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# इकॅम शताब्दी वर्ष शुभारंभ उद्घाटन सोहळा अत्यन्त देखणा, दिमाखदार 'न भूतो, न भविष्यति'

नमस्कार

इलेक्ट्रिकल कॉन्ट्रॅक्टर्स असोसिएशन ऑफ महाराष्ट्र या आपल्या संघटनेच्या 'शताब्दी वर्षाच्या' सर्व सभासद बंधू भगिनी तसेच आपले जाहिरातदार, आपणास वेळोवेळी आर्थिक बाजू सांभाळणारे सर्व देणगीदार यांना खूप खूप शुभेच्छा!

शताब्दी वर्ष ११ जानेवारी २०२४ ते १० जानेवारी २०२५ या कालावधीमध्ये साजरे होत आहे. आपल्या सर्वांच्या दृष्टीने एक आंनदाची बाब म्हणजे सर्व संचालक मंडळ आणि आपल्या सर्वांचे सहकार्य यामुळे आपल्या शताब्दी वर्षाचा शुभारंभ उद्घाटन सोहळा अत्यन्त देखणा, दिमाखदार 'न भूतो, न भविष्यति साजरा झाला.

श्री. श्रीगोपालजी काबरा, MD, RR Kabel Ltd. & President, RR Global, श्री. हेमांग शहा, MD, GreatWhite Global Pvt Ltd तसेच श्री. कैलास डिडवानिया, प्रेसिडेंट GreatWhite Global Pvt. Ltd., विविध संस्थांचे पदाधिकारी, आपल्या संस्थेचे वरिष्ठ सभासद, आजी माजी पदाधिकारी, अशा सर्वांच्या उपस्थितीत, डायरी, कॅलेंडर, सोव्हीनिअर प्रकाशन, चला हवा येउ द्या सारखा उत्तम नाबाजलेला, असंख्य प्रेक्षकांच्या पसंतीस उतरलेला करमणूक कार्यक्रम, महिलांच्या साठी आकर्षण असणारा पैठणी, तसेच इतर भरघोस वस्तू असणारा लकी ड्रॉ, अशा अनेक विविध कार्यक्रमांची रेलचेल, तसेच दुपारी आणि सायंकाळी दोन्ही वेळचे सुंदर सुग्रास जेवण, चारचा चहा कॉफी याने आणलेली वेगळीच रंगत, असा आगळावेगळा राज्याच्या विविध भागातून वेगवेगळ्या विभागातून आलेले सभासद आणि त्यांचे कुटुंबियांची उपस्थितीत पार पडला. सकाळी दहा वाजले पासून आलेले आपले सभासद बंधू भगिनी आणि त्यांचे कुटुंबीय रात्री दहा वाजता बारा तास उपस्थित राहून तितक्याच उत्साहाने, आनंदाने जाताना दिसले ही फार मोठी समाधान देणारी बाब ठरली.

मित्रांनो, ECAM हे एक आपले कुटुंब आहे आणि या कुटुंबातील प्रत्येक घटक यासाठी राबला, मी गमतीने म्हणायचो आपल्या कुटुंबातील लग्न सोहळा आहे आणि आपण लग्न घरची मंडळी आहोत. त्यामुळे आपल्याला त्याप्रमाणे काम करायचे आहे. आणि खरोखर सर्व मंडळींनी दिलेली जबाबदारी चोखपणे पार पाडली. सभासद बंधू भगिनींनी दिलेली अभूतपूर्व साथ, त्याचे फळ म्हणजे हा कार्यक्रम सुंदरपणे पार पाडण्यात आपण यशस्वी झालो आहोत.

आखून दिलेल्या वेळेनुसार ठरलेल्या संख्येच्या कितीतरी जास्त प्रमाणात उपस्थिती बाबतची नोंदणी झाल्याने एक मनावर ताण निर्माण झाला होता. पण आपण सर्वांनी शिस्तप्रिय वागून दिलेली साथ यामुळे सर्व काही व्यवस्थितपणे पार पडले. यासाठी आपणा सर्वांचे प्रति आभार प्रकट करतो. एवढी काळजी घेऊनही यातून काही त्रुटी राहिल्या असतील, कोणाची काही गैरसोय झाली असेल तर आपण सर्वजण आम्हाला जाणून, सांभाळून घ्याल अशी आशा व्यक्त करतो. आपल्याला जागेची उपलब्धता यामुळे उपस्थितीवर बंधने असल्यामुळे काही मंडळींना सामाविष्ट करून घेता आले नाही. याची मनाला सल निश्चितच आहे. याची काळजी आपण यापुढे नक्कीच घेऊ.

