mr Chetan Lath who is the director of the company. This interaction was done in the EPS exhibition held at Pune. A few excerpts are presented here for the readers of IECT.

As a participant of EPS Expo here in Pune, what is your expectation?

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• Are you exporting your products? How is the response in the international market? Do you have any suggestions for government?

Currently we are doing it through Merchant Exporters only as we focus on domestic market.

Our Government is already encouraging young entrepreneurs to step out and explore foreign markets.

 As you know, we are representing electrical contractors. What do you expect from us? How we can co operate each other?

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approach and arranging events, seminars, exhibitions etc regularly.

 Are you interested in organising seminars, workshops or factory visits of electrical contractors to understand your products and services?

Electrical Contractors are always welcome to visit our manufacturing facilities. We will be pleased to demonstrate Product Tests in our Laboratory which will certainly help them to distinguish quality products in the field of earthing and lightning protection.

 Please tell us about your hobbies, travelling, art, culture, csr etc.

In my free time, I spend time with my pet dogs, cycling, swimming and gardening.

Strongly believe in giving back to the society. Although we have started small in the field of CSR activities which includes Installation of Water Purifier with Cooler in a few places, providing stationery to an orphanage, fixed Flood Lights at Fire Brigade Station Ground, Tree Plantation etc.

Always looking forward to join or work together with groups in the field of CSR.

NLC's first thermal plant undergoes demolition after 52 years of operation

CHENNAI: Works to demolish the first thermal power plant of Neyveli Lignite Corporation (NLC) began on Friday after the plant completed its permissible operational duration, said a Thanthi TV report.

The 600 MW power plant, commissioned in 1962, and designed by German and Russian experts, was considered a milestone. As per global norms, thermal power plants have a maximum operational life of 20 years but with periodic renovations, their operations can be extended to 25 years. However, as the NLC's first thermal power plant exceeded the limit having been operational for 52 years, the Ministry of Environment, Forest and Climate Change granted approval for its demolition which began Friday.



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धुळे नंदुरबार विभागाची वार्षिक सभा उत्साहात सम्पन्न



दि.२६/१० /२०२४ रोजी धुळे नंदुरबार विभागाची वार्षिक ५.३० वाजेला चालू झाली सभेस ECAM महाराष्ट्रचे अध्यक्ष श्री सभा होती सदर सभेचे वेळेस आम्ही विद्युत साहित्याचे प्रदर्शन उमेश रेखे साहेब व महासचिव श्री देवांग ठाकूर साहेब इतर ठेवण्यात आले होते सदर प्रदर्शनात एकून २५ stall लावण्यात आले विभागातील अध्यक्ष यांची विशेष उपस्थिती होती. सभा खेळी होते. सदर सभेस धुळे नंदुरबार विभागातील एकून १३० सभासद व इतर विभागातील ५० ते ६० सभासद उपस्थित होते. विद्युत दिली व नंतर सर्व सभासदांनी जेवणाचा आस्वाद घेतला सदर

<image>

वार्षिक सभेस धुळे नंदुरबार विभागातील सर्व संचालक यांनी अहोरात्र परिश्रम घेऊन सभा व्यवस्थिती पार पाडण्यास सहकार्य

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(सविस्तर वृत्त आयईसीटीच्या नोव्हेंबर अंकात दिलेले आहे)



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इलेक्ट्रिकल कॉन्ट्रॅक्टर्स असोसिएशन ऑफ महाराष्ट म्हणजेच इकॅमच्या कोकण विभागाची वार्षिक सभा शनिवार. ९ नोव्हेंबर २०२४ रोजी दक्षिण मंबईच्या रेडिओ क्लबमधे उत्साहात यशस्वीपणे पार पडली. रेडिओ क्लबमधे सायंकाळी ४ नंतर संचालक, सदस्य, आमंत्रित, प्रायोजक व स्टॉलधारक येऊ लागले. या सभेसाठी मुंबई, ठाणे, पुणे, नगर, धुळे, नाशिक या विभागांचे संचालक व सदस्य आले होते. खएउढ चे संपादक व दोन प्रतिनिधी उपस्थित होते. आयोजकांनी सर्व व्यवस्था चोख ठेवली

भोजनाची छान व्यवस्था होती.

या सभेमधे तीन कंपन्यांचे प्रदर्शनीय स्टॉल होते. यापैकी आयऑमसेफ या प्रायोजक कंपनीचा मुख्य स्टॉल होता.






मान्यवरांचा सत्कार : कोकण वार्षिक सभा



श्री उमेश रेखे. अध्यक्ष







श्री सतीश सिन्नरकर

सर्वप्रथम सर्व संचालकांनी प्रत्येक स्टॉलला भेट दिली. यानंतर वार्षिक सभेची सुरवात राष्ट्रगीताने करण्यात आली.

नंतर इकॅम अध्यक्ष, महासचिव व कोंकण सोडन इतर रिजनचे अध्यक्ष यांचा यथोचित सत्कार करण्यात आला. याचबरोबर इंकॅमचे जे ज्येष्ठ सदस्य आवर्जून आले होते, सर्वश्री सतीश काझी, शैलेश डॉक्टर, ब्रीद, मारूती माळी, अनिल गचके, आयइसिटीचे संपादक श्री सतीश सिन्नरकर यांचा व या सभेसाठी विशेष निमंत्रित असलेले वाशी इंटिग्रेटेड सोल्युशन्स कंपनीचे संस्थापक श्री मदन दोडेजा यांचा श्रीफळ व शाल देऊन सन्मान करण्यात आला.

याप्रसंगी रिजनच्या कार्यवृत्त सादर करण्यात आले व सर्व नेहमीचे ठराव करण्यात आले. सभेला सुमारे ७० सदस्य ठेकेदार, स्टॉलधारक व निमंत्रित मिळून ८५ जण आले होते.

यानंतर सभेच्या प्रायोजकांनी व स्टॉलधारकांनी आपापल्या उत्पादनांचे सादरीकरण केले. प्रायोजक व स्टॉलधारक यांचा सन्मान करण्यात आला व त्यांचे आभार मानण्यात आले. श्री शैलेश डॉक्टर, अनिल गचके, सतीश सिन्नरकर यांनी आपले विचार व्यक्त केले.

याप्रसंगी महासचिव श्री देवांग ठाकुर, अध्यक्ष श्री उमेश रेखे व कोकण विभागाचे अध्यक्ष श्री उल्हास वजरे यांनी आपली मनोगते व्यक्त केली. सभेचे संचालन श्री वसंत गद्रे यांनी खुसखुशीतपणे करून वातावरण प्रफुल्ल ठेवले. शेवटी कोकण विभागाचे उपाध्यक्ष श्री विठ्ठलभाई झवेरी यांनी आभार प्रदर्शन केले.

या सभेसाठी जे विशेष वक्ते निमंत्रित केले होते. श्री मदन साहेब दोडेजा यांचा परिचय श्री सतीश सिन्नरकर यांनी करून दिला व नंतर श्री दोडेजा यांनी सुमारे २० मिनिटे अत्यंत प्रभावी व प्रेरणादायी भाषण केले. स्वतंत्र



श्री वसंत गद्रे, सचिव, कोकण



श्री शैलेश डॉक्टर





श्री सतीश काझी









श्री सय्यद मेहदी, जळगाव श्री प्रवीण बडग्जर, धूळे

व्यवसाय करताना आपली काय भूमिका असावी हे सांगताना ते म्हणाले की सारासार विचार आणि प्रामाणिकपणा (common sense and integrity) यावर आपला व्यवसाय उभा करावा, यश नक्की मिळते. या भाषणाला सर्वांचा उत्स्फूर्त प्रतिसाद मिळाला व शेवटी सर्वांनी उभे राह्न टाळ्यांचा गजर करीत श्री दोडेजा यांना अभिवादन केले व त्यांचे आभार मानले.

सुग्रास सहभोजनाने या वैशिष्ट्यपूर्ण सभेची सांगता झाली.

मान्यवरांचे संबोधन



श्री उमेश रेखे. अध्यक्ष



श्री शैलेश डॉक्टर



श्री देवांग ठाकुर, महासचिव



श्री सतीश सिन्नरकर



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या सभेला आयएमसेफ या कंपनीचे मुख्य प्रायोजकत्व मिळाले होते. अग्री सुरक्षा उत्पादने निर्माण करणाऱ्या या कंपनीची माहिती श्री इंद्रनिल भट्टाचार्य यांनी दिली.

निमासू या कंपनीने एक स्टॉल लावला होता. (सौरऊर्जा उत्पादने)

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या सभेला कोकण विभाग व इतर निमंत्रित यांचा चांगला प्रतिसाद मिळाला.



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पंपींगद्वारेही पाणी पोहोचवणेसुद्धा कठीण जाते. त्यामुळे २०२२ मध्ये उंच इमारतींमध्ये २४० मीटर उंचीपर्यंत म्हणजेच ८० मजल्यापर्यंत क्षमता असलेल्या पाण्याचा अखंडीतपणे पुरवठा करण्यास सक्षम असलेले 'उत्तुंग इमारत अग्निशमन वाहन' प्रायोगिक तत्त्वावर खरेदी करण्यात आले. त्याचा वापर यशस्वीपणे होत असल्याची माहिती वरिष्ठ अधिकाऱ्याने दिली. सध्या अग्निशमनसाठी पाणीपुरवठा करू शकणारे हे एकमेव उपकरण असणारे वाहन आहे. त्यामुळे मुंबईतील एखाद्या भागातील उन्नंग इमारतीत आगीचों घटना घडल्यास हे एकमेव वाहन पाठवले जाते. त्यामुळे अशी आणखी पाच वाहने खरेदी करण्याचा प्रस्ताव तपर करण्यात आला आहे. त्यासाठी तीन कंपन्यांनी स्वारस्य दाखवले होते यातील एका कंपनीची निवड करण्यात आली असून, त्याच्या मसुदा पत्राल मुंबई महापालिका आयुक्तांनी मंजुरी दिली आहे. या वाहनांचा एकूण खर्च १७ कोटी ५१ लाख ३७ हजार रुपये आहे.



पुणे महावितरणचे मुख्य अभियंता श्री राजेंद्र पवार यांना ecam या संघटनेचे iect हे मुखपत्र देताना iect या मासिकाचे कमिटी चेअरमन व संचालक नरेंद्र शिंदेकर पुणेरीजनचे उपाध्यक्ष श्री गोरक्षनाथ शितोळे व संचालक श्री प्रकाश जाधव iect या मासिकाचे ई अंक हे महावितरण कंपनीच्या सर्व अधिकारी व इंजिनियर्स यांना iect अंक आवडेल व नॉलेज अपडेट राहील iect अंक हे फारच माहितीपूर्ण असतात असे श्री पवार यांनी आवर्जून सांगितले.

मुं बईतील उंच इमारतीमधील आगनियंत्रणासाठी आणखी पाच वाहने

मुंबईत गेल्या काही वर्षांत टोलेजंग इमारती उभ्या राहिल्या असून, अनेक इमारतींमध्ये आधुनिक अग्निप्रतिबंधक यंत्रणाच नाही. सध्या पाण्याचा उच्च दाब तयार करून ८० मजल्यापर्यंत पाणीप्रवठा करून आगीवर नियंत्रण मिळवणारी एकच उत्तुंग इमारत अग्निशमन वाहन (हाय राईज फायर फायटिंग वेहिकल) अग्निशमन दलाकडे आहे. त्यामुळे मुंबई अग्निशमन दलाने अशी आणखी पाच वाहने खरेदी करण्याचा निर्णय घेतला आहे. निविदा प्रक्रिया राबवल्यानंतर हे काम एका कंपनीला देण्यासाठी अंतिम मसुदा पत्राला मुंबई महापालिका आयुक्त भूषण गगराणी यांनी मंजुरी दिली आहे. त्यामुळे सहा महिन्यांत ही वाहने अग्निशमन दलाच्या ताफ्यात दाखल होतील.

मुंबईत उत्तुंग इमारत, मॉल्स मल्टीप्लेक्स आदीमध्ये मोठ्या प्रमाणात वाढ होत आहे. उत्तुंग इमारतींमध्ये रुग्णालये, विविध प्रकारची सरकारी, खासगी कार्यालये आणि रहिवाशी संकुलांचा समावेश आहे. तसेच विकास आराखडा २०३४ मध्येही उत्तुंग इमारतींचा विकास होण्यासाठी मार्ग मोकळा झालेला आहे. त्यामुळे मुंबईत उत्तुंग इमारती मोठ्या प्रमाणात उभ्या राहात आहेत. अशा इमारतींमध्ये आगीची घटना घडल्यास आणि इमारतींमधील अंतर्गत अग्निप्रतिबंधक यंत्रणा बंद असल्यास एवढ्या उंचीवर पोहोचून अग्निशमन यंत्रणेद्वारे काम करणे आव्हानात्मक ठरते. सध्याच्या परिस्थितीत सिरीज पंपिंगद्वारे (अनेक पंपांना एकमेकांशी जोडून) उंचावर अग्निशमनासाठी पाण्याचा परवठा करण्यात येतो. त्यासाठी अग्निशामकांना १२५ किलोग्रामपर्यंत वजनाचे पंप वाहन न्यावे लागत असल्याने ही पद्धत वेळखाऊ आणि शारीरिकदृष्ट्या थकवणारी आहे. याव्यतिरिक्त १५० मीटरपेक्षा अधिक उंचीच्या ठिकाणी आगीची घटना घडल्यास अशा परिस्थितीत सिरीज



महाराष्ट्रातील जलविद्युत प्रकल्प खासगी हाती?



या प्रकल्पांमध्ये यापुढे राज्य सरकारकडून कोणतीही भांडवली गुंतवणूक केली जाणार नसून, निविदेच्या आणि त्यानंतर विविध माध्यमांतून सरकारला दर वर्षी ५०७ कोटी रुपयांचा महसूल मिळणार आहे.

बांधकाम होऊन ३५ वर्षे पूर्ण झालेले राज्यातील सात जलविद्युत प्रकल्प २५ वर्षांसाठी चालविण्यासाठी खासगी कंपन्यांनाही संधी मिळणार आहे. जलसंपदा विभागाने मांडलेल्या प्रस्तावाला नुकतीच राज्य मंत्रिमंडळाची मंजुरी मिळाली असून, या माध्यमातून पैठण, उजनी, पवना, भातसा यासारख्या एकूण सात जलविद्युत प्रकल्पांच्या नूतनीकरण, आधुनिकीकरणासाठी निविदा मागविण्यात येणार आहेत. या प्रकल्पांमध्ये यापुढे राज्य सरकारकडून कोणतीही भांडवली





गुंतवणूक केली जाणार नसून, निविदेच्या आणि त्यानंतर विविध माध्यमांतून सरकारला दर वर्षी ५०७ कोटी रुपयांचा महसूल मिळणार आहे.

राज्यात जलविद्युत प्रकल्पांची उभारणी जलसंपदा विभागामार्फत करण्यात येते. या प्रकल्पांची उभारणी केल्यानंतर भाडेपटटी तत्त्वावर त्याचे परिचलन व देखभाल 'महाजनको'तर्फे करण्यासाठी हस्तांतरित करण्यात येते. सद्यस्थितीत जलसंपदा विभागामार्फत बांधून हस्तांतरित केलेल्या २५ जलविद्युत प्रकल्पांपैकी काही प्रकल्पांचे ३५ वर्षांचे विहित आयुर्मान पूर्ण झाले आहे. तरी नूतनीकरण, आधुनिकीकरणाद्वारे त्यांच्यात क्षमतावाढ करता येणे शक्य आहे. महानिर्मिती कंपनीकडून नूतनीकरण व आधुनिकीकरण करण्यासाठी राज्यातील प्रकल्पांचे दोन श्रेणींमध्ये वर्गीकरण करण्यात आले आहे. ज्या प्रकल्पांमध्ये पाण्याचा वापर केवळ वीजनिर्मितीसाठी आहे असे प्रकल्प 'श्रेणी-१' तर ज्या प्रकल्पांमध्ये पाण्याचा वापर वीजनिर्मितीसह सिंचन, औद्योगिक वापर आदींसाठी होत असणारे 'श्रेणी–२' प्रकारात करण्यात आले आहेत. 'श्रेणी-१'मधील प्रकल्पांचे नूतनीकरण व आधुनिकीकरण केवळ महानिर्मितीद्वारे करण्यात येणार असून, नव्या धोरणानुसार, 'श्रेणी-२'मधील प्रकल्पांच्या नूतनीकरण व आधुनिकीकरणासाठी निविदा काढण्यात येणार आहेत. यात राज्य सरकारच्या महानिर्मिती कंपनीलाही सहभागी होता येईल. मात्र त्यांना खासगी कंपन्यांशी स्पर्धा करावी लागेल. हे प्रकल्प २५ वर्षांसाठी खासगी कंपन्या चालवू शकतील, त्यानंतर ते जलसंपदा विभागाकडे हस्तांतरित करावे लागतील.

याच धर्तीवर येलदरी (२२.५ मेगावॉट), भाटघर (१६ मेगावॉट), पैठण (१२ मेगावॉट) पवना (१० मेगावॉट), खडकवासला (८ अधिक ८ मेगावॉट), उजनी (१२ मेगावॉट) आणि भातसा (१५ मेगावॉट) अशा सहा जलविद्युत प्रकल्पांचे खासगीकरणातून नूतनीकरण करण्याचे धोरण मंत्रिमंडळापुढे मांडण्यात आले. या प्रकल्पांची वीजनिर्मितीची एकूण क्षमता १६७.४५ मेगावॉट इतकी आहे. खासगी कंपन्यांना हे प्रकल्प हस्तांतरित करण्यात आल्यानंतर थ्रेशोल्ड प्रीमियम, अपफ्रंट प्रीमियम,



२५ वर्षांनंतर हस्तांतर

राज्य सरकारने या प्रकल्पांसाठी नूतनीकरण, आधुनिकीकरण, क्षमतावाढ व आयुर्मानवृद्धी (एलआरओटी) धोरण तयार केले असून, ते नुकत्याच झालेल्या मंत्रिमंडळाच्या बैठकीत मांडण्यात आले होते. बैठकीत या धोरणाला मंजुरी मिळाली असून, या माध्यमातून राज्यातील सहा जलविद्युत प्रकल्प निविदेमार्फत चालविण्यासाठी देण्यात येणार आहेत. खासगी कंपन्यांकडे हा प्रकल्प हस्तांतरित झाल्यानंतर त्यांची इच्छा असल्यास तिथे सौर प्रकल्पही सुरू करण्याची परवानगी असेल त्याविषयी वेगळी मंजुरी मुख्य अभियंता (विद्युत) यांच्याकडून घ्यावी लागेल. मात्र, २५ वर्षांचा करार कालावधी पूर्ण झाल्यावर जलविद्युत प्रकल्प आणि सौर प्रकल्प जलसंपदा विभागाकडे हस्तांतरित करण्यात येईल.

आणखी सहा प्रकल्पांचाही विचार

यवतेश्वर, करंजवाण, शहानूर, डोलवहाळ, माजलगाव आणि वाण या एकूण ९.५७ मेगावॉट क्षमता असलेले सहा प्रकल्पांचे ३५ वर्षांचे नियत आयुर्मान पूर्ण झालेले नसले, तरी त्यांतील विद्युत घटकांची दुरुस्तीकामे आवश्यक असल्याने त्यांचीही खासगी कंपन्यांकडून एलआरओटी तत्त्वावर सुरू ठेवण्याचा मानस राज्य सरकारचा आहे.

Premier Energies to enter aluminium frame manufacturing

Premier Energies, a solar cell and module manufacturer in India, will set up an aluminium frame manufacturing facility with a capacity of 36,000 metric ton per annum for captive consumption.

Indian solar manufacturer Premier Energies has announced plans to foray into aluminium frame manufacturing business by setting up a 36,000 metric ton per annum facility for captive consumption. "This project would require a capex of INR 230 crore, wherein the equity portion of 25% will be funded through internal accruals," said Chiranjeev Saluja, managing director of Premier Energies.

Premier Energies is India's second largest integrated solar PV manufacturer as on March 31, 2024, with 2 GW of annual installed capacity for cell manufacturing alongside its 4.13 GW of annual installed capacity for module manufacturing.

Saluja said, Premier Energies is [also] executing a 1 GW TOPCon cell line expansion, which will be completed by Q4 FY25. Further leveraging the opportunities for backward integration, it is planning an investment into a wafer manufacturing facility of 2 GW, which is targeted to be commissioned by FY 2026. Premier Energies has entered into an agreement with a Taiwanese company to set up wafer manufacturing. The equipment for this has already been ordered. Saluja said Premier Energies will also get into backward integration to ingot once the wafer line stabilizes.



PTFIX function distribution blocks from Phoenix Contact

The PTFIX distribution blocks with Push-in connection from Phoenix Contact are individually configured and just need to be unpacked and connected at the user's premises. The first distribution blocks with integrated function are now available. They can be used to separate signals

quickly and easily as well as implement fuses and components.

There are three different versions: TG for various isolating plugs, fuse plugs, and component connectors, MT featuring integrated knife disconnection, and MTL featuring integrated lever knife disconnection. They are available in 11 colors for DIN rail, direct, or adhesive mounting.

The ready-to-mount distribution blocks save a lot of time. The compact

and minimalist size also saves a considerable amount of space. Various mounting adapters for DIN rail and direct mounting provide flexible mounting options. The PTFIX product family from Phoenix Contact has now been extended to include a nominal cross section of 10 mm².



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A high power, low maintenance solution for your outdoor lighting needs. With multiple beam angles, rotatable fittings and excellent efficacy, delivering flexibility and longevity.





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Illuminating Landscapes: K-lite's High-Quality Architectural Luminaires

"Established in 1977, K-lite is renowned for its extensive range of high-quality architectural luminaires and poles that cater to diverse applications and design preferences."

Since its inception, K-lite through it manufacturing units in focusses on the production of sustainable and efficient LED luminaires. K-lite's products meet stringent quality standards while embodying elegant aesthetics.

K-lite's landscape products are designed to withstand various environmental challenges such as wind, water, direct sunlight, rain, and dust. Each outdoor luminaire boasts high IP (ingress protection) and IK ratings, ensuring robustness and durability suitable for outdoor and landscape applications.

The Range offered by K-lite is comprehensive and versatile. It includes Linear Wall Washers, Up-Down Lighters, LED Strips/Neon Flex, Promenade Lighting, Bollards, Underwater Lighting, Post Top Luminaires, Bulkheads, Pathfinders, IP67 Linear Profiles, Polar Lighting, and a newly introduced series of Facade Lighting.

K-lite's commitment to innovation and quality, shines through in every product, blending functional efficiency with aesthetic appeal. Each luminaire in the



landscape range is meticulously crafted to enhance outdoor spaces, offering not only illumination but also enhancing the visual appeal of architectural environments. Whether illuminating pathways, accentuating building facades, or creating ambiance in public spaces, K-lite's luminaires deliver reliability and elegance, making them the preferred choice for architects, landscape designers, and developers aiming to transform outdoor spaces with lighting solutions that integrates form and function seamlessly.

K-LITE INDUSTRIES PRIVATE LIMITED

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A Step Toward Sustainability and Cost Savings.

Factories and warehouses are some of the largest energy consumers in industries today. They require a lot of electricity for machines, lighting, and other equipment, leading to high energy bills. At the same time, there is growing pressure to reduce environmental impacts and switch to greener energy sources. Solar energy is becoming an increasingly popular solution for factories and warehouses looking to cut costs, boost efficiency, and become more sustainable.

Why Solar Energy Makes Sense for Factories and Warehouses.

Factories and warehouses typically operate 24/7, using large amounts of electricity to keep everything running. This high demand for energy means that electricity bills can be a major business expense. By switching to solar power, businesses can reduce their reliance on grid electricity and lower their monthly energy costs.

Solar panels capture energy from the sun, turning it into electricity that can power operations in the building. Any extra energy produced during the day can often be stored or even sold back to the grid, helping to further reduce costs. Although the initial installation of solar panels can be a significant investment, there are financial incentives, tax credits, and rebates available in many regions that can help make the switch more affordable.

Key Benefits of Solar Energy for Industrial Buildings.

1. Lower Energy Bills: One of the biggest benefits of solar energy is the reduction in electricity costs. By generating your own power, factories and warehouses can cut their dependence on the grid and lower their monthly energy bills. In some cases, extra energy can be sold back to the grid, providing additional savings or income.

2. Energy Independence : Solar energy reduces a business's dependence on external electricity suppliers. This can protect factories from sudden increases in energy prices or power outages. For businesses located in areas with unreliable electricity, solar can ensure a more stable power supply.



Mr. Nitin I. Aher Wholetime Director. Rulka Electricals Ltd.

3. Eco-Friendly : Using solar energy helps factories and warehouses lower their carbon footprint because solar power is clean, renewable, and doesn't produce harmful emissions. Adopting solar can improve a company's environmental reputation and help meet sustainability goals.

4. Long-Term Investment : Solar panels typically last for 25 years or more with little maintenance. Over time, the cost of solar technology has been decreasing, making it more affordable for businesses. Though the upfront cost is high, the long-term savings on electricity bills can make it a smart financial investment.

5. Government Incentives : Many governments offer financial incentives for businesses that switch to solar energy. These rebates, tax credits, and grants can help reduce the initial cost of installing solar panels, making it more accessible for businesses to make the switch.

Challenges to Consider:-

While solar energy offers many benefits, there are a few challenges to think about. The upfront cost of installing solar panels can still be a barrier for some businesses, even though financing options are available. Also, the amount of energy a factory or warehouse can generate depends on factors like roof space, location, and the efficiency of the solar panels. Solar energy can cover a large portion of a business's energy needs, but it may not completely eliminate the need for grid electricity, especially during periods of low sunlight.

Conclusion: A Smart Investment for the Future.

Incorporating solar energy into factories and warehouses is a smart way to reduce energy costs, improve sustainability, and future-proof your business. As solar technology continues to improve and become more affordable, businesses that make the switch today will benefit from lower operational costs and contribute to a cleaner, greener planet. As more industries embrace solar power, it's clear that renewable energy is the way forward for businesses aiming to stay competitive and environmentally responsible.





MECO DIGITAL MULTIMETER (101P+TRMS)

MECO introduced new 3³/₄ Digit 4000 Counts Pocket Size Auto Ranging Digital Multimeter (Model: 101P+TRMS) with LCD Backlight Display having Voltage Range upto 1000V DC and 750V AC, Current Range upto 10A DC / AC, Resistance Range upto 40M Ω , Capacitance Range upto 4.000mF and Frequency Range upto 4.000MHz.

Basic accuracy for DC Voltage ($\pm 0.5\%$ rdg + 3 dgt), for AC Voltage ($\pm 1.0\%$ rdg + 3 dgt), for DC Current ($\pm 0.8\%$ rdg + 3 dgt), for AC Current ($\pm 1.0\%$ rdg + 3 dgt), for Resistance ($\pm 0.5\%$ rdg + 3 dgt), for Capacitance ($\pm 3.5\%$ rdg + 4 dgt) and for Frequency ($\pm 1.5\%$ rdg + 3 dgt).

It has special features like REL Δ , Data Hold, Audible Continuity, Diode Test, Auto Power Off and Low Battery Indication.

This meter is supplied with accessories like One Pair of Test Leads, Battery (installed), Carrying Case & Instruction Manual.

This all round instrument is an integral part of many applications such as electronic component testing, industrial maintenance, automotive battery testing, HVAC system maintenance, solar system, railways, elevators, and escalators, telecom, etc.

For details please visit our website: www.mecoinst.com Email: sales@mecoinst.com







Beam Lights

Innovation and evolution is the lifeblood of any business. In a fast changing world where priorities and utilities need to keep step with times, PROLITE has always measured up and come up with alterations and variations to its product ranges wherever required.

One of our hugely popular product lines is that of Beam Lights. Beam lights come in Halogen as well as LED and are mostly used in large and sprawling premises, mostly industrial ones such as warehouses, godowns, Railway yards and similar areas.

We started off with the simple hand-held beam (figures 1&2) comprising a rounded dome with rectangular housing suitable for portable use as well as mounting. The battery provided here provides constant and steady illumination for a specified period and can be recharged once the purpose is served. Once the battery is charged it automatically slides into trickle charge to retain the energy so that it can assume full power in an emergency scenario. This is a powerful no nonsense power source ideal for industrial use at an individual level. It can also be used to look under bus/train chassis' or carriages.

We then came up with a modified model where we used two lamps instead of one as illustrated (figures 3 and 4)

With changing times, the demand for newer and more focused beam lights gained ground and we combined fixed beam lights with illuminated 'EXIT' signs. These beam lights could be embedded (Figures 5&6) or



mounted on pillars, poles or beams (figures3&4). These beam lights are built with a swivel facility that allows for shifting the focus whenever required. Sometimes, godowns or packing areas are littered with packaging material, wires, cartons, beams etc. that become invisible at the time of power failure. In such a situation, the people trapped in the pitch dark area remain at risk of physical injury if they try to get out.

Beam lights light up immediately at the time of power failure and guide people towards the illuminated EXIT sign so that they can avoid all hurdles on the way and move out safely and easily. We even have a model which combines an EXIT sign with beam lights (figures 7&8) specially designed for premises where the exit gate or area. We also have a variant of the portable beam light with rectangle shaped LED lights as illustrated (Figures 9&10)

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Gensol Engineering secures Rs 7.8 billion contract for 150 MW solar project in Maharashtra

Gensol Engineering Limited has secured an engineering, procurement, and construction (EPC) contract worth at Rs 7.8 billion for a 150 MW ground-mounted solar photovoltaic (PV) power plant in Maharashtra.

Under the contract, Gensol Engineering will be responsible for the end-to-end project management, from land acquisition to commissioning. This includes the design, engineering, procurement, logistics, manufacturing, and supply processes. Gensol Engineering will also oversee the plant's erection, installation, testing, and commissioning, including developing the necessary power evacuation infrastructure connected to the state transmission utility substation. Additionally, Gensol will provide operations and maintenance services for three years, covering both the plant's switchyard and the associated transmission infrastructure.

Juniper Green Energy, Jackson Green and RIH Renewables secure wind energy projects from GUVNL

Juniper Green Energy, Jakson Green, and RIH Renewables have secured contracts from Gujarat Urja Vikas Nigam Limited (GUVNL) Phase VIII for a 200 MW wind energy project in Gujarat.

Juniper Green secured 50 MW at a tariff of Rs 3.56 per kWh, RIH Renewables obtained 40 MW at Rs 3.59 per kWh, and Jakson Green was awarded 50 MW at Rs 3.63 per kWh.



DVC awards EPC contract to BHEL for Koderma Thermal Power station phase-II

Damodar Valley Corporation (DVC) has issued the notification of award BHEL for EPC contract for its 2x800 MW Koderma Thermal Power Station (TPS) Phase II

New Delhi: Damodar Valley Corporation (DVC) has issued the Notification of Award (NOA) to Bharat Heavy Electricals Limited (BHEL) for the Engineering, Procurement, and Construction (EPC) contract for its 2x800 MW Koderma Thermal Power Station (TPS) Phase II. The announcement, made on November 14, marks a significant milestone in DVC's efforts to enhance its power generation capacity.

PSU Watch is now on Whatsapp Channels. Click here to join

This project is set to play a crucial role in meeting

the rising energy demands of the region, contributing to its integrated socio-economic development. With the planned addition of 1,600 MW, DVC's generation capacity will be significantly bolstered, enabling the company to advance its mission of providing reliable and sustainable power.

The Koderma TPS Phase II project is expected to strengthen India's power infrastructure and support regional growth, reinforcing DVC's commitment to contributing to the country's energy security. The partnership with BHEL, a leader in power sector technology, underlines the focus on efficiency and sustainability in executing this landmark project.









MNRE Recruitment 2024: The Ministry of New and Renewable Energy (MNRE), Government of India is recruiting for 10 posts of Young Professional. These roles are open to young, talented professionals who have a master's degree or relevant qualification in a field such as renewable energy, physics, chemistry or engineering with at least one year of work experience. Eligible and interested candidates can apply by Email only by downloading the application form from the MNRE official Notification (see official pdf below).

Interested candidates can apply within 30 days from the date of advertisement. Required educational qualifications and other details are given below for informational purposes to assist job-seekers.

Here is a simple table summarizing the key details of the MNRE Young Professional recruitment:

The Ministry of New and Renewable Energy (MNRE) invites applications (Email mode only) from the below-mentioned posts. Vacancy Details are given in the box below.

Before you apply, make sure you meet the eligibility requirements:

- Age Limit: Applicants must be below 30 years of age as on 13th November 2024.
 Educational
- Qualifications: You should have a Master's degree or a relevant qualification in Renewable Energy, Physics, Chemistry, or Engineering. Some positions also require specific qualifications like Post Graduate Diploma or MBA.
 - Work Experience: You should have at least 1 year of relevant work experience in fields like renewable energy, energy sector, finance, or Parliamentary work, depending on the position.
- If you are interested in applying for the MNRE Recruitment 2024, here is how you can submit your application:
- (i) Prepare your Application: Download the application form (Annexure-1) and fill it out with all the required information. Attach proof

of your date of birth, educational qualifications, and work experience. (ii) Email Your Application: Send your completed application via email to recruitment-mnre@gov.in. (iii) Deadline: Ensure your application reaches them within 30 days from the date of the advertisement, which is 13th November 2024.

 For detailed instructions on how to apply Online, please go through the officially released advertisement (See the below-given link/ PDF file for more details).

Notification Date: 13 November 2024 Last date for submission of email application: within 30 days

- What is MNRE Recruitment 2024? MNRE Recruitment 2024 invites applications for Young Professional positions to work in the renewable energy sector. It's a great opportunity to contribute to India's renewable energy goals.
- 2. How many vacancies are available? There are 10 positions available for Young Professionals under the MNRE Recruitment 2024.
- What is the age limit for applicants? Candidates must be below 30 years of age as of 13th November 2024.
- 4. What are the educational qualifications required? You need a Master's degree or relevant qualifications in Renewable Energy, Physics, Chemistry, Engineering, or related fields. Some positions also accept an MBA or Post Graduate Diploma.
- How do I apply for MNRE Recruitment 2024? To apply, send your application through email to recruitment-mnre@gov.in. Make sure to attach all the necessary documents, including proof of age, qualifications, and experience.
- When is the application deadline? The last date for submitting your application is 30 days from the advertisement date, which is 13th November 2024.



India's largest Green Hydrogen hub being built by NTPC Green Energy Ltd. in Pudimadaka in Andhra

Pradesh will become available to electrolyser, Green Hydrogen and its derivatives manufacturers in the

next three years, a senior company official said. The 1.200-acre site in Andhra Pradesh will have around 600 acres dedicated towards the construction of India's largest green hydrogen production facility of 1,100 tonnes per day or equivalent to around half-amillion-tonnes annually.

The site will also produce green hydrogen derivatives like green ammonia, green methanol and sustainable aviation fuel. "The focus would be on domestic and export markets, especially to European Union and the South East Asian markets," Rajiv Gupta, CEO of NTPC Green Energy, told NDTV Profit.

Another 200 acres will be utilised for setting up common infrastructure facilities like effluent treatment plants, sewage treatment plants, medical facilities,

convention center, shopping areas, roads and landscapes, Gupta said.

"The land is in our possession, and we plan to start the groundwork shortly. The facilities will be ready for plug and play activities like manufacturing of electrolysers, solar modules, and battery energy storage in the next three years, " Gupta said.

However, the production of green hydrogen may take a little longer, may be around five to six years as setting up the green hydrogen ecosystem would take time, he said, adding cost of green hydrogen is also very prohibitive at present.

The average cost of setting up a green hydrogen facility is approximately \$4.10 to \$7 per kg of hydrogen produced. According to industry experts, the cost becomes viable if it comes down to sub \$3 per kg of hydrogen produced.







Indian Railways to begin trials for first hydrogen train in December



In a historic move towards sustainable transportation, India will launch its first hydrogenpowered train on a trial run this December, advancing Indian Railways' ambition to eliminate emissions and reduce noise pollution. The train, which operates without diesel or electricity, is expected to become fully operational early next year, aligning with Indian Railways' goal to achieve net-zero carbon emissions by 2030.