मित्रांनो, शताब्दी वर्षामध्ये अनेक कार्यक्रमांचे आयोजन नियोजन केले आहे. त्यापैकी २७, २८, २९ फेब्रुवारी २०२४ रोजी संघटनेच्या इतिहासात प्रथमच एवढ्या मोठ्या प्रमाणात दोनशे उत्पादक कंपनींचा सहभाग असणारे Bombay Exhibition Centre येथे राष्ट्रीय आंतरराष्ट्रीय दर्जाचे 'भव्य प्रदर्शन' आयोजित करीत आहोत. यासाठी स्टॉल बुकिंगसाठी उत्तम प्रकारे चांगला प्रतिसाद मिळत आहे. काही मोजके स्टॉल शिल्लक राहिलेले आहेत. जे सभासद बंधू या कार्यात सहभागी होऊ इच्छित आहेत त्यांनी एक्झिबिशन समितीकडे संपर्क करून या कार्यात सहभागी होऊ शकतात. मी खात्रीलायक पणे सांगतो आपल्या सर्वांच्या सहभागामुळे संघटनेने शताब्दी वर्षाच्या निमित्ताने हाती घेतलेले सर्व कार्यक्रम पुढील वर्षभर चांगल्या प्रकारे यशस्वी पणे पार पडणार आहेत.

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# सर्व सभासदांना प्रजासत्ताक दिनाच्या हार्दिक शुभेच्छा!

नमस्कार मित्रांनो,

इकॅमचा शताब्दी वर्ष शुभारंभ सोहळा दिनांक ११ जानेवारी २०२४ रोजी योगी सभागृह, दादर येथे थाटामाटात संपन्न झाला. या प्रसंगी प्रमुख पाहुणे म्हणून मे. आर. आर. काबेलचे व्यवस्थापकीय संचालक तसेच मे. आर. आर. ग्लोबलचे अध्यक्ष श्री श्रीगोपालजी काबरा तसेच मे. ग्रेट व्हाईट ग्लोबल प्रा. लि.चे व्यवस्थापकीय संचालक श्री. हेमांग शाह यांनी उपस्थित राहुन सदर सोहळ्याचा आनंद द्विगुणीत केला. यावेळी इकॅमच्या संस्थापक सदस्यांचा तसेच माजी अध्यक्ष, कार्यवाह आणि जुन्या सभासदांचा शाल, पुष्पगुच्छ आणि सन्मान चिन्ह देऊन सत्कार करण्यात आला. इकॅमच्या शताब्दी वर्षासाठी काढलेल्या स्मरणिकेचे तसेच शताब्दी वर्षाच्या दैनंदिनी आणि दिनदर्शिकेचे अनावरण या प्रसंगी करण्यात आले. इकॅमच्या सुमारे २००० च्या वर सभासद व त्यांच्या कुटुंबियांनी या कार्यक्रमास हजेरी लावून सदर कार्यकमास उस्फुर्त प्रतिसाद दिला. शताब्दी वर्ष शुभारंभ सोहळ्याच्या निमित्ताने सभासदांच्या मनोरंजनासाठी 'चला हवा येऊ द्या' फेम कलाकारांचा कार्यकम ठेवण्यात आला होता. तसेच दुपारच्या आणि रात्रीच्या भोजनाची व्यवस्था करण्यात आली होती. सभासदांसाठी पॉवरबँक, मोबाईल, टॅबलेट, लॅपटॉप आणि इलेक्ट्रिक स्कुटर अशा बक्षीसांची रेलचेल असणारा लकी ड्रॉ काढण्यात आला. विशेषतः उपस्थित सभासदांच्या पत्नींसाठी पैठणी साडयांचा विशेष लकी ड्रॉ काढण्यात आला. महाराष्ट्रातील सर्व विभागांतून आपले सभासद सपत्नीक उपस्थित राहीले त्याबद्दल मी इकॅमतर्फे त्यांचे आभार मानतो. असाच प्रतिसाद आपण शताब्दी वर्षात होणाऱ्या विविध कार्यकमांस द्यावा असे मी आपल्याला आवाहन करतो.

आपण ECAMEX 24 प्रदर्शन २७, २८ आणि २९ फेब्रुवारी या कालावधीमध्ये NEC, गोरेगाव मुंबई येथे आयोजित करणार आहोत. सदर प्रदर्शन यशस्वी करण्यास आपल्या सर्वांचा सहभाग गरजेचा आहे. सभासदांनी आपल्या ECAMEX 24 प्रदर्शन २७, २८ आणि २९ फेब्रुवारी या कालावधीमध्ये NEC, गोरेगाव मुंबई येथे भेट देणे अगत्याचे आहे. सदर ECAMEX 24 प्रदर्शनासाठी शताब्दी वर्ष शुभारंभ सोहळयासारखा भव्य प्रतिसाद आपल्या सभासदांकडून मिळेल अशी आम्हाला आशा आहे.

संघटनेच्या सभासद संख्येवरूनच संघटनेची व्याप्ती जनमानसात पोहोचते. इकॅमची संपूर्ण महाराष्ट्रातील सभासद संख्या वाढली तरच संघटना संपुर्ण महाराष्ट्रात पोहोचेल व संघटनेचा संपूर्ण महाराष्ट्रातील पाया तळागाळात अधिक भक्कम होईल. शताब्दी महोत्सवी वर्षात इकॅमची सभासद संख्या वाढवण्यासाठी इकॅमकडून जोराचे प्रयत्न चालले आहेत. आपल्या सभासद संख्येत वाढ व्हावी यासाठी आपले बहुमूल्य सहकार्य आम्हाला अपेक्षित आहे. आपणास आवाहन करतो की आपण आपल्या आजुबाजुला असलेल्या नवीन विद्युत ठेकेदारांशी संपर्क साधून त्यांना इकॅम संघटनेविषयी सविस्तर माहिती देऊन सदर ठेकेदारांना इकॅमचे सभासद बनवून घेण्यासाठी प्रयत्न करावेत व सभासद वाढीसाठी प्रयत्न करावा.