The trial run will cover the Jind-Sonipat route in Haryana, spanning 90 kilometers, with the train reaching speeds up to 140 km/h. Manufactured by the Integral Coach Factory in Perambur, the hydrogen train marks a significant innovation in Indian Railways' green initiatives. If trials succeed, Indian Railways plans to produce 35 more hydrogen-powered trains and expand services to other routes nationwide by 2025.

This new train uses hydrogen fuel cells that combine hydrogen with oxygen to generate electricity, powering its motors. The byproducts of this chemical reaction are only water and steam, resulting in zero emissions and a cleaner, quieter operation than diesel engines. Each fuel tank can carry enough hydrogen to power the train for up to 1,000 kilometers before refueling, making it feasible for extended routes. Countries such as Germany, Sweden, and China already have hydrogen-powered trains, setting a precedent that India is now following.

A 40,000-liter water tank, installed on top of the engine, supplies the hydrogen production system. As hydrogen is generated, it is combined with oxygen from the atmosphere to create the electricity needed to run the train, while a lithium battery stores any surplus energy. This eco-friendly approach significantly reduces air pollution and noise, producing 60% less sound than conventional diesel engines. Indian Railways will construct dedicated water storage facilities to support the train's operation, as about 40,000 liters of water per hour is needed to sustain the chemical processes.

Hydrogen-powered trains represent a cornerstone in Indian Railways' efforts to cut its carbon footprint. The trains eliminate harmful emissions such as carbon dioxide, nitrogen oxides, and particulate matter, reducing the adverse impact on air quality. In addition to environmental benefits, they provide a quieter, more efficient journey without sacrificing passenger capacity or speed.



FLECTRICALS - TECH - ASSOCIAT

Premier Energies subsidiaries secure multiple orders worth Rs 5.60 billion from two IPPs

Premier Energies International Private Limited and Premier Energies Photovoltaic Private Limited, wholly owned subsidiaries of Premier Energies Limited, have secured multiple orders worth Rs 5.60 billion from two major domestic independent power producers (IPPs). These orders include Rs 5.13 billion for solar photovoltaic (PV) modules and Rs 0.47 billion for solar PV cells. The orders are structured as one-time contracts, with the supply of modules and cells scheduled to begin in December 2024 and conclude by May 2025.

Ministry of Coal commences 10th round of commercial coal mine auctions

The Ministry of Coal has commenced the 10th round of commercial coal mine auctions, auctioning five mines on the first day with combined geological reserves of 2,630.77 million tonnes and a peak rated capacity of 12 million tonnes per annum. The fully explored New Patrapara South mine in Odisha was awarded to NLC India Limited, while partially explored mines in Madhya Pradesh, Jharkhand, and Odisha went to Mineware Advisors, ACC Limited, Shreeji Nuravi, and JSW Energy Utkal, respectively. These mines are projected to generate annual revenue of Rs 11.07 billion and attract Rs 18 billion in investments.

Tata Power signs MoU with ADB for USD4.25 billion investment in clean energy

Tata Power Limited has signed a memorandum of understanding (MoU) with the Asian Development Bank (ADB) to evaluate financing for clean energy and power infrastructure projects worth USD4.25 billion.

The agreement focuses on funding key projects, including a 966 MW solar-wind hybrid project, a pumped hydro storage project, and other initiatives aimed at energy transition, decarbonisation, and battery storage. Additionally, the MoU includes capital expenditure for strengthening Tata Power's distribution networks, ensuring improved power delivery.

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India's Ethanol Push: A Path to Energy Security

Achieving 15% ethanol blending in 2024, India targets 20% by 2025

Introduction

India is taking significant steps toward securing its energy future by embracing sustainable practices like ethanol blending. As the world's third-largest energy consumer, the country has traditionally depended on oil imports to meet its growing energy demands. This reliance not only poses challenges to energy security but also leads to a substantial outflow of foreign currency. However, with ethanol blending, India has a promising opportunity to reduce its dependence on imported oil while addressing environmental concerns. Ethanol, a byproduct of sugarcane processing, can be mixed with petrol, cutting down on fossil fuel consumption and reducing harmful carbon emissions that contribute to climate change and public health issues.

The practice of blending ethanol with petrol began in 2001 as a pilot project. Yet, for many years, progress was slow, and ethanol production remained stagnant. Only recently, through a series of comprehensive reforms, has India been able to unlock the full potential of this initiative. These reforms are now driving substantial outcomes, not just by enhancing energy security, but also by revitalizing rural economies. Ethanol production offers a new source of income for farmers, supporting the agricultural sector and fostering economic growth in rural areas.

The government's proactive approach to ethanol blending is evident in its decision to advance the target of 20% ethanol blending from 2030 to 2025, demonstrating a strong commitment to sustainable energy practices. During the 7th G-STIC Delhi Conference, Shri Hardeep Singh Puri, Minister of Petroleum and Natural Gas, emphasized India's growing success in ethanol blending and its broader commitment to sustainable energy solutions. He highlighted that, in recognition of the progress made, the government has already begun planning for the future by exploring goals beyond the 20% ethanol blending target. This forward-looking approach indicates that India is not only focused on meeting its immediate energy needs but is also preparing for longterm sustainable energy solutions to address future demands.

Ethanol: A Versatile Biofuel

Ethanol is one of the primary biofuels, naturally

produced through the fermentation of sugars by yeasts or through petrochemical processes like ethylene hydration. It is widely used not only as an alternative fuel source but also in various industries as a chemical solvent and in the synthesis of organic compounds. Ethanol also has medical applications as an antiseptic and disinfectant, adding to its versatile uses.

In the context of India's rising energy demand, driven by factors such as a growing economy, an expanding population, increasing urbanization, and evolving lifestyles, ethanol plays a critical role. As of March 2024, around 98% of the fuel used in the road transportation sector comes from fossil fuels, while only 2% is met by biofuels like ethanol. This dependency on fossil fuels presents challenges related to energy security, foreign currency outflow, and environmental impact.

Ethanol, as a domestically produced biofuel, offers a strategic opportunity to reduce the country's dependence on imported fossil fuels. When used responsibly, biofuels like ethanol are more environmentally friendly and sustainable, contributing to a cleaner energy landscape. Additionally, ethanol production and usage align with national goals like generating employment, promoting the "Make in India" initiative, supporting the Swachh Bharat Mission, and contributing to the doubling of farmers' incomes. It also fosters the creation of wealth from waste, further enhancing its importance to India's economy and energy security.

Major Achievements of EBP

Under the leadership of Prime Minister Narendra Modi, the government has embarked on a series of comprehensive reforms aimed at enhancing energy security, combating climate change, and boosting the rural economy. An indicative target of 20% ethanol blending in petrol was initially set for 2030 under the EBP Programme. However, in 2020, the Cabinet Committee on Economic Affairs (CCEA) advanced this target to 2025, reflecting the government's commitment to accelerating ethanol usage.

The progress of India's Ethanol Blended Petrol (EBP) Programme has been noteworthy, with the ethanol production capacity more than doubling in the last four years to reach 1,623 crore litres as of September 18, 2024. This substantial increase



highlights the government's commitment to enhancing the role of ethanol in the nation's energy landscape.

In the Ethanol Supply Year (ESY), which runs from November to October, the blending of ethanol with petrol stood at 38 crore litres with a blending percentage of 1.53% in ESY 2013-14. Over the following years, the government implemented various initiatives that led to remarkable growth in ethanol blending. By ESY 2020-21, the blending volume surged to 302.3 crore litres, increasing the blending

percentage to 8.17%. During this same period, petrol consumption also rose by approximately 64%

Source: https://pib.gov.in/PressReleas eIframePage.aspx?PRID=205 0907

The momentum continued, with blending further increasing to over 500 crore litres in ESY 2022-23, raising the blending percentage to 12.06%. In the current ESY 2023-24, the blending percentage surpassed 13% with approximately 545.05 crore litres of ethanol blended as of August 31, 2024. This remarkable progress underscores a significant increase in the overall ethanol blending percentage, rising from 1.53% in 2014 to an impressive 15% in 2024.

Encouraged by this progress, the government set an ambitious target of achieving 20% blending by 2025. Over the past decade, this initiative has delivered significant benefits, including savings of ₹1,06,072 crore in foreign exchange, a reduction of CO2 emissions by 544 lakh metric tons, and a substitution of 181 lakh metric tons of crude oil. Furthermore, the program has had a considerable economic impact, with OMCs disbursing ₹1,45,930 crore to distillers and ₹87,558 crore to farmers.

Source:

https://x.com/PetroleumMin/status/18461953387153205 06

Key Measures to Achieve 20% Ethanol Blending by 2025-26

To achieve the target of 20% ethanol blending by 2025, approximately 1,016 crore litres of ethanol will be required. The total demand for ethanol, including other





uses, is estimated to be around 1,350 crore litres. To meet this requirement, an ethanol production capacity of about 1,700 crore litres must be established by 2025, assuming the plants operate at 80% efficiency. The government has projected the demand for ethanol necessary for 20% blending by considering the growth of petrol-based vehicles, particularly in the twowheeler and passenger vehicle segments, as well as the anticipated sales of Motor Spirit (MS).

Here are the key initiatives:

• In August 2024, The Union Cabinet, chaired by Prime Minister Shri Narendra Modi, approved the modified Pradhan Mantri JI-VAN Yojana to keep pace with the latest developments in biofuels and attract more investment. This modified scheme extends the timeline for implementation by five years, until 2028-29, and expands its scope to include advanced biofuels produced from lignocellulosic feedstocks, such as agricultural and forestry residues, industrial waste, synthesis (syn) gas, and algae.

The government has developed a detailed roadmap for ethanol blending to guide effective implementation.

• Efforts are underway to expand the feedstock used for ethanol production, allowing for more efficient and sustainable sourcing.

• A favourable procurement price for ethanol has been established under the EBP Programme, ensuring fair compensation for producers.

• The Goods and Services Tax (GST) on ethanol for the EBP Programme has been reduced to 5%, making it more financially attractive for producers and consumers. • Changes have been made to the industries (Development & Regulation) Act to facilitate the free movement of ethanol across states, promoting easier blending operations.

• An interest subvention scheme has been introduced to provide interest subsidies aimed at enhancing and augmenting ethanol production capacity in the country.

• Public Sector Oil Marketing Companies (OMCs) are actively floating Expressions of Interest for the procurement of ethanol, ensuring a steady demand and fostering market growth.

Conclusion

In conclusion, India's commitment to ethanol blending represents a transformative approach to energy security, environmental sustainability, and economic development. With a significant increase in ethanol production capacity and blending percentages, the government is making substantial strides towards its ambitious target of 20% blending by 2025. The strategic measures implemented, such as the modified Pradhan Mantri JI-VAN Yojana and a detailed roadmap for ethanol blending, are pivotal in overcoming past challenges and unlocking the full potential of this initiative. As India continues to advance in this domain, the dual benefits of reducing reliance on imported fossil fuels and revitalizing rural economies will not only contribute to a cleaner energy future but also foster economic resilience. The ongoing efforts underscore a proactive approach to sustainable energy solutions, positioning India as a leader in biofuel adoption and setting a precedent for others to follow.



NTPC commissions first part of 55 MW out of 105 MW Shajapur solar project in Madhya Pradesh

NTPC Limited has commissioned and commenced the first part of its 105 MW Shajapur solar project in Madhya Pradesh. This project will have a capacity of 55 MW and will be developed by NTPC Renewable Energy Limited, a step down subsidiary of NTPC through NTPC Green Energy Limited.

Adani Saur Urja incorporates SPV for implementation of renewable energy projects

Adani Saur Urja (KA) Limited, a wholly owned subsidiary of Adani Green Energy Limited, has incorporated wholly-owned subsidiaries, Adani Hydro Energy Two Limited and Adani Hydro Energy Three Limited for implementing its renewable energy projects in India.

The special purpose vehicle (SPV) will generate, develop, transform, distribute, transmit, sell, supply any kind of power or electrical energy generated using wind power projects, solar power projects or other sources of renewable energy.





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India Partners with Island Nations to Boost Solar Energy and Sustainability – EQ

In Short : India has signed agreements to operationalize solar energy projects in Fiji, Comoros, Madagascar, and Seychelles under the International Solar Alliance (ISA). These projects aim to promote renewable energy adoption, enhance energy access, and support sustainable development in these island nations. The initiative underscores India's commitment to global solar energy leadership and fostering environmental sustainability through international collaboration.

In Detail : India has signed agreements with Fiji, Comoros, Madagascar, and Seychelles to implement solar energy projects under the International Solar Alliance (ISA). These initiatives aim to promote renewable energy adoption, enhance energy access, and reduce dependence on fossil fuels in island nations highly vulnerable to climate change. By fostering international collaboration, India underscores its commitment to global sustainability and leadership in advancing clean energy solutions.

India Advances Global Solar Initiatives

India has signed agreements with Fiji, Comoros, Madagascar, and Seychelles to operationalize solar energy projects. These efforts are part of the International Solar Alliance (ISA), aiming to promote renewable energy adoption and address climate challenges in island nations vulnerable to environmental changes.

Promoting Clean Energy Solutions

The projects aim to harness solar power as a sustainable and cost-effective alternative to traditional energy sources. By transitioning to solar energy, these nations can reduce their reliance on fossil fuels, cut greenhouse gas emissions, and achieve cleaner energy solutions.

Expanding Energy Access

India's initiative focuses on improving energy access in remote and underserved regions of these island nations. Solar energy will provide reliable electricity for households, businesses, and public services, driving social and economic development and enhancing quality of life.

Strengthening Global Partnerships

The agreements highlight India's commitment to building strong international relationships through renewable energy initiatives. Collaborating with these island nations reflects mutual efforts to promote sustainability and achieve long-term development goals.

Supporting the ISA's Vision

As a founding member of the ISA, India plays a key role in mobilizing global efforts to expand solar energy infrastructure. These projects align with the alliance's objectives to facilitate investment, innovation, and knowledge sharing for sustainable energy transitions.

Commitment to Sustainability

India's leadership in these solar projects underscores its dedication to combating climate change and fostering global environmental stewardship. This initiative reinforces India's role as a global partner in driving renewable energy adoption and building a greener future.

Related posts:

UltraTech Raises \$500 Million To meet Sustainability And ESG Goals EQ

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Cemig to exit Brazils Renova as Brookfield hints at higher bid: sources

NGEL and MAHAGENCO form JV for renewable energy parks in Maharashtra

NTPC Green Energy Limited (NGEL), a wholly-owned subsidiary of NTPC Limited, and Maharashtra State Power Generation Company Limited (MAHAGENCO) have formed a joint venture (JV) named MAHAGENCO NTPC Green Energy Private Limited (MNGEPL) to develop renewable energy parks in Maharashtra.

The JV is established as a 50:50 partnership, will focus on developing, operating, and maintaining renewable energy parks under the ultra mega renewable energy power parks scheme.



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Mumbai, 26th November 2024 – Waaree Energies Ltd., accelerating global energy transition and India's largest solar PV module manufacturer, announces a 600 MWp module supply contract awarded by a prominent renewable energy company specializing in the ownership, development, and operation of renewable power projects across India. The delivery of these modules is scheduled to begin in FY 2025-26, positioning the project as a key contributor to India's ambitious clean energy targets.

This contract involves the supply of Waaree's flagship high-efficiency modules, renowned for their durability, energy output, and cutting-edge technology. As India's only solar panel manufacturer featured in the RETC PV Benchmarking Report 2024, Waaree's modules stand as a demonstration to quality, reliability, and performance. Waaree is a Tier 1 solar module manufacturer, recognized by Bloomberg New Energy Finance (BNEF), and operates an NABL-accredited testing lab, ensuring the highest standards of excellence. These distinctions strengthen the company's role in powering renewable projects, enhancing energy reliability, and significantly reducing carbon emissions.

Dr. Amit Paithankar, CEO, Waaree Energies Ltd., remarked, "We believe in the power of innovation and collaboration to address the energy needs of tomorrow. This project represents more than just megawatts; it symbolizes our nation's progress toward energy selfreliance and sustainability. As we prepare for delivery in FY 2025-26, our focus remains on delivering worldclass solar solutions that enable cleaner energy transitions, reduce carbon footprints, and fuel economic growth. Our ability to secure repeat orders highlights the trust we have established with our clients."

The module supply contract is an evidence of Waaree Energies' constant pursuit of excellence in solar PV module manufacturing. The successful implementation of this project will significantly enhance India's renewable energy capacity, driving meaningful reductions in greenhouse gas emissions and fostering environmental sustainability



Sembcorp Green Infra receives LoA for 300 MW wind-solar hybrid project

Sembcorp Green Infra Private Limited, a wholly owned subsidiary of Sembcorp Industries, has received a letter of award (LoA) from NTPC Limited for a 300 MW wind-solar hybrid power project under the inter-state transmission system segment.

The project is a part of a 1.2 GW bid and will follow a build-own-operate model. The project will supply electricity to NTPC under a 25-year long-term power purchase agreement (PPA) once signed. It is expected to become operational within 24 months of signing the PPA and will be funded through a mix of internal funds and debt.

Avaada Group inks MoU to develop 1.2 GW PSP in Rajasthan

Avaada Aqua Batteries, a wholly owned subsidiary of Avaada Group, has signed a memorandum of understanding (MoU) with the Rajasthan government to develop a 1.2 GW pumped storage project (PSP). The project will be established in the Sirohi district of Rajasthan. On behalf of the Rajasthan government, the MoU was signed by the Energy Department, Government of Rajasthan. The total budget of the project is Rs 58 billion and it will be constructed over the next five to seven years. The PSP project will provide round the clock renewable power and improve grid stability by integrating more olar and wind energy. The company has also secured financing through various sources for solar projects.

Hitachi Energy and BHEL receive NoA for Khavda-Nagpur HVDC project from Powergrid

Hitachi Energy India Limited, in partnership with Bharat Heavy Electricals Limited (BHEL), has received a notification of award (NoA) from Power Grid Corporation of India Limited (Powergrid) through a tariff-based competitive bidding process.







PM Modi to lay stone for green hydrogen hub in Vizag



Visakhapatnam: Prime Minister Narendra Modi will visit Visakhapatnam and will lay the foundation stone for various projects and inaugurate some projects and address a public meeting.

Modi's visit marks a significant moment as it is his first trip to Andhra Pradesh after the formation of the NDA govt in the state. It is also Modi's first visit to the state since assuming the office of Prime Minister for a third time.

Modi will lay the foundation stone for India's largest green hydrogen hub in Vizag on Nov 29. During the foundation laying ceremony, he will lay the stone virtually from the Andhra University Engineering Grounds in Vizag city.

The ambitious green hydrogen hub project, spearheaded by NTPC Green Energy Limited (NGEL), is set to be developed at Pudimadaka in Atchutapuram mandal of Anakapalle district. Spread over 1,600 acres, this ambitious initiative will turn Andhra Pradesh into a green energy powerhouse, making India a global leader in green hydrogen production.

In view of the Modis' visit to Vizag city, Visakhapatnam district collector MN Harendhira Prasad held a review meeting with departments concerned and public representatives.

Governor Abdul Nazeer, chief minister N Chandrababu Naidu, accompanied by deputy chief minister Pawan Kalyan and several ministers, is expected to participate in the event. Preparations are in full swing, with Visakhapatnam district officials conducting site inspection.

As per the tentative schedule, Modi will arrive at INS Dega on Nov 29 evening and will reach the venue-Andhra University Engineering Grounds in Vizag city through road route. On the way to the venue, Modi will lead a roadshow from Tycoon Junction to SP Bungalow. After inaugurations and laying foundation stones for various projects, Modi will address the public.

The Vizag district administration has decided to make an elaborate security arrangement for Modi's visit. The Vizag city police will impose certain traffic restrictions on Nov 29.



Orient Solar set to expand solar panel manufacturing capacity to 2 GW by 2025

Reportedly, Orient Solar has planned to increase its production capacity from 800 MW to 2 GW by mid-2025. The expansion will involve an investment of Rs 1.30 billion, covering capital expenditure, land, and building costs.

Premier Energies subsidiaries secures orders worth Rs 10.87 billion for solar modules and cells

Premier Energies Limited, through its subsidiaries- Premier Energies Global Environment Private Limited, Premier Energies International Private Limited, Premier Energies Photovoltaic Private Limited, have secured multiple orders worth Rs 10.87 billion from two major independent power producers and a domestic customer. These orders include Rs 9.64 billion for solar modules and Rs 1.23 billion for solar cells. The supply of modules and cells scheduled to begin in January 2025.

Oriana Power and Kirloskar secure contracts worth 66 MW for solar projects

Oriana Power and Kirloskar Solar Technologies have secured contracts from NTPC Vidyut Vyapar Nigam Limited (NVVN) to develop solar projects with a combined capacity of 66 MW across various locations in India.



Azerbaijan completes first renewable energy auction for 100 MW solar plant

Azerbaijan's Ministry of Energy has successfully completed its first renewable energy auction, awarding a 100 MW solar power project to universal international holdings. The Chinese company secured the contract with a competitive bid of USD0.0354 per kWh and will be responsible for designing, financing, building, and operating the solar plant in the Garadagh region, located near Azerbaijan's Caspian Sea coastline. The facility is expected to begin operations in 2027. The auction was initiated in April 2024 with tender support from the European Bank for Reconstruction and Development.

Tata Power signs MoU with ADB for USD4.25 billioninvestment in clean energyincluding a 966 MW solar-wind hybridhydro, storage, project, and other in

Tata Power Limited has signed a memorandum of understanding (MoU) with the Asian Development Bank (ADB) to evaluate financing for clean energy and power infrastructure projects worth USD4.25 billion.

The agreement focuses on funding key projects,

including a 966 MW solar-wind hybrid project, a pumped hydro storage project, and other initiatives aimed at energy transition, decarbonisation, and battery storage. Additionally, the MoU includes capital expenditure for strengthening Tata Power's distribution networks, ensuring improved power delivery.

KEC International secures new orders in T&D worth Rs 11.14 billion

KEC International Limited, a wholly owned subsidiary of RPG Group has secured new orders totaling Rs 11.14 billion across various business segments. In the transmission and distribution (T&D) segment, the company has received orders for a 400 kV transmission line project in Oman and the supply of towers, hardware, and poles in the Americas.







१२ औद्योगिक स्मार्ट शहरे ज्यांनी भारताच्या विकासाच्या प्रवासात महत्वाची भूमिका बजावली.

उत्पादन क्षेत्राला चालना मिळावी याकरता 'आत्मनिर्भर भारत' योजनेअंतर्गत काही धोरणे निश्चित करण्यात आली. जेणेकरून भारताचा सर्वांगीण विकास होऊ शकेल. याची काही उदाहरणे केंद्रीय अर्थ संकल्पात पाहायला मिळाली. त्यातील पहिले उदाहरण म्हणजे पीएलआय योजना आणि एम्प्लॉयमेंट लिंकड इंसेन्टीव्ह योजना.

त्याचप्रमाणे अर्थसंकल्पात १२ ठिकाणी औद्योगिक पार्क ची सुरुवात करणे आणि राष्ट्रीय औद्योगिक जोडमार्ग विकास कार्यक्रम (NICDP) यांचाही समावेश आहे. ज्यामुळे उत्पादन क्षेत्राला चालना मिळेल.

अशी एक चांगली व्यवस्था निर्माण करणे ज्यात निकोप स्पर्धा असेल. आणि त्याचबरोबरीने आर्थिक विकास सुद्धा साधला जाईल. जागतिक पुरवठा साखळ्यांची पुनर्रचना करणे आणि भारतीय उद्योगांमध्ये जर स्पर्धात्मकता हवी असेल तर उत्पादन क्षेत्राला केंद्रस्थानी ठेऊन जागतिक स्तरावर उच्च दर्जाच्या उत्पादन प्रक्रियेच्या एकत्रीकरणाच्या गरज आहे. ज्यामुळे अर्थातच उत्पादन क्षमता वाढेल. म्हणूनच CCEA ला १२ औद्योगिक शहरे करण्याची मंजुरी मिळणे हा भारताला उत्पादन क्षेत्रातील केंद्र बनवण्यासाठी सगळ्यात महत्वाचा निर्णय ठरणार आहे.

या उपक्रमात जागतिक दर्जाची स्मार्ट शहरे तयार करण्यासाठी आणि देशभरात औद्योगिकी जाळे (नेटवर्क) तयार करण्यासाठी २८६०० कोटी रुपयांची गुंतवणूक करण्याचा प्रस्ताव आहे. ही १२ शहरे प्रधानमंत्री गतिशक्ति मास्टर प्लॅन आणि स्वर्ण चतुर्भुज योजनेशी संलग्न आहेत. आणि मल्टी मॉडेल कनेक्टिव्हिटी इन्फ्रास्ट्रुक्चर मध्ये जायला त्यांना मुभा असेल. या अंतर्गत असणाऱ्या सोयी सुविधांमध्ये २४ तास वीजपुरवठा, पाणीपुरवठा गॅसची पाईपलाईन, इंफ्लुएंट ट्रीटमेंट प्लांट, टेलिकॉम ओएफ सी नेटवर्क आणि इतर अनेक सुविधा असणार आहेत.

गुंतवणूकदारांना आधीच विकसित केलेली जमीन देण्यात येईल. तसेच नवनवीन उद्योगांना जमीन व्यवस्थापनेद्वारे त्वरित जमीन मिळेल अशी सोय या योजनेत आहे योग्य आकाराचे प्लॉट्स आणि जेव्हा हवे तेव्हा पैसे भरण्याची सुविधाही आहे. औद्यागिकीकरणाने शहरांना जोडण्याच्या या योजनेमुळे या क्षेत्राला बरेचसे फायदे होणार आहेत. यामुळे या क्षेत्रात १.५ ट्रिलियन डॉलरची गुंतवणूक होईल असा अंदाज आहे जी आज घडीला जागतिक व्यापाराच्या ७०% आहे.

मोठ्या अँकर इंडस्ट्री आणि एमएसएमइ मुळे मोठ्या

युनिट्सना पुरवठा करण्यात अडथळा येणार नाही. त्याचबरोबरीने सूक्ष्म लघु आणि माध्यम उद्योगांना बाजारपेठ खुली होईल. दुसरे म्हणजे अशा प्रकारच्या गुंतवणुकीतून मोठ्या प्रमाणावर रोजगार निर्मिती होईल. १ अब्ज थेट रोजगार आणि ३ अब्ज अप्रत्यक्ष रोजगार निर्मिती होईल. वॉक टू वर्क सारखी संकल्पना राबवताना नवनवीन लोकांना संधी प्राप्त होईल. तसेच चांगली गृहव्यवस्था, चांगली अर्थव्यवस्था, चांगली आरोग्य व्यवस्था शिक्षण आणि मनोरंजन इत्यादी सोयी सुविधा देखील असतील. तिसरे म्हणजे भारतीय उद्योगांमध्ये स्पर्धा जास्त असेल कारण कमी बजेट मध्ये व्यवसाय करण्याची भारतीयांची कला. मल्टि मॉडेल कनेक्टिव्हिटी मुळे लॉजिस्टिक कॉस्ट सुद्धा कमी होईल.

यामुळे व्यवसाय करताना लागणाऱ्या परवानग्या जसे की जमीनविषयक, पर्यावरणविषयक, ऑनलाईन अर्ज भरणे ही सगळी कामे एका छताखाली होतील. व्यवसाय सुलभता येईल धावपळ करावी लागणार नाही. उत्पादन क्षेत्रातील स्पर्धात्मकता आणि संपर्क (प्रत्यक्ष आणि आभासी) यामुळे निर्यातीत वाढ होईल जे मोठ्या कंपन्या आणि लघुउद्योग या दोघांसाठी चांगले आहे ज्यामुळे २०३० पर्यंत १ ट्रिलियन निर्यातीचे उद्दिष्ट पूर्ण करता येणार आहे. या योजनेतील १२ शहरे ही १० राज्यांमधील आहेत त्यामुळे साहजिक तिकडे जागतिक दर्जाचे उद्योगाला जरुरी असणारे बांधकाम करण्यात येईल. आणि ज्या राज्यांना काही कारणामुळे भारतीय उद्योगाशी जोडता आले नव्हते त्यांनाही जोडून घेणे सोप्पे होईल. आणि प्रादेशिक विकास साधला जाईल. या औद्योगिक जोडमार्गामुळे शहरांचा विकास होणार आहे. आणि त्यामुळे साहजिकच २०४७ पर्यंत अपेक्षित ५०% तरी शहरीकरण झालेले असेल.

CII च्या अहवालाप्रमाणे भारतीय अर्थव्यवस्था २०३०-३१ पर्यंत ८ ट्रिलियन डॉलर पर्यंत पोहचू शकते आणि २०४७-४८ पर्यंत ८ ट्रिलियन डॉलर पार करण्याची शक्यता आहे.

तसेच उत्पादन क्षेत्रात सुद्धा GVA जो २०२३-२४ साली १४.% एवढा होता तो २०३०-३१ साली २५. १% तर २०४७ -४८ साली २६.६ % होण्याचा अंदाज आहे. निर्यातीच्या बाबतीत सुद्धा CII च्या अंदाजाप्रमाणे २०२२ साली व्यापाराचा हिस्सा जो १.८ % होता तो २०४७ पर्यंत ९.८% एवढा असेल. म्हणजे २०२३-२४ मध्ये जी वाढ ०.४५ % ट्रिलियन डॉलर एवढी आहे ती २०४७ -४८ मध्ये ३.७ ट्रिलियन डॉलर पर्यंत जाण्याचा अंदाज आहे. औद्योगिक दृष्ट्या स्मार्ट शहराची घोषणा उत्पादन दृष्ट्या भारतात आणखी काय नवीन दडले आहे ते ओळखायला मदत करील.





Product News

EG100

IoT enabled Microprocessor based Intelligent Circuit breaker Module EG100 Intelligent Protection Unit—an innovation for circuit breakers, offering comprehensive protection features. Effortlessly upgrade standard breakers to smart solutions with real-time monitoring via Elmeasure IoT Cloud. Enjoy a complimentary 12-month subscription for enhanced protection. Safeguard your system, promote health, and reduce maintenance time with EG100.

The product offers comprehensive protection in that EG100 offers under-voltage, over-voltage, phase sequence, overload, single phasing, short circuit, and earth fault protection. It has intelligent upgrade wherein transforms standard circuit breakers into intelligent ones, adding an extra layer of protection. It also has Real-time Monitoring where the monitor breaker status, voltage, current, power, and energy in real-time through Elmeasure IoT Cloud. We offer a 12-Month IoT Cloud Subscription where you can enjoy a complimentary 12-month subscription for enhanced protection and proactive maintenance. There is also System Optimization: Safeguard your electrical circuit, promote system health, and reduce maintenance time. It has operational efficiency to enhance overall system performance with proactive monitoring and timely insights. It is our innovation to stay ahead with cuttingedge technology for improved electrical infrastructure management.

Track Busway Modular Technology

Track Busway being a modular hot swappable technology majorly used in data centers for server room power distribution to racks. It ranges from 250A -1000A catering all colo, edge to hyperscaler data centers. It improves uptime facility & gives no downtime, more flexible & unique solution. Advantages include, Hot Swappable; No Downtime; Easy to Modify; BMS Integrated; Online Plug & Play.









दलात लवकरच ५५० जवानांची भरती; खासगी संस्थेकडे जबाबदारी

याआधी ९१० पदांसाठी भरतीप्रक्रिया या भरतीवेळी गोंधळ, पोटाळा झाल्याचा आरोप सावधगिरी म्हणून आता खासगी संस्थेमार्फत भरती

मुंबई अग्निशमन दलातील नोकर भरतीमधील गोंधळ टाळण्यासाठी यापुढील भरतीप्रक्रिया खासगी संस्थेमार्फत राबवण्याचा निर्णय घेण्यात आला आहे. याअंतर्गत दलात लवकरच ५५० जवानांची भरती केली जाणार आहे.

अग्निशमन दलातील कमी मनुष्यबळ पाहता ९१० रिक्त जागा भरण्याचा निर्णय घेण्यात आला होता. यात महिलांसाठी ७३ जागा होत्या. जानेवारी २०२३पासून या भरती प्रक्रियेला सुरुवात झाली. यासाठी राज्याच्या विविध भागांतून हजारो तरुण-तरुणी मुंबईत आल्या होत्या. या भरतीवेळी चराच गोंधळ झाला. भरतीचा निकाल अग्निशमन दलाकडून ११ मे २०२३ रोजी जाहीर करण्यात आला. त्यानंतर अनुत्तीर्ण झालेल्या उमेदवारांनी अग्निशमन दलाच्या भायखळा येथील मुख्यालयावर धडक देत भरतीत घोटाळा झाल्याचा आरोप केला होता. उत्तीर्ण झालेल्या एकाच उमेदवारांचे दोन वेळा यादीत नाव येणे, आरक्षित असलेल्या प्रवर्गाप्रमाणेच खुल्या प्रवर्गातील सेवेत येण्यास विलंबच मुंबई अग्निशमन दलात सध्या सुमारे दीड हजार जवान सेवेत असून, मोठ्या प्रमाणात जागा रिक्त आहेत. सध्याचे अपुरे मनुष्यबळ लक्षात घेत ९१० जागा भरण्याचा निर्णय घेण्यात आला होता. त्यातील पात्र उमेदवारांचे प्रशिक्षण पूर्ण होऊन ते जानेवारी २०२४ पासून सेवेत येणार होते. मात्र त्याला काहीसा विलंब होणार आहे. तर आणखी काही जवानांच्या भरतीमुळे अग्निशमन दलाचे मनुष्यबळ वाढणार आहे.

गटातही उत्तीर्ण झालेले उमेदवार असणे, भरतीप्रक्रियेतील संपूर्ण उमेदवारांची यादी जाहीर न करता काही उमेदवारांचीच नावे जाहीर करणे, यांसह अन्य प्रकार घडले होते. या गोंधळामुळे मुंबई महापालिका आणि मुंबई अग्निशमन दलाच्या भरतीप्रक्रियेवर टीका झाली. त्यामुळे असा प्रकार पुन्हा होऊ नये यापुढे नव्याने होणारी भरतीप्रक्रिया अग्निशमन दलामार्फत न राबवता खासगी संस्थेच्या मदतीनेच करण्याचा निर्णय घेतल्याची माहिती मुंबई अग्निशमन दलातील सूत्रांनी दिली.

मागील भरतीप्रक्रियेत ९१० पैकी सुमारे ८०० जवानांची भरती झाली होती. त्यांचे सध्या प्रशिक्षण सुरू असून, सहा महिन्यांच्या आत ते सेवेत येणार आहेत. उर्वरित जवानांसह आणखी नव्याने जवानांची भरती केली जाणार असून, असे ५५० जवान लवकरच भरती केले जाणार असल्याचे सूत्रांनी सांगितले. यामध्ये महिलांसाठी ३० टक्के राखीव जागा असणार आहेत.

आगनियंत्रण यंत्रणा नसल्यास कारवाई

नवीन वर्षाचे स्वागत अनेक मुंबईकर लहान–मोठ्या हॉटेलमध्ये जाऊन करतात. मोठ्या प्रमाणात होणाऱ्या गर्दीच्यावेळी एखादी आगीची दुर्घटना घडू नये किंवा घडल्यास खबरदारी म्हणून अग्निशमन यंत्रणा कार्यरत असणे आवश्यक आहे. मात्र, अनेक हॉटेलांमध्ये अग्निशमन यंत्रणा नसते. अशा हॉटेलांवर कारवाईचा बडगा उचलण्याचा निर्णय मुंबई अग्निशमन दलाने घेतला आहे. त्यासाठी हॉटेलांची झाडाझडती घेत हॉटेल मालकांना नोटीस बजावून अग्निशमन यंत्रणा बसवण्याचे निर्देश दिले जाणार र आहेत. मुंबईत लहान–मोठी २२ हजारपेक्षा जास्त हॉटेल आहेत. नववर्षाचे स्वागत करण्यासाठी सर्व वयोगटातील वर्ग मोठ्या संख्येने हॉटेलमध्ये जातात. हॉटेलच्या किचनवर येणारा ताण पाहता खाद्यपदार्थ बनवण्यासाठी अतिरिक्त किचनची व्यवस्थाही केली

जाते. या सर्व गोंधळात अग्निशमनबाबत कोणत्याही नियमांचे पालन होत नाही. त्यामुळे एखाद्या दुर्घटनेलाही सामोरे जावे लागते. नववर्षाच्या स्वागताला कोणतेही गालबोट लागू नये, यासाठी खबरदारी म्हणून मुंबई अग्निशमन दलाने सर्व हॉटेलांमधील अग्निशमन यंत्रणांची तपासणी करण्याचा निर्णय घेतल्याची माहिती सूत्रांनी दिली. तसे वरिष्ठ पातळीवरून आदेशही देण्यात आले आहेत.

अग्निशमन यंत्रणा कार्यरत आहे का, तसेच अग्निशमन यंत्रणा नव्याने बसवली आहे की नाही याची खातरजमा अग्निशमन दल ३१ डिसेंबरपूर्वी करणार आहे. यासाठी वॉर्ड स्तरावरील

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अधिकाऱ्यांचीही मदत घेतली जाणार आहे. अग्निशमन यंत्रणा नसल्यास नोटीस बजावून नवीन यंत्रणा बसवण्याचे किंवा बंद असलेली यंत्रणा कार्यरत करण्याचे निर्देश दिले जातील, त्यानंतरही यंत्रणा न बसवल्यास कारवाईचा बडगा उचलण्यात येणार आहे. थर्टी फर्स्ट साजरा करण्यासाठी कमी कालावधी राहिलेला असल्याने ज्या हॉटेलमध्ये यंत्रणा कार्यरत नसेल त्यांना तातडीने ती बसवण्यास सांगण्यात येणार आहे.

रुग्णालय, नर्सिंग होमचीही होणार तपासणी

मुंबईतील रुग्णालये, नर्सिंग होमच्याही अग्निशमन यंत्रणांची डिसेंबरच्या पहिल्या आठवड्यात तपासणी होणार आहे. अग्निशमन नियमांचे उल्लंघन आढळल्यास त्यांच्यावर कारवाई केली जाणार आहे. मुंबईत उत्तुंग इमारतींना परवानगी देतानाच अग्निशमन यंत्रणा असेल तरच ना हरकत प्रमाणपत्र दिले जाते. तसेच, दर सहा महिन्यांनी अग्निशमन यंत्रणेचे ऑडिट करणेही अनिवार्य आहे, मात्र ते होताना दिसत नाही.

२०२४मध्ये तीन हजारहून अधिक आगीच्या घटना

गेल्या तीन वर्षांत मुंबईत १३ हजारपेक्षा जास्त आगीच्या घटना घडल्या आहेत. यामध्ये ६५ जणांचा मृत्यू झाला आहे. २०२४मध्ये तीन हजार २०० पेक्षा अधिक आगीच्या घटना घडल्या आहेत. प्रत्येक महिन्याला आगीच्या लहान-मोठ्या ४०० घटना घडत आहेत.





60 Million Panels, 770 Wind Turbines Spread Over 538 Sq Km: How Khavda Plant Leads India's Big Push For Solar Power

India plans carbon neutrality by 2070 and as such, wants its renewable energy capacity to rise from 200 GW to 500 GW by 2030.

Khavda: Vast lines of solar panels reflect the blazing sun in India's western deserts, a dazzling ocean broken only by bristling wind turbines. India, along its desolate border with Pakistan, is building what it boasts will be the world's largest renewable power plant, an emblem of a determined push to boost solar energy.

The Khavda plant in Gujarat state consists of some 60 million solar panels and 770 wind turbines spread over 538 square kilometres (208 square miles) -- almost the size of the sprawling megacity Mumbai.

In front of a wall of screens, a handful of operators monitor the machines under the slogan: "Adani Group: Growth with Goodness". "Today, we can produce up to 11 gigawatts of electricity," said Maninder Singh Pental, vicepresident of Adani Green Energy, the subsidiary of Indian conglomerate Adani Group, and in which France's TotalEnergies holds a 20 percent stake.

"In 2029, we will be able to produce up to 30 GW," he added proudly. At that point, India will break another record, with Khavda overtaking China's 18 GW Three Gorges hydroelectric dam to become the most powerful electricity production site in the world.



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The power is sorely needed in the world's most populous nation, where demand has doubled since 2000, driven by demographic expansion, economic growth and rapid urbanisation.

India vows to be carbon neutral by 2070 and as part of that, New Delhi wants its renewable energy capacity to rise from 200 GW -- half of its current energy mix -- to 500 GW by 2030. It hopes 300 GW will come from solar power alone.

The International Energy Agency, in a report this year, said India is "expected to almost triple its 2022 renewable capacity by 2030", maintaining its third place position among the largest renewable energy producers.

Adani bombshell

As Prime Minister Narendra Modi speaks of a "solar revolution" panels are popping up across India, from power plants to rooftops. But Adani Green Energy CEO Sagar Adani said what matters is the scale of production as it is easier and quicker to ramp up the country's baseload with bigger units than smaller ones.

"The country needs a large amount of large concentrated big locations," he said. "You can have 200 projects of 50 megawatts each, nothing is going to happen to India with that." Adani has vowed to commit \$35 billion to renewables by 2030.

However, a bombshell US indictment last week has caused complications, with TotalEnergies freezing all new investments in the conglomerate after tycoon founder Gautam Adani and multiple subordinates were accused of fraud -- charges fiercely denied. But observers suggest the solar power push will continue.

"It will not impact honest players," a market analyst said, but warned it will "affect Adani's ability to raise funds". Billionaire Mukesh Ambani's Reliance group has also promised to invest \$10 billion in green energy, including a 10GW solar farm in Andhra Pradesh state.

Critically, the cost of solar energy has dropped to become competitive to coal-fired plants, which produce 70 percent of India's electricity. "It's a good thing," said Ajay Mathur, director of the International Solar Alliance (ISA).

He noted that while "the initial investment is double", power prices per kilowatt hour for solar are

now the same or less than from coal plants. Tejpreet Chopra, from major renewable energy generation giant Bharat Light and Power, said it was "super exciting" to be part of the transition, while accepting there were major hurdles.

"When the cost of energy has come down, the financial return is more and more difficult," he said. "How do you attract capital, investments and technology?"

Rising power demands

Government financial incentives are encouraging people to make the switch -- including a factory in the suburbs of New Delhi. Jubilant Food Works factory employs 500 employees, producing pizzas and pastries for US brands. On its 4,400-square-metre roof, nearly 800 solar panels provide 14 percent of its electricity far cheaper than the grid.

Praveen Kumay from SunSource Energy said his teams installed and maintain the infrastructure. "For each unit... we are billing them 4.3 rupees, whereas the grid cost is seven rupees," Kumay said.

Factory manager Anil Chandel said it was a "good deal" they aimed to expand to supply 50 percent of power needs. "We don't have any headache of maintaining it," he said. The government has also promised to support panels for 10 million homes. But power demands are rising fast and expected to surge a further 50 percent by 2030. The existing carbon-hungry system will remain key.

"We need power, and for India, it means coal," said Tejpreet Chopra. "That's the reality of the grid." Chetan Solanki, of the Energy Swaraj Foundation -meaning "self-restraint" -- said solar panels come with their own cost of production, in terms of power and chemicals.

"Solar energy is better than coal, but you can't use it blindly," he said, adding that people must also rein in power demand. "We also have to minimise energy consumption."

(Except for the headline, this story has not been edited by ETV Bharat and is published from a syndicated feed.)





Solar cell efficiency skyrockets to 26.3% power conversion rate with new coating

The coated solar cell also retained 90% of its initial efficiency after 1,100 hours of testing under harsh conditions.

Anew protective coating has significantly increased the power conversion efficiency of perovskite solar cells.

Developed by Northwestern University scientists, the coating also extends the life of perovskite solar cells. Based on amidinium, the robust layer was 10 times more resistant to decomposition compared to conventional ammonium-based coatings in experiments.

Researchers claimed that the guanidinium-coated cells also tripled the cell's T90 lifetime — the time it takes for a perovskite solar cell's efficiency to drop 90% of its initial value when exposed to harsh conditions.

Protective layer

Northwestern's Bin Chen, who co-led the study, stated that the researchers have been working on the stability of perovskite solar cells for a long time.

Chen highlighted that most reports focus on improving the stability of the perovskite material itself, overlooking the protective layers.

"By improving the protective layer, we were able to enhance the perovskite solar cells' overall performance," added Chen.

Perovskites are a family of materials that have shown potential for high performance and low production costs in solar cells. The name "perovskite" comes from their crystal structure.

These materials are utilized in other energy technologies, such as fuel cells and catalysts. Perovskites commonly used in photovoltaic (PV) solar cells are more specifically called "metal-halide perovskites" since they are made of a combination of organic ions, metals, and halogens; perovskites in other applications may be made of oxygen instead of halogens and are usually entirely inorganic.

Thermal stability of passivation layers

The new study, published in the journal Science, highlights the development of a library of amidinium

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ligands to increase the thermal stability of passivation layers on perovskite surfaces.

This strategy resulted in a >10-fold reduction in the ligand deprotonation equilibrium constant and a twofold increase in the maintenance of photoluminescence quantum yield after aging at 85°C under illumination in air, according to the study.

Northwestern's Mercouri Kanatzidis, who co-led the study, stated that the new research addresses one of the critical barriers to widespread adoption of perovskite solar cells — stability under real-world conditions.

Significantly advanced durability

"By chemically reinforcing the protective layers, we've significantly advanced the durability of these cells without compromising their exceptional efficiency, bringing us closer to a practical, low-cost alternative to silicon-based photovoltaics," said Kanatzidis.

Researchers also underlined that the state-of-theart perovskite solar cells typically have ammonium ligands as a passivation layer. However, ammonium tends to break down under thermal stress.

They did some chemistry to convert the unstable ammonium into a more stable amidinium.

"The researchers performed this conversion through a process known as amidination, in which the ammonium group is replaced with a more stable amidinium group. This innovation prevented the perovskite cells from breaking down over time especially when exposed to extreme heat," said a press release.

Researchers maintained that the resulting solar cell achieved an impressive 26.3% efficiency, which means it successfully converted 26.3% of absorbed sunlight into electricity.

The coated solar cell also retained 90% of its initial efficiency after 1,100 hours of testing under harsh conditions, demonstrating a T90 lifetime three times longer than before when exposed to heat and light, according to study.

Product News

RCBO

RCBO helps with protection against overload, short circuit and Earth Leakage. The range offered is up to 6A~

63A, 2P & 4P.

Smart Switches

A range of Wi-Fi enabled Smart Touch switches for modern homes and retrofit solutions for existing conventional homes to convert them in smart homes.

The smart solutions are aimed to give home automation solutions to customers.

The Wi-Fi enabled technology helps customers to operate from remote locations. The retrofit solutions are readymade solutions for converting conventional installation into smart installations.

Arc Pro

Arc Pro (Arc Protection relay) monitors the arc phenomenon in the circuit and takes measures instantaneously when the arc is found in the system to protect the LV/MV electrical equipment and personnel. The purpose of the protection relay is to detect arc, ideally during its initial stage and to either eliminate or significantly reduce damage to personnel and/or equipment. We are offering the Live demonstration of the same in our Panels. C&S Electric make Arc Protection relays trigger Instant tripping with trip time ≤ 2 msec which is the fastest among the available solutions at present. This is C&S indigenous design that comes with LCD display, Fault logs storing facility and keypad for settings of product.



Energy Efficiency: A Dream Come True

consumption too is expected to boom in the future. Global awareness events like COP26 and G20 have awakened the industry to focus intensely on energy conservation and sustainability.

The true concept of 'energy efficiency' is not limited to only saving power; it includes reducing carbon emissions, enhancing energy security, and promotion of sustainable options. India has also taken several steps to lower its carbon emissions and foster sustainable development.

Let us explore through the state and sector-wise EE status with the help of the State Energy Efficiency Index Report 2021-22 the Bureau of Energy Efficiency research data, and references from other governmental news and research papers.

Energy Efficiency in India

India ranks third globally in energy consumption only after China and the United States, with expectations of exponential growth in demand in the foreseeable future. At the 26th Conference of the Parties (COP26), India's Panchamrit of climate action - reaching a non-fossil fuel energy capacity of 500 GW by 2030, fulfilling at least half of its energy requirements via renewable energy by 2030; reducing CO2 emissions by 1 billion tons by 2030; reducing carbon intensity below 45 per cent by 2030; and finally pave the way for achieving a Net-Zero emission target by 2070. India's commitment to reducing emissions and transitioning to a sustainable energy future is evident as India ranks 7th in the 2023 Climate Change Performance Index. According to a report released during the global climate conference (COP-28) in Dubai, India maintained its top 10 position for the fifth year.

In the recent past, the Government of India launched several measures, such as: Establishing the minimum proportion of non-fossil resource consumption by designated consumers, including Distribution Companies (DISCOMs), until 2029-30, Initiatives such as the Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PMKUSUM), Solar Parks Scheme, Solar Rooftop Phase II, and 12000 MW CPSU Scheme Phase II,



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Expansion of transmission infrastructure and the establishment of new substations under the Green Energy Corridor Scheme to facilitate the transmission of renewable energy, I Implementation of the Promoting Renewable Energy through Green Energy Open Access Rules 2022,

Introduction of the Green Term Ahead Market (GTAM) to enable the trading of renewable energy via exchanges, I Launching the National Green Hydrogen Mission with the objective of, among other goals, reducing reliance on imported fossil fuels. Carbon-credit initiative, creating a global platform for the exchange of green finance.

The government has also implemented numerous initiatives to enhance energy efficiency, including the standard and labelling scheme for the appliance sector, the UJALA scheme aimed at providing affordable LED bulbs, the PAT scheme targeting industries, and the introduction of Energy Conservation Building Codes and Eco Niwas Samhita for both commercial and residential buildings. Furthermore, efforts in the transportation sector focus on improving the efficiency of conventional fuel vehicles, promoting the adoption of electric mobility, and encouraging a modal shift toward railways. Energy Efficiency Readiness in the DISCOMs Sector

The Indian power sector is moving towards a clean energy transition and transformation, and DISCOMs are a vital stakeholder group in this transition. The need for a low-carbon and climate-resilient future makes it crucial for the Indian electricity distribution sector to achieve operational efficiency, profitability, readiness for emerging and future demand and technological changes.

The Ministry of Power and Bureau of Energy Efficieny (BEE) released the State Energy Efficiency of India (SEEI) report 2021-22, which consists of the annual progress of states and UTs in energy efficiency implementation for FY 2020-21 and 2021-22. According to the SEEI, Kerala is a top-performing state in the DISCOM State. Other topperforming states include Maharashtra, Telangana, Puducherry, Andhra Pradesh, Himachal Pradesh, Rajasthan, Delhi, Haryana, and Tamil Nadu.

In the realm of energy efficiency, T&D loss is an important yardstick to measure DISCOMs' operational efficiency. The Ministry of Power (MoP), Government of India, in consultation with BEE, has set a target for T&D loss percentage for 95 DISCOMs under PAT Cycle VII. In addition, tthe BEE has enforced regulations mandating annual energy audits and periodic energy accounting in all DISCOMs holding distribution licenses issued by the State Electricity Regulatory Commissions (SERCs) or Joint Electricity Regulatory Commissions (JERCs). According to BEE data, 25 states have implemented ToD/ ToU tariffs for industrial and commercial consumers, while only 7 states have implemented ToD/ToU tariffs for domestic consumers.

Since the unit cost of electricity is different during peak and off-peak periods, ToD tariffs are implemented to reduce the



consumption of electricity during peak hours through a higher peak tariff and a lower off-peak tariff to incentivise consumption during off-peak periods. 20 states appointed a nodal officer to conduct energy audits in DISCOMs. 'Filament Free Kerala' is one of the projects envisaged in the Urja Kerala Mission announced by the Government of Kerala to replace the incandescent lamps & CFLs among the entire population of domestic consumers in the state with LED bulbs. The project is being jointly implemented by the KSEB and Kerala EMC. Under this scheme, domestic consumers get a branded 9 W LED bulb at a discounted price of Rs. 65, and CFLs and incandescent bulbs are collected for disposal. All consumers under KSEB have to apply for replacement. KSEB has distributed one (1) crore 9 W LED bulbs to domestic consumers so far.

ADOPTION OF EE MEASURES IN DISCOMs

Smart meters enable real-time access to information on energy usage by consumers at different times of the day. This data helps customers manage their energy use more proactively and DISCOMs make informed decisions on load management and grid stability.

Thirteen (13) states furnished data on the number of utility consumers with smart meters. Smart meter data are reported to be analysed and used for consumer awareness to enhance DISCOM operational efficiency only in DISCOM(s) in three (3) states. The data is analysed for energy consumption patterns, future trends, and improving collection efficiency and peak load management. Table 1 shows the status of smart meter installation in the states and UTs.

Table 1: State-wise smart meter status

Indicator States – Wise Status States with Smart Meters Assam, Bihar, Chandigarh, Haryana, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Meghalaya, Puducherry, Rajasthan, Telangana, Uttar Pradesh (13)

States that have analysed smart meter data Kerala, Puducherry, Rajasthan (3) Assam, Bihar, Chandigarh, Haryana, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Meghalaya, Puducherry, Rajasthan, Telangana and Uttar Pradesh have adopted smart meters, while the states of Kerala, Puducherry and Rajasthan have analysed smart meter data. 28 states reported undertaking DSM programmes for the utility consumers.

All these actions will limit energy demand growth, decrease energy intensity, and foster innovation in energy technology. It also shows the government's strong leadership in advancing energy efficiency while



addressing the challenges in achieving widespread adoption and execution.

Scrutinizing Buildings, Industries, Municipalities & E-Mobility Sectors

A. Building Sector

In India, the building sector is the second-highest in total final energy consumption (TFEC) and is projected to grow by 45% up to 2027 from the 2017 baseline, as per the same report. Energy consumption in Indian buildings is expected to go up due to rapid urbanization and economic development. The states and UTs are yet to make a concerted effort to develop institutional capacity on EE in the buildings sector.

18 states and UTs have notified ECBC 2017 and 10 have drafted ENS or ECBC Residential 2021 Rajasthan Housing Board is in the process of constructing an EE residential complex for MLAs in Jaipur, consisting of 160 flats, to achieve a 3-star GRIHA rating for this project. This is an exemplary demonstration of EE adoption in public buildings, led by the state government.

Adoption of EE Measures in the Building Sector

Adoption of EE measures in states and UTs is assessed based on penetration of certified green buildings, adoption of ECBC in new construction, and winners of BEE's National Energy Efficiency Roadmap for Movement towards Affordable & Natural Habitat (NEERMAN) awards.

An optimal measure of green building penetration would be the ratio of green building built-up area to the total built-up area in the state. However, in the absence of data on the state-wise built-up area, the indicator on green buildings has been normalised as the number of certified green buildings per million connected residential and commercial building consumers (i.e. electricity connections) in the state.

IGBC, GRIHA, and GBCI Leadership in Energy and Environmental Design (LEED) ratings have been aggregated for the total number of certified green buildings says the report. Out of 36 states and UTs, 29 states and UTs have a total of 3950 certified green buildings.

B. Industrial Sector

The industry sector accounted for the highest share of energy consumption, 41% of total electricity consumption in India, in FY 2020-2021. As per NITI Aayog's India Energy Security Scenarios (IESS) model, this sector is projected to have the highest energy savings potential in India by 2047 through EE management and innovative technology deployment.

The institutional capacity of the states and UTs in this





sector is still not well-established. Only thirteen (13) states reported the existence of an entity to develop capacity and provide technical expertise on EE in industry for engineers, managers, business owners, city officials, and other stakeholders at the state level.

KDISC has introduced the One District-One Idea MSME Innovation Cluster programme for innovation promotion and local economic development. KDISC will provide monetary support to MSMEs for the innovation component and technology support for fostering innovation through green energy techniques, including DSM, sustainable development strategies, capacity building, and productivity enhancement.

Adoption of EE Measures in the Industries Sector Energy conservation awards are given to industries and establishments in recognition of their commendable efforts to reduce energy consumption while maintaining their production. In SEEI 2021-22, industrial units in twenty-four (24) states and UTs won energy conservation awards through state/national/industry association awards. In Maharashtra, 59 industrial units won energy conservation awards, the highest number among all states. Out of 59, 30 awards came from the state energy conservation award, 26 awards from CII, and 3 awards from 37State Energy Efficiency Index 2021-22 NECA.

C. Municipal Sector

Municipal services sector/urban local bodies (ULBs) consume electricity for various utility services like street lighting, water pumping, and sewage treatment in various public buildings. Currently, around 30% of the Indian population lives in urban areas, and continuous migration from rural areas is burdening the ULBs16. Municipal EE limits use of scarce commodities and stretches tight budgets, giving citizens improved access to electricity, water, heat, and air conditioning. Energy efficiency in municipal water supply systems can save water and energy while simultaneously reducing costs and improving the service.

Energy Efficiency Highlights Kerala and Telangana are the top performing states in the municipality sector. 29 states reported EE programmes in street lighting. 9 states reported EE programmes in water/sewerage systems. Sikkim SDA has undertaken a demonstration project for the replacement of conventional streetlights with LED streetlights in Rongli, East Sikkim and Sombaria, West Sikkim. 250 streetlights were identified and replaced with LED streetlights. The power consumption of the individual existing streetlights was 70 watts (W), compared to 45 W for the replacement LED lights.

D. Transport Sector & EE Update

The transport sector has the third-highest TFEC in India. The total energy consumed by the transport sector



was 48,842 kilotonnes of oil equivalent (KTOE), nearly 9% of the country's total energy consumption. Most of the energy demand in this sector is met through crude

oil. Karnataka is the top performing state in the transport sector. All states and UTs have a policy about EE in place. Some states have reported having a state electric mobility policy, bringing the total number of states that have notified such policies in the state for EV promotion and penetration to twenty-two, up from nine in SEEI 2020. Draft electric mobility policies have been released in two states, Bihar and Punjab. Furthermore, eleven states have reported having transport policies or guidelines to advocate fuel efficiency. 14 states reported a policy for procuring EVs for government use.

22 states have EE programmes in public transport while only 6 reported in private transport. The transition towards EVs is challenging due to the high upfront purchase cost, range anxiety, and lack of awareness. To overcome these challenges, there are financial incentives for all eligible EVs in the Rajasthan EV Policy18. Financial incentives are given upfront to vehicles based on the battery capacity and retrofit kit for two-, three-, and fourwheeler vehicles and buses. Further, in a commendable step, the transport department of Rajasthan has released an order to reimburse 100% SGST to EV vehicle owners to increase EV penetration. Recommendations to States

Based on the findings from SEEI 2021-22, the following recommendations are proposed to enable faster and

greater penetration of EE in the states, which can contribute towards the fulfilment of the SDGs and NDC. 1. Develop And Implement the State Energy Efficiency Action Plan

2. Facilitate Fiscal Support for Energy Efficiency

3. Strengthen Institutional Capacity

4. Collaborate With Financial Institutions, ESCOS, & Energy Professionals

5. Mainstream Monitoring and Reporting of Energy Data

6. Drive EE Implementation in MSMEs.

In conclusion, India's commitment to mitigate emissions while transitioning to a future of built by and on sustainable energy is on a high momentum. A steady rate of achieving state-level sustainable developmental goals in the most energy efficient manner and implementing those measures has helped us reduce carbon emissions and fulfil our global aspirations to lead the energy efficiency index internationally.







Product News

STROME ENERGIE

SVC

Passive Solution to Control Leading reactive Power Perfectly Controlling Leading Power Factor Through Shunt Reactors

Smart APFC Panels



APFC Panels with single phase capacitors for phase wise compensation. A chieving accurate power factor with

compensating per phase requirements is a key advantage.

MEGGER

MS5000



Smart Grid Sensor is an online wireless system for overhead medium voltage distribution and subtransmission lines that complements distribution management systems (DMS) and provides online information about faults, weak spots, and grid operations. Reduces the duration and frequency of outages and thus helps to improve SAIDI and SAIFI.







Real-time data tracking with theft details. Specialised algorithm to detect high impedance and broken conductor faults. Analyse and classify fault information and periodic measurements in the grid level. Advantage includes fast and easy installation for independent operation with built in cellular base station.

Megger STX40



Megger STX40: World's most advanced complete toolbox for power cable fault location and only Fully Automatic system in the range. Advantages include Integrated Powerful TDR, Integrated Insulation tester; True Inductive Arc Reflection Multitrace; High Frequency Burner for fault conditioning; Sheath Testing and fault pinpointing facility; Current Impulse and Decay Method; Outdoor application - Trolley mounted, IP protection, Portable.

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MTAND

This set includes Bridge Model: MTAND & HV Supply model: HLS12A, Laptop based & necessary cables & very flexible, user friendly Visual C++ windowsbased Software. The use of Laptop & Windows based software makes the system more flexible easy to handle & accurate Data can be stored, Retrieved and analysed at site.

Temp correction for the tan delta of object is automatically done as per IEC. Coloured Screen analysis & graphical plotting of Tan Vs Voltage, Tan d Vs Time Complied IEC 61010, ASTM D999, EMI/EMC-EN-61326, IEC61000-4-3.

Suitable for measuring C & Tan for generators, transformers, bushings, circuit breakers, cables, motors at various test voltages up to 12KV. Product strengths include automatic measurement of capacitance & Tan as per the test plan by auto balancing, No need of manual balancing. Automatic voltage setting through software. Indication of Leakage current. Data logging with graph of

voltage vs Tan to know the tand gradient & data analysis for comparison with old results / manufacturer's data. As per IEC Temperature correction for Tan @ 200 C.

Executes all the test modes/voltage automatically once fed. On site printout. Automatic interference suppression suitable for extraneous conditions in 400KV switchyard under heavy induction. More than 10000 Results Data-storage and built in Temperature and Humidity sensor.

Very Low Frequency HV Generator – MTVLF

The MTVLF Series combines modern advanced digital variable frequency technology and microcomputer control together, therefore, it can realize the fully automatic voltage boost, stepdown, measurement and protection as well as the manual intervention in the process of automatic voltage boost. The full electronic design ensures the small size and light weight. The big LCD screen ensures the clear and visual display and can display the output wave form. The printer outputs test reports.

Displaying information of output current voltage and waveform with high accuracy.

Overvoltage protection: if the set limit is exceeded the device will automatically shut down in less than 20 ms. Overvoltage protection: if the current setpoint is exceeded on low voltage side, the device will automatically shut down in less than 20ms. Protective resistor in the design of the high voltage output of the voltage amplifier, which eliminates the need for an external protective resistor.

Motwane Transformer Testing Bench – MTRF

The Transformer Test Bench is a comprehensive system designed for evaluating the per for mance and integrity of transformers, ensuring their reliability in power distribution systems. This advanced testing setup incorporates essential tools such as the Insulation Resistance Tester (5KPI), Transformer Turns Ratio Meter (XTRM), Transformer Winding Resistance Meter (XWRM), and Tan Delta Tester (MTAND), collectively offering a thorough assessment of transformer health.

The Insulation Resistance Tester, with a capability of measuring up to 5 kilovolts. The Transformer Turns Ratio Meter is employed to determine the turns ratio between the primary and secondary windings. The Transformer Winding Resistance Meter facilitates the assessment of winding resistance, a critical parameter for detecting



issues like loose connections or damaged windings. The Tan Delta Tester evaluates the dielectric losses within the transformer insulation. By measuring the tangent of the

loss angle, this test identifies any degradation in the insulating materials, allowing for timely maintenance or replacement.

The product has many advantages like HVT, Variable Output Voltage AC (0-12 kV); Trip Current - 100 mA; Zero Start Interlock; Timer to set duration of test; Audio/Visual Indications; XWRM-3; Test Voltage: 10V, 40V, 100V; Measure Turns Ratio, Voltage Ratio & Ratio Error; Measure Phase Deviation & Excitation Current; Auto Detection of Transformer Vector Group; XWRM, and many others.

Transformer Test System Specification Details - M Trans 1.0 / 2.0

M TRANS 1.0 / 2.0 is an automated van system for performing various tests on power transformer like ratio test, winding resistance test, insulation test, capacitance an delta test, high voltage withstands test AC and DC both and many more like line impedance test for cable, oil dielectric strength test for Transformer oil, also using CT PT tester to perform various tests on instrument



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Hema Ind. Est., Premises Co-op. Soc. Ltd., 1st Floor, Unit No. 137, Sarvodaya Nagar, Near Meghwadi Police Station, Jijabai Road, Jogeshwari (East), Mumbai - 400 060. Email: <u>shreechandreasen@gmail.com</u> Andheri Tel.: 26636414 Vilas: 9892953413 / 9769361992 Mansing : 8721290384/9769361991 transformers. Also useful for finding cable faults using very low frequency HV generator. All the equipment's are operated using our advanced 'MOTWARE' software, so it saves user time as getting all tests done in one Van following all required standards.

SONEL

Multi-Function Meter of Electrical System Parameters

NEC 2023 & CEA recommend that, to execute basic safety tests to maintain your protective devices efficiently. Imagine having a single instrument at your disposal that seamlessly combines multiple functions, streamlining your testing processes and simplifying your work.

The Sonel MPI 540 does precisely that. It is not just a Multimeter or a loop impedance tester; it is an all-inone solution that can handle various testing tasks with unparalleled accuracy and efficiency.

Application of MPI 540-PV include Electrical Installation Testing; Troubleshooting; Routine Maintenance; Compliance Testing and Safety Verification. Advantages include 1) Multi-Function Tester





with Class S Power Quality Analyser; used for the Solar PV module Testing; EV Charging station testing and many others.

PHOENIX

QUINT 4th Generation UPS

IQ Technology: intelligent battery management system (BMS) Energy monitoring which Monitors output and battery voltages and associated currents.

PC mode that has a reliable shutdown of the IPC in the event of a mains failure without data loss, and auto start of the IPC when the power returns. Cold restart function in which the UPS startup even without mains power.

ImpulseCheck - Assistance System for Surge Protection

Impulse Check provides continuous monitoring of surge protection devices, serving as the world's first intelligent assistance system for such equipment. This module, connected via cloud, enables measurement of the surge protection device state of health (SoH) by detecting surge currents and transient over voltages on active conductors. The data is then stamped and transferred to PROFICLOUD for analysis.



ImpulseCheck, the world's first intelligent assistance system for surge protection devices, facilitates the measurement of the state of health (SoH) for connected protective devices via cloud connection. Additionally, it offers innovative digital services.

KIGGS

'Energy transition lab / Centre of Excellence'

KIGG>s Center of Excellence is the world>s first energy transition lab with a real-time digital twin of the entire distribution grid, avant-garde simulators, an NABL lab where various companies can get their products ertified and receive handson training for the future generation of engineers. Check out the website: www. kiggenergylabs.com. Advantages include real time digital twin of the entire distribution grid which allows the user to make more accurate decisions. This is extremely useful for power utilities, private franchises, renewable energy farms, educational institutes, energy auditors, regulatory authorities, financial organizations and industries.







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Cabinet Approves Tato-I Hydro Electric Project

The Cabinet Committee on Economic Affairs, under Prime Minister Narendra Modi, has sanctioned Rs 1,750 crore for the Tato-I Hydro Electric Project in Arunachal Pradesh, which aims to enhance power supply in the region.

Project Overview

The Tato-I Hydro Electric Project will feature a total capacity of 186 MW, which will consist of three units, each with a capacity of 62 MW. The project is expected to generate approximately 802 million units of electricity each year.

The expected completion time for the Tato-I HEP is 50 months, which includes all phases of construction and operational setup.

Benefits to Arunachal Pradesh

Arunachal Pradesh will receive 12% of the generated power free of charge. Additionally, 1% of the revenue will be allocated to the Local Area Development Fund (LADF).

A Joint Venture Company will execute the project, which includes the North Eastern Electric Power Corporation Ltd. (NEEPCO) and the Arunachal Pradesh government. This collaboration aims to ensure effective management and operation of the hydroelectric facility.

Socio-Economic Impact

The Tato-I HEP is expected to stimulate socioeconomic development in the region, which will lead to improvements in infrastructure. Local communities will benefit from increased access to electricity and related services.

The electricity generated will support the national power grid, which is crucial for meeting the growing energy demands across India. The project aligns with national goals for energy security and sustainability.

Important Facts for Exams:

1. Tato-I Hydro Electric Project: The Tato-I HEP in Arunachal Pradesh has a capacity of 186 MW. It is expected to generate 802 million units of electricity annually, enhancing local power supply.

2. Local Area Development Fund (LADF): The LADF receives 1% of the revenue from the Tato-I HEP. This fund aims to improve local infrastructure and enhance community welfare in Arunachal Pradesh.

3. North Eastern Electric Power Corporation Ltd. (NEEPCO): NEEPCO is a key player in India's hydroelectric sector. It partners with local governments to develop sustainable energy projects in the northeastern region.





The Oilfields (Regulation and Development) Amendment Bill, 2024

Ministry: Petroleum and Natural Gas

- The Oilfields (Regulation and Development) Amendment Bill, 2024 was introduced in Rajya Sabha on August 5, 2024. The Bill amends the Oilfields (Regulation and Development) Act, 1948. The Act regulates the exploration and extraction of natural gas and petroleum.
- Definition of mineral oils expanded: The Act defines mineral oils to include petroleum and natural gas. The Bill expands the definition to include: (i) any naturally occurring hydrocarbon, (ii) coal bed methane, and (iii) shale gas/oil. It clarifies that mineral oils will not include coal, lignite or helium.
- Introduction of petroleum lease: The Act provides for a mining lease. The lease provides for various activities such as exploration, prospecting, production, making

merchantable, and disposal of mineral oils. Prospecting is the initial stage in the search for oil and gas fields, involving assessment of potential petroleum accumulations across large areas. The Bill replaces the mining lease with a petroleum lease, which also covers similar set of activities. Existing mining leases granted under the Act will continue to be valid.

Rule making powers of the central government: The Act empowers the central government to make Rules on several matters. These include: (i) regulating the grant of leases, (ii) terms and conditions of leases including the minimum and the maximum area and the period of lease, (iii) conservation and development of mineral oils, (iv) methods for producing oil, and (v) manner of collection of royalties, fees, and taxes. The Bill retains these provisions. It adds that the central government





may also make Rules on: (i) merger and combination of petroleum leases, (ii) sharing of production and processing facilities, (iii) obligations of lessees towards protecting environment and reducing emissions, (iv) alternative mechanisms for resolving disputes in relation to the grant of petroleum leases.

- Decriminalisation of offences: The Act provides that violation of Rules will be punishable with imprisonment up to six months, a fine of Rs 1,000, or both. The Bill instead provides that the above offence will be punishable with a penalty of Rs 25 lakh. The Bill also adds following offences: (i) undertaking activities related to mineral oils such as exploring, prospecting, and production without a valid lease, and (ii) non-payment of royalty. These are also punishable with a penalty of Rs 25 lakh. Continued violation in case of all above offences will attract a penalty of up to Rs 10 lakh per day.
- Adjudication of penalties: The central government will appoint an officer of the rank of Joint Secretary or above for adjudication of penalties. Appeals against the decisions of the

Adjudicating Authority will lie before the Appellate Tribunal specified in the Petroleum and Natural Gas Board Regulatory

Board Act, 2006. The 2006 Act designates the Appellate Tribunal for Electricity, constituted under the Electricity Act, 2003, as the Appellate Tribunal.

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े देशातील पहिली हायड्रोजन ट्रेन धावण्यासाठी सज्ज ! 'या' राज्यात घेतली जाणार ट्रायल रन

देशातील पहिली हायड्रोजन ट्रेन तयार आहे. भारतीय रेल्वे डिसेंबर २०२४ मध्ये पहिली हायड्रोजनवर चालणारी ट्रेन सेवा सुरू करण्याच्या तयारीत आहे. पर्यावरणपूरक प्रवासाच्या दिशेने हे एक मोठे पाऊल आहे. RDSO ने हायड्रोजन ट्रेनचे पहिले छायाचित्र प्रसिद्ध केले आहे. आरडीएसओचे संचालक उदय बोरवणकर यांनी सांगितले की, ही ट्रेन उत्तर रेल्वे क्षेत्रांतर्गत हरियाणाच्या जिंद-सोनीपत सेक्शनवर धावणार आहे. त्यात ८ डबे असतील. ताशी ११० किमी वेगाने धावेल.

खरं तर, भारतातील पहिल्या हायड्रोजन ट्रेनच्या विकासाने देशातील रेल्वे वाहतुकीत एक मोठा तांत्रिक टप्पा गाठला आहे. या प्रकल्पाची रचना RDSO (रिसर्च डिझाइन्स अँड स्टॅंडर्ड्स ऑर्गनायझेशन) द्वारे केली गेली आहे आणि IFC, चेन्नईमध्ये समाकलित केली गेली आहे. या ट्रेनसाठी २,८०० कोटी रुपयांची तरतूद करण्यात आली आहे. हायड्रोजन ट्रेनमुळे डिझेल इंजिनपेक्षा कमी प्रदूषण होते.

रेल्वेमंत्री अश्विनी वैष्णव यांनी सांगितले की, देशातील पहिली हायड्रोजन ट्रेन तयार आहे. त्याची ट्रायलही झाली असून लवकरच ती सर्वसामान्य प्रवाशांसाठी चालवली जाईल. हायड्रोजन ट्रेनचे पहिले चित्र आरडीएसओने जारी केले आहे, वास्तविक, चेन्नईच्या इंटिग्रल कोच फॅक्टरीमध्ये या ट्रेनची रचना आरडीएसओनेच केली आहे.

अंतर्गत तांत्रिक रचना कशी असेल?

हायड्रोजन ट्रेनमध्ये हायड्रोजनसाठी कंपार्टमेंट्स असतील आणि त्याचे इंधनात रूपांतर करण्यासाठी ४ बॅटरी देखील असतील. विशेष बाब म्हणजे जगातील अनेक देशांमध्ये हायड्रोजन इंधन हे रस्ते वाहतुकीत यशस्वी आहे, परंतु रेल्वे वाहतुकीत त्याचा यशस्वी वापर झालेला नाही. हायड्रोजन ट्रेनची अंतर्गत तांत्रिक रचना ड्रायव्हरच्या डेस्कच्या मागे कंट्रोल पॅनेल असेल आणि त्यामागे २१० किलोवॅट बॅटरी असेल, त्यामागे एक इंधन सेल असेल, त्यानंतर हायड्रोजन सिलेंडर कॅस्केड-१, २ आणि ३ असेल. यानंतर पुन्हा इंधन विक्री होणार आहे. आणि शेवटी आणखी १२० किलो वॅटची बॅटरी बसवली जाईल.

हायड्रोजन ट्रेनची प्रमुख वैशिष्ट्ये

पहिली हायड्रोजन ट्रेन हरियाणातील जिंद ते सोनीपत

दरम्यान धावणार आहे. डिसेंबर २०२४ पर्यंत ट्रेन सुरू करण्याची योजना आहे. ही ट्रेन ताशी ११० किमी वेगाने धावेल. त्यात एकूण ८ डबे असतील. आम्ही तुम्हाला सांगतो की हायड्रोजन ट्रेन डिझेल आणि इतर जीवाश्म इंधनावर चालणाऱ्या ट्रेनच्या तुलनेत प्रदूषण कमी करण्यास सक्षम आहे, कारण तिचे उत्सर्जन फक्त पाणी आणि उष्णता असते. त्याची रचना लखनौ येथील आरडीएसओ संस्थेत करण्यात आली आहे. तर, IFC चेन्नई येथे उत्पादन आणि एकत्रीकरण झाले आहे.

भारतातील पहिली हायड्रोजन ट्रेन

आतापर्यंत, हायड्रोजन इंधनावर चालणाऱ्या गाड्या फक्त जर्मनी, स्वित्झर्लंड आणि चीनमध्ये बनवल्या गेल्या आहेत, परंतु कोठेही ते मोठ्या प्रमाणावर यशस्वी झाले नाहीत. ही ट्रेन फक्त जर्मनीत धावत असून तिला फक्त २ डबे आहेत. रेल्वेमंत्री अश्विनी वैष्णव म्हणाले की, मोठी गोष्ट म्हणजे आम्हाला या तंत्रज्ञानावर प्रभुत्व मिळवायचे आहे, कारण आतापर्यंत जगात कुठेही याचा वापर मोठ्या प्रमाणावर झालेला नाही. जर्मनी, स्वित्झर्लंड आणि चीनने प्रयत्न केले पण त्या पातळीवर यश आले नाही. इतर देश १००० अश्वशक्तीवर गेले आहेत तर आम्ही 1200hp वर काम करत आहोत. देशातील बोटी, टग बोट आणि ट्रकमध्येही त्याचा वापर व्हावा, अशी आमची इच्छा आहे.

आरडीएसओने या ट्रेनला नमो ग्रीन रेल असे नाव दिले आहे. मात्र, नावाबाबत रेल्वेमंत्री अश्विनी वैष्णव म्हणाले, ङ्गहायड्रोजन ट्रेनसाठी अद्याप कोणतेही नाव दिलेले नाही. ही ट्रेन जानेवारी किंवा मार्चमध्ये धावेल की नाही हे आम्ही सांगू शकत नाही, तेव्हाच नाव ठेवण्यात येईल.

आत्मनिर्भर भारत अभियानाला चालना

या ट्रेनमुळे कार्बन उत्सर्जन मोठ्या प्रमाणात कमी होईल, ज्यामुळे हरित आणि शाश्वत वाहतुकीला चालना मिळेल. भारताच्या रेल्वे व्यवस्थेचे आधुनिकीकरण आणि स्वावलंबी भारत मोहिमेमध्ये हे महत्त्वपूर्ण योगदान देईल. असो, हायड्रोजनकडे भविष्यातील ऊर्जा म्हणून पाहिले जात आहे. ही ट्रेन भारतातील हायड्रोजन-आधारित वाहतूक व्यवस्थेला प्रोत्साहन देईल.



महाराष्ट्र शासन राजपत्र असाधारण भाग चार-अ, जानेवारी ३, २०१७/पौष १३, शके १९३८

SCHEDULE "SS" (See rule 20) Electrical Supervisor Examination Syllabus for Examination of Electrical Supervisory Certificate of Competency Paper - 1 Electrical- Theory

1. Principles of Electricity

Electric pressure, current and resistance -Ohm's Law, Kirchhoff's Law, specific resistance, laws of resistance and their application for calculating voltage drop-series and parallel circuit simple problems. Practical units of voltage, current, resistance, power and energy. Relation between. electrical power unit (kW) and mechanical power unit (HP). Inductance, capacitance, reactance and impedances. magnetic, chemical and heating effects of electric current simple problems on above.

2. Electromagnetism

Flux flux density magnetic field strength,





permeability flux distribution due to straight conductor and circular loop magnetic circuits reluctance calculation of MMF effect of air gap hysterisis loop of magnetic materials force acting on a current carrying conductor - lifting power of a magnet.

Electro magnetic inductance production of EMF-Flemings Hand Rules Faraday's and Lenz's Law-statically and dynamically induced EMFs-self and mutual inductance coupling coefficient. Magnetic properties of materials electro magnets and their applications.

3. Materials

Conductors, non-conductors and insulators insulating materials and their relative merits transformer oil effect of heat and moisture on insulation dielectric strength - permittivity. lubricants and their uses- dielectrics strength – permittivity.

Different types of wires, cables, switches and their safe current carrying capacity. Use of tables and data sheets generally given in electrical hand book.

4. Generation of electricity

Methods of generation of electric power Block schematic layout of generating stations hydroelectric, thermal, nuclear stations. Non conventional energy sources solar, tidal and wind power. Economics of generation load factor, diversity factor, plant factor.

5. AC Generators (Alternators)

Basic principle details of construction and essential components voltage Rule methods of voltage Rule synchronous reactance, Rule, methods of voltage control and frequency control synchronizing of alternators conditions and methods for synchronising synchroscopes - bright lamp and dark lamp methods simple associated switch board and its accessories.

6. DC Generators

Basic principle essential components details of construction shunt, series and compound generators and their characteristics causes of sparking interpoles, commutators and their



maintenance carbon brushes their adjustment and care voltage Rule parallel operation of DC generators-

shunt, series and compound. simple switch board and its accessories.

7. Batteries

Primary cells, dry cells, storage or secondary batteries lead acid and nickel cadmium batteriesconstruction-characteristics charging and discharging- precaution during charging charging circuits and their calculation- series and parallel circuits specification maintenance use of hydro meters- maintenance free batteries, rechargeable batteries,

8. AC Motors

Rotating magnetic field three phase induction motors construction principle of operation speed frequency slip types star delta starting. single phase induction motor - construction different methods of starting. squirrel cage induction motor construction. Methods of starting-slip torque slip characteristics efficiency circle diagram and determination of characteristics slip ring induction motor no load and blocked rotor tests synchronous motors general principle of operation uses installation methods of starting and speed control and reversal of direction commutator motors. Torque calculation and basic knowledge of variable voltage and variable frequency drives (vvvfd). starters-DOL, starter, star/delta starter, rotor resistant starter simple problems based on above.

9. DC Motors

Motor principle series, shunt and compound wound type motors their uses, installation. methods of starting-speed control-reversal of directions-3point.starter-4point starter

10. AC Circuits

Alternating current fundamentals generation of alternating currents period average value, rms value and form factor different wave forms alternating quantities rectangular, polar and exponential forms. waveform frequency phasor representation of alternating quantities



rectangular, polar and exponential forms.

Analysis of simple AC circuits with resistance, inductance and capacitance. Concept of impedence and admittance-Power and power factor in ac circuits active and reactive components. Solution of RL, RC and RLC circuits series, parallel and series parallel circuits.

Three phase systems star and Delta connection voltage and current phasor representation circuits three wire and four wire systems relationship between phase and line values of solution of balanced and unbalanced three phase power in three phase systems phase sequence measurement of active and reactive power in single phase and three phase systems. simple problems based on above.

11. Switch gear and protection

Knowledge of various types of switches and protective fuses and circuit breakers like MCBs,

MCCBs, RCCBs, ELCBS, ACBS, SF, breakers, etc, and protective devices for both AC and DC motors. Basic methods of transformer, generator, motor, and feeder protection. Thermal and magnetic releases relays IDMT, instantaneous type over current, earth fault and earth leakage relays time and current settings and their wiring with motors. Concepts, features and applications of static (electronic) relays, auto-reclosers, sectionalizes.

12. Transformers

Transformer construction use and maintenance voltage and current relations losses and efficiency three phase transformer connections-star/star, delta/delta, star/delta, delta/star, V-V, T- T-Parallel operation of three phase transformers-Auto transformer transformer tapings, temperature rise, automatic voltage boosters. Instrument transformers current transformers, potential transformers, ratio and phase angle errors, polarity checking, CT and PT



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specifications.

13. Conversion

Principle of operation of motor generator set, rotary or synchronous convertors, UPS, inverters, thyristors and other static devices. Battery chargers voltage equation. Filtering half wave - full wave and bridge rectifiers.

14. Transmission and Distribution

Bulk transmission of electric power typical power transmission scheme need for high transmission voltage. Sub-stations substation equipments primary and secondary transmission and distribution systems overhead lines effect of power factor general principles and simple problems. Line constants determination of voltage drop Rule. construction of lines of voltage upto 250 V and exceeding 250 V but not exceeding 33 kV, types of conductor, length of spans, sags, strength of poles, spacing of conductors, crossarms, effects of temperature, wind pressure, ice and snow, tension of wire, insulators, brackets, stays, struts, guard wires, vibration dampers and other protective devices. Earthing lightning arrestors and lightning conductors and their testing. Testing and fault location. inspection of transmission and distribution lines. Concepts and advantages of 3- phase and 1-phase distribution systems of voltage exceeding 650 V but not exceeding 33 kV.

15. Underground cables

Simple calculations and general principles of laying Cables direct in the ground, in troughs and pipes, handling, bending, joining, plumbing, underground and above ground junction boxes. Distribution board and pillars. Joint box compound, melting of compounds and filling boxes with compounds. Testing and fault location echo test, pressure test, current rating short time rating and continuous rating derating factors of cables basic knowledge of different types of cables - PVC, APVC, AYFY, XLPE calculation of voltage drop.

16. Illumination and Street lights

Characteristics of different types of lamps incandescent lamps, fluorescent lamps, CFL lamp,



sodium vapour lamps energy efficient lamps luminous tube sign installations of voltage exceeding 650 V but not exceeding 33 kV. Photo metric units and simple measurements. General requirements of efficient lighting simple problems on illumination. Street lighting-time switches. Different types of poles swaged poles and step up poles. Different types of brackets -

17. Electrical Safety Rules: Working knowledge of

i. Wiring Rules -according to BIS

ii. Protection and restoration of persons suffering from electric shock

iii. Working on over head lines / UG system

iv. Working in switch yard on voltage exceeding 650 V.

v. Preliminary knowledge of Codes of Practices and Specifications prescribed by Bureau of Indian Standards.

vi. Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulation, 2010.

KEC International Bags New Orders worth INR 1,114 Crore

KEC International Limited has secured new orders worth INR 1,114 crore in transmission and distribution, civil, and railway segment. With these new orders, the company's YTD order intake stands at approximately INR 14,600 crores, reflecting the company's healthy growth of ~50%, compared to last year.

KEC International Limited, an RPG Group Company, has secured new orders of INR 1,114 crores across its various businesses. The business has secured orders for T&D projects in the Middle East and the Americas. The company is laying a 400 kV transmission line in Oman, and supply towers, hardware and poles in America.

Watch: Systematic Group

The company has secured orders in the civil business segment, and an order for Metro Overhead Electrification (OHE) works in the railway sector in the technologically enabled segment in the country. The company has received orders for supply of various types of cables in India and overseas.



महाराष्ट्र शासन राजपत्र असाधारण भाग चार-अ, जानेवारी ३, २०१७/पौष १३, शके १९३८

Syllabus for Examination of Electrical Supervisory Certificate of Competency -Paper - II Electrical Utilisation

1. Design of electrical installations

a. Domestic Installations

Various systems of LT wiring PVS casing capping & rigid PVC conduit wiring, metal sheathed, conduit and armoured cable for lighting and power in residential premises types of wires and cables, standards sizes estimates of material and cost of different types of installations - wiring of temporary installations together with necessary switchgear and portable appliances. Electrical wiring installations for large multi-storied residential buildings.

b. Industrial Installations

Load survey connected load-maximum demanddemand factor- diversity load centre, selection of sub-station site transformer capacity selection of distribution voltage main switch board - sub-switch board and distribution fuse board-MCC-PMCC-PCCdistribution layout - location of switch boards circuit diagrams.

2. Earthing

Resistivity of soil measurement computation of earth resistance different materials used for earthing conductors current densities corrosion factors determination of size of earth bus, number





of earth electrodes plate, pipe and strip electrodes disposition of electrodes - joints in earth conductors size of earth conductors for equipments of various capacities earth continuity wire earth continuity resistance - its rules.

3. Selection of equipments

Different. types of breakers capacity making capacity OCB ACB VCB MCCB MCB contactors breaking selection of breakers selection of switches short time and continuous ratings HRC fuses uses selection of HT and LT fuses grading Switch boards design of outlets. Cables short time and continuous ratings-derating factors Hazardous areas. Motorsselection of starting methods of motors DC motorsspeed control- limitations on staring current and voltage drop-system disturbance. Motors of voltage exceeding 650 V but not exceeding 33 kV protection motor protection relays capacitors power factor improvement, Methods of PF improvement Methods of connection of Special type transformers furnace transformers- welding transformers rectifier transformers scott connection. tertiary windings. captive generation determination of capacity load segregation double bus system changeover arrangements

4. Energy measurements and tariffs

Measurement of Power Wattmeters, Energy meters, Power factor correction by capacitors Trivector Meters Installation and Computation of energy T.O.D meters. Tariffs - different types for LT and HT consumers Simple calculations relating to cost of energy.-Concepts and features of electronic/digital metering.

5. Installation, Testing and Maintenance

Insulation tester earth tester relay testing kit., Break down test of oil. Single phase and three phase energy meter testing, ammeter, voltmeter, wattmeter different installation. Recommended values of insulation resistance desired values, earth resistance measurements desired values. Polarity tests-test for earth continuity paths rectification of faults. detection and location of faults in domestic appliances and wiring installations. Relay testing maintenance of various electrical installations relevant standards andRules. Protective devices, basic knowledge of earthing of generators, motors, machines, installations and electrical appliances. Lightning protection calculation of number of down conductors-test joint-lightning arrestors.

6. Cable Jointing

Aluminium and copper cable jointing types precautions termination. Indian Standards.

7. Clearances

Statutory clearances of live parts from ground, buildings. sectional clearances equipment clearances-clearance of switch boards oil containing equipments Indoor and outdoor equipment clearances.

8. Symbols.

List of symbols as per N.E.C/BIS preparation of simple electrical wiring diagrams and electrical circuit diagrams-reading out simple electrical circuit diagrams.

9. Preparation of Schematic diagrams

Electrical connection for

1. DC and AC generators, switch board, transformers.

2. Main switch boards and sub-switch boards with circuit breakers, switch fuse units, with down stream load details in each circuit.

3. DC and AC motors, their starters, regulators.

4. Battery charging equipment.

5. Converting machinery.

6. Lifts with their safety devices.

10. Special Type of Equipments

Lift, cinema installations-relevant rules circuitry safety precautions earthing - fire precaution measures.

11. Energy Audit and Conservation-concepts and applications

12. SCADA systems and remote data acquisition and control general concepts and applications.

13. Rules and standards: Working knowledge of

1. Central Electricity Authority (Measures relating to safety and Electric supply) Regulations, 2010

2. Code of practice for Cinema and Lift and Escalators Installations.



महाराष्ट्र शासन राजपत्र असाधारण भाग चार-अ, जानेवारी ३, २०१७/पौष १३, शके १९३८

SCHEDULE "WS" (See rule 21) Syllabus for Examination for Electrical Wiremen Permit

1. Properties of copper and aluminium conductors. Properties of insulating materials such as PVC, XLPE, rubber and porcelain. Concept of voltage, current, power, energy, resistance, inductance, capacitance, impedence, power-factor. Simple calculation of current, power, energy and voltage drop. Comparison between series and parallel connection of loads.

2. Basic principle of bulk generation of electricity in hydel and thermal stations. Functions of sub- stations and transformer stations in power systems. Lead acid and dry type of storage batteries. constructional details, characteristics, charging and maintenance, tubular and maintenance free batteries. 3. Measuring devices. Principle of operation of voltmeter, ammeter, wattmeter, tong tester and multimeter. Measurement of energy in single phase and three phase circuits using energy meters. Checking of possible errors.

4. Transformers principle of operation, construction, KVA and current ratings efficiency, care and maintenance. Induction motors. Principle of working of squirrel cage and slipring motorsstarter, D.O.L., star/delta(semiautomatic and automatic) and rotor resistance types. Single phase motors principle. Different types of fan regulators resistance and electronic types. Principle of operation of fractional horse power motors used in appliances such as mixies, washing machines, etc.



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Principle of operation of AC generators.

5. Various systems of LT wiring types of wires and standard sizes voltage and current ratings thumbrules for voltage drop in cables. Main switch boards, sub switch boards and distribution boards permissible loads selection of location and standards clearances for main boards etc. Circuit breakers, MCCBs, switch fuse units, MCBs, etc standard ratings. Conduits metallic and non metallic types permissible numbers of wires in conduits. Wiring of Special equipments like UPS, invertors, standby for computers, etc. Essential factors for wiring high rise buildings. Making straight and Tee joints in standard insulated wires.

Making Brittania and western union joints in bare copper and aluminium wires.

6. Earthing of systems, necessity types of standards for earthing selection of location type and

size of earthing conductors - minimum number of earth electrodes. Earthing of Special equipment. 7. Fuses, rewirable and HRC types ratings, selection and grading. Circuit breakers - MCCB, MCB, Overload protection, Earth leakage protection -ELCB-principle of operation standards leakage current ratings. 8. Basic Principle of operation of invertors, UPS and electronic chokes, power ratings. principle of operation and characteristics of commonly used light sources such as incandescent lamps, LED lamps, fluorescent lamps, compact fluorescent lamps, vapour lamps. 9. Standard symbols of various types of electrical equipments reading of schematic drawing for power and control circuits. Electrical workman tools and accessories.

10. Testing and commissioning of installations standards, testing meters insulation tester, earth tester, neon tester, hand held lamp tester. General knowledge of continuity and polarity tests in single phase and three phase wiring, insulation resistance and earth resistance test.

11. Safety measures to be observed while working devices used for electrical workman safety. Knowledge on tariffs. Procedure for availing electric supply to consumer submission of completion report. Energy efficient and trouble free maintenance of installations. Knowledge of energy conservation methods. Code of conduct and ethics to be observed by the electrical workman with the Contractor, consumer and the Regulatory Authorities. Protective measures against electrical shocks to working personnel, restoration of and first aid to persons sustaining electrical shocks.



ČEZ secures grid upgrade loan from EIB

The European Investment Bank (EIB) is lending €400 million (\$420.1 million) to Czech energy supplier ČEZ to upgrade and expand the country's distribution grid.

Czech Republic: The European Investment Bank (EIB) is lending €400 million (\$420.1 million) to Czech energy supplier ČEZ to upgrade and expand the country's distribution grid. The new credit line aims to boost the country's energy independence by increasing renewables penetration.

ČEZ wants to refurbish networks, install remotely controlled energy systems, and build infrastructure that can integrate renewable sources like solar and wind power. With the loan, ČEZ will upgrade the grid to be able to handle an additional 5.5 GW of renewables. The works are due to be completed in 2026.

ČEZ chief financial officer Martin Novák said: "ČEZ is modernising and decarbonising its power plant portfolio as well as facilitating the overall transition to a zerocarbon Czech energy sector. The overall volume of our investments to modernise our electricity network is increasing every year and gradually changing the shape of the whole distribution environment, where the need for faster access to information is growing."

EIB vice-president Kyriacos Kakouris added: "This loan represents a significant investment in modernising the Czech Republic's electricity distribution network while accelerating the integration of renewable energy sources."

The loan aligns with the objectives of the European Commission's REPowerEU plan, created in response to the global energy market disruption caused by the war in Ukraine. The plan, backed by financial and legal means to build new energy infrastructure in Europe, aims to save and produce clean energy, as well as diversify energy supplies.

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TenneT Germany appoints CEO

Meyerjürgens has been appointed Chief Executive Officer (CEO) of TenneT Germany, effective January 1st, 2025.

Germany: Tim Meyerjürgens has been appointed Chief Executive Officer (CEO) of TenneT Germany, effective January 1st, 2025. As of that date, TenneT is hoping to strengthen its national focus by working in two national organizations in the Netherlands and Germany, held together as a group under one holding company. This adjustment could facilitate future growth and potential private investment in TenneT Germany, being evaluated by TenneT Holding and the Dutch state as its sole shareholder.

Currently, Meyerjürgens is Chief Operating Officer (COO) of the Executive Board of TenneT Holding B.V., responsible for TenneT's onshore and offshore business both in the Netherlands and in Germany and for all international interconnector projects of the Group. He has almost 30 years of professional experience in the energy sector combining technical and operational knowledge.

Tata Power commissions 431 MW solar park

Tata Power's arm Tata Power Renewable Energy has commissioned a 431 MW DC solar project in Neemuch, Madhya Pradesh.

Tata Power's arm Tata Power Renewable Energy has commissioned a 431 MW DC solar project in Neemuch, Madhya Pradesh. Spanning across 1635.63 acres, the project features a combination of single-axis trackers and bi-facial modules. This integration has boosted the efficiency of the entire system by over 15%, enabling peak power supply for extended hours, according to the company.

With this commissioning, the total renewable capacity of Tata Power Renewable Energy was 10.9 GW with another 5.5 GW of projects in various stages of implementation. Its operational capacity has reached 5.4 GW, consisting of 4.4 GW of solar and 1 GW of wind energy projects.





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Nexans Separates its Specialty Industrial Cable Operations as Lynxeo

The separation will provide increased clarity in the market, strengthening Lynxeo's role as a fully integrated player, serving a diversified range of critical infrastructure industries including railways, rolling stock, automation, shipbuilding, wind, aerospace and healthcare.

Nexans announced the business separation of its specialty industrial cable operations Lynxeo (formerly known as Nexans Industry Solutions & Projects). With 2,000 employees in 9 countries and annual standard sales of over EUR 700 million, Lynxeo is a powerhouse in specialty industrial cables.

The move will allow Lynxeo to further enhance its role in critical industrial segments. With a heritage of more than 100 years serving industrial leaders, Lynxeo has a global manufacturing presence in Europe, Asia, and the United States of America. The business separation provides increased clarity in the market outlook and recognition of the commitment of Lynxeo's employees, as well as their ability to innovate and provide high-value-added services.

Watch: Systematic Group

Lynxeo, as a strategic partner to its clients, will

continue to support them with critical application products for the great challenges in fields ranging from rolling stock and railway infrastructure to automation, aerospace, shipbuilding, renewable and non-carbon energies, as well as the healthcare sector.

Commenting on the separation of its specialty industrial cable operations, Juan Ignacio Eyzaguirre, General Manager of Lynxeo, said, "I want to recognize the remarkable efforts that have gone into the project of establishing Lynxeo over the past few months. Our company brings together cutting-edge expertise that is fully aligned with the needs of our clients while addressing future industrial challenges. This is a pivotal moment for our 2,000 employees worldwide who are wired to electrify the industries that move the world. I am deeply honored and delighted to manage this exceptional team."

Cyient DLM signs MoU with Arcedo Systems for 500 kWp rooftop solar plant in Mysore

Cyient DLM Ltd has signed a Memorandum of Understanding (MoU) with Arcedo Systems to establish a 500 kilowatt peak (kWp) rooftop solar power plant at its Mysore facility in Karnataka.

The solar power plant will be implemented under a long-term Power Purchase Agreement (PPA). Cyient DLM will procure the solar energy generated, while Arcedo Systems will handle design, engineering, installation, and maintenance of the facility.

The leading integrated electronics manufacturing company announced the development in a stock exchange filing on Wednesday, December 4.

The project reflects Cyient DLM's commitment to ESG goals, aiming to cut costs and boost renewable energy use in its industrial operations. At Cyient DLM, sustainability is a core pillar of our operational strategy. This MoU with Arcedo Systems represents a meaningful step towards reducing our carbon footprint and embracing renewable energy," said Anthony Montalbano, CEO of Cyient DLM.

Sandeep Vangapalli, CEO of Arcedo Systems, added, "We are thrilled to partner with Cyient DLM on this transformative project. This solar plant marks the beginning of a promising collaboration as we work towards a cleaner future."

Shares of Cyient DLM rose nearly 1% to hit an intraday high of ₹717.15 on the BSE before slipping to ₹697.00, down 1.91%, by mid-afternoon on December 4.

(Edited by : Sheersh Kapoor)





LS Electric secures contract for HVDC project

LS Electric will supply high-voltage direct current (HVDC) transformers (CTR) for the second phase of the East Coast-Capital Region HVDC project.

South Korea, Seoul: LS Electric will supply highvoltage direct current (HVDC) transformers (CTR) for the second phase of the East Coast-Capital Region HVDC project. The contract, worth 561 billion won (\$399.6 million), involves the delivery of 40 HVDC CTRs, a key milestone in South Korea's largest power infrastructure project, the "500 kV East Coast-East Seoul HVDC Conversion Facility Construction Project".

The goal of the project to alleviate large-scale power generation constraints in the East Coast region and ensure a stable power supply to semiconductor clusters in the capital region, including Yongin, Icheon, and Pyeongtaek. This is important for maintaining the reliability of power supply to the country's semiconductor industry, which includes global leaders like Samsung and SK Hynix.

The first phase of the project saw LS Electric supply

24 HVDC CTRs for the East Coast to Shingapyeong section. These are specialized devices connected to power electronic systems that convert alternating current (AC) to direct current (DC) for efficient longdistance transmission, requiring advanced insulation design and cooling technology to prevent harmonics and DC stress from affecting the power system and equipment. An LS Electric official stated, "We will contribute to strengthening the national industrial competitiveness based on LS Electric's technology and reliability in the East Coast-Capital Region HVDC construction project and the upcoming West Coast HVDC construction project."

In January, the company signed a business agreement with GE Vernova to jointly respond to the global market. This is part of LS Electric's broader strategy to expand into the US and European transmission, distribution, and renewable energy markets. The company has also decided to invest in expanding its transformer factory at its Busan plant to meet the growing demand for HVDC technology.





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Sustainable Innovation and Digital Transformation in the Power Industry

The Huawei Connect 2024 event underscores a broader commitment to supporting the global power sector's evolution, bridging the gap between sustainability and technological advancement.

In Huawei Connect 2024 held in Shanghai, David Sun,Vice President of Huawei and CEO of Huawei Electric Power Digitalisation Business Unit, highlighted the current challenges facing the power industry around the world.

The event underscores a broader commitment to supporting the global power sector's evolution, bridging the gap between sustainability and technological advancement.

He talks about sustainable technical architecture to ensure that companies around the world have the means to provide solutions for global problems. Sun outlined the need for industry solutions to improve distribution network flexibility and resilience, introducing HPLC as a key technology for secure, reliable communication networks, offering 99.9% reliability and real-time data streaming.

Watch: Systematic Group

At the Global Electric Power Summit, part of Huawei Connect 2024, Huawei's Executive Director of the Board and Chairman of the ICT Infrastructure Managing Board, David Wang, highlighted the importance of digital and intelligent technologies in addressing challenges in new power systems and emphasized the need for innovation. The company and their ecosystem partners introduced the Intelligent Distribution Solution, which aims to enhance global electric power enterprises' productivity and digital transformation.

The "cloud-pipe-edge-pipe-device" architecture aims to reduce line loss, improve power supply reliability, enhance user experience and ensure large-scale integration and consumption of renewables. The solution addresses 400V transparency and medium voltage backhaul in distribution network communication by creating an open and sustainable communication network.

Regarding the future of power transition and technology, Marcio Szechtman, *Ex-CIGRE Technical Council Chair and Honorary Member of CIGRE, IEEE/PES Life Fellow,* expresses concern about attracting young people to the electrical power industry, as many are drawn to other sectors. He believes the next generation of 'professionals' – rather than just engineers – will need to be more digitally focused, working with software and Al over traditional field work.

The company's collaboration with ecosystem partnerships is crucial for innovation and sustainable solutions as well as the power industry's ability to tackle challenges such as renewable energy integration, evolving regulations, cybersecurity threats and increased customer demand through digital transformation.

Klimavest acquires Irish wind farm

Commerz Real has secured the 57.6 MW Moanvane Wind Farm in Ireland's County Offaly for its Klimavest sustainable infrastructure investment fund.

Ireland, County Offaly: Commerz Real has secured the 57.6 MW Moanvane Wind Farm in Ireland's County Offaly for its Klimavest sustainable infrastructure investment fund. This acquisition is the first entry into the Irish renewables market for Klimavest.

The wind farm, developed and sold by Statkraft, has been in operation since the end of September and is located about a 90-minute drive west of Dublin. The project consists of 12 Nordex turbines. The wind farm provides the fund with guaranteed remuneration based on a 15-year corporate power purchase agreement. Statkraft will remain involved and provide operational management services.

Global head of Green Deal Infrastructure at Commerz Real Michael Henn said: "Ireland is a very attractive location thanks to its unique and favourable wind conditions which come close to offshore environments. Wind energy is accounting for a third of the country's power supply and has developed to an increasingly relevant contributor to Ireland's energy mix."

Managing director of Statkraft Ireland and UK Kevin O'Donovan commented: "I am pleased to confirm the successful sale of Moanvane. The journey has not been an easy one. It has taken our team in Ireland over 10 years to reach this stage on this project, highlighting the ongoing challenges of delivering onshore and offshore wind projects within a realistic timeframe. Despite these hurdles, Statkraft remains dedicated to continuing to make a significant impact in Ireland's energy landscape. It is only by increasing renewables on the system that we will reduce our dependence on expensive gas and minimise our exposure to price spikes."





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OAPIL Signs MoU with Indore Specialty Materials for Manufacturing of HTLS Conductors in Oman

The HTLS conductor offers increased current-carrying capacity vs normal conductors while operating efficiently at higher temperatures with minimal sag. Indore Specialty Materials will supply OAPIL with its proprietary EnergyCore composite core, in addition to technical support, for the production of composite core based ACER HTLS conductors in Oman.

Oman Aluminum Processing Industries SPC (OAPIL), a subsidiary of Oman Cables Industry SAOG and Indore Specialty Materials, a wholly-owned subsidiary of Indore Composite, have signed a Memorandum of Understanding (MoU), which will enable OAPIL to manufacture composite core based High-Temperature Low-Sag (HTLS) conductors – ACER (Aluminum Conductor EnergyCore Reinforced) in Oman.

To address the global requirement for sustainable and efficient power grid infrastructure and enable utilities to increase the transmission capacity at minimal cost of ownership, OAPIL has recently announced investments to initiate the production of HTLS conductors. Such conductors offer increased current-carrying capacity vs normal conductors while operating efficiently at higher temperatures with minimal sag.

As part of this collaboration, Indore Specialty Materials will supply OAPIL with its proprietary EnergyCore composite core, in addition to offering technical support. EnergyCore, an advanced composite material developed by Indore, enhances HTLS conductor performance with superior thermal stability, lightweight properties and exceptional strength – key qualities that contribute to higher efficiency and reliability in transmission lines. be integral in building a more sustainable power infrastructure for the Middle East and beyond.

Commenting on the agreement, Mr. Jehan Alagappan, Chief Strategy Officer at OAPIL, said, "This collaboration with Indore Specialty Materials will help us venture into advanced conductor manufacturing, while enabling utilities to enhance power grid capacity, reliability and resilience. This investment also helps OAPIL to improve product diversification and create capability to produce high value-added products in Oman. We are happy to partner with Indore Specialty Materials to support energy transition and electrification efforts."

Mr. Mukesh Sanghvi, Managing Director at Indore Specialty Materials, also highlighted the significance of the partnership, noting, "This partnership with OAPIL aligns with our commitment to high-performance materials that meet the evolving needs of the power sector. We are excited to bring EnergyCore to OAPIL's ACER HTLS conductor projects and to provide technical support in manufacturing and conductor design, supporting their goal of delivering reliable, energyefficient solutions."

The strategic partnership with Indore Specialty Materials further augments OAPIL's capabilities to support the electrification and energy transition needs of its global customer base.

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The EnergyCore-based ACER HTLS conductors will



ACME Sun Power Secures INR 3,753 Crore for 320 MW FDRE Project



ACME Sun Power in collaboration with SJVN has secured INR 3,753-crore term loan financed by REC Limited for the development and construction of a 320-MW firm and dispatchable renewable energy (FDRE) project.

ACME Sun Power, a subsidiary of ACME Solar Holdings, in collaboration with SJVN, has secured an INR 3,753-crore term loan for the development and construction of a 320-MW firm and dispatchable renewable energy (FDRE) project. State-owned REC Limited has financed the loan serving as the sole lender for this project.

An FDRE plant ensures power supply, assisting power distribution companies (discoms) in fulfilling their renewable purchase obligations and energy storage obligations.

According to the company, the project would be located at Jaisalmer, Rajasthan for solar capacity and Bhuj and Jam Khambhaliya, Gujarat for wind sites.

A power purchase agreement has been signed with SJVN, and the acquisition process is in advanced stages. Mr. Manoj Kumar Upadhyay, Chairman and Founder of ACME Solar Holdings, said, "We are delighted to receive this financial assistance, which reinforces the trust and confidence of our lenders. This funding is a significant step in strengthening our commitment to building world-class FDRE renewable energy projects and contributing to India's green energy transition."



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