आपल्या शताब्दी दैनंदिनी आणि दिनदर्शिकेचे वितरण करण्यात येणार आहे. विभागातील वितरण त्या त्या विभागांतून केले जाईल. ज्या सभासदांनी आपली सन २०२३-२०२४ ची वार्षिक वर्गणी भरली नसेल तर ती त्यांनी लवकरात लवकर भरावी.

आपल्याला आपला व्यवसाय करताना काही अडचणी येत असतात. इकॅमच्या सभासदांना येणाऱ्या अडचणी सोडवण्यासाठी आम्ही प्रयत्न करू. त्या अडचणी आपण इकॅम मुख्यालयाला लेखी कळवाव्यात. आपल्या सभासदांना येणाऱ्या अडचणींचे निराकरण करण्यासाठी सभासदांच्या बाजूने आम्ही कायम कटीबध्द राहू असे आम्ही आपणास आश्वासन देतो.

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# 100 years of Ecam and the way ahead

Heartiest congratulations to team Ecam and IECT for the most successful inauguration of the centenary year celebration of 11 January 2024 held at the grand venue of Yogi hall in Mumbai city. Looking back at the year 1925, the great pioneers of this association may not have imagined that a day will come in the life of Ecam when a century is completed. But the pioneers deserve the sentiments of gratitude for this day. There are very few active and live associations in India who have completed 100 years and marching ahead. Ecam is one of these few public bodies and we should be proud of it.

It's commendable that the inauguration function was celebrated like a family get together with lunch, dinner, lucky draws, comedy show and presence of industry leaders. The day will be remembered for next 100 years and will be an inspiration for the next generation.

Today, Ecam has a strong presence in the golden triangle of Maharashtra, Mumbai-Pune-Nasik. Plus an effective presence in western Maharashtra, Kokan and districts of Nagar, Dhule, Jalgaon and Nandurbar. The next challenge should be Vidarbh and Marathwada areas to completely cover the state. It is estimated that more than 20 thousand

Licenced electrical contractors are working in Maharashtra. Ecam has a big challenge of becoming a front organisation for this mega sector.

Ecam must be appreciated for the democratic values being maintained since the inception. Elections are held every three years and new directors take charge of the affairs. With only one exception in last 100 years, no single person has repeated the presidentship of Ecam.

If we look at the national scene, similar associations are working in every state of India. The next step of expansion for Ecam can be creating a federation of all these associations.

The important point of quality of work and material was raised by the chief guest of the inauguration ceremony, Mr Shreegopal Kabra of RR Global. All the blame is easily passed on to the electrical contractors when fire incidents happen and lives are lost. Technology is changing fast and new laws are also coming to safeguard the consumers of electrical goods. If the members of associations like Ecam are not ready for the change, they are houn to face serious consequences. Creating confidence in the minds of public about the quality of work by Ecam members is very important. Hence Mr Kabra said" Don't create followers, create believers". This will be a long lasting challenge for the new teams of Ecam.

On the occasion of the centenary, the team of IECT contacted several trade associations in the electrical field. Directors of associations like IEEMA, EMA, LACMA, ISLE, COSMA, LACMA, CEEAMA, Winding Wire Manufacturers association, IMA, SAMA, National safety council and Inspire safety foundation were invited to attend the inauguration ceremony and many of them arrived. Ecam can create a common platform for all such associations to gather together and address the issues like safety, conservation and quality.

This is a great year for IECT also. Established in 1950, IECT also entering into its 75th year of publication.

We appeal to all our readers to give a helping hand to Ecam to execute all progressive ideas and become a national organisation.



**Satish Sinnarkar** Editor, IECT

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# We plan to expand our existing product portfolio to cater to the American market

**Mr. Chirag Patel**
Managing Director
Billets Elektro Werke Pvt. Ltd.

**Q. What makes Billets unique to the cable and wire industry?**

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Furthermore our in-house toolroom facilitates new product development in the fastest possible lead time. Lastly decades of experience lends an experienced hand in developing tailor-made solutions for power companies.

**Q. The power sector is going through a major transformation and reform in the distribution and rural electrification space. How does this transformation impact the wires and cable sector?**

The immediate need of the hour to uplift the rural population is abundant reliable power distribution. The wire and cable/accessories industry will play a major role towards this reform as these are the building blocks of a power grid. We see a huge growth trajectory for our industry in this regard for the next decade at the very least.

**Q. What do you consider as being the "Golden Rules" of market communication?**

While there are many facets to successful market communication I suppose it starts with the following :

**Positioning :** How do customers perceive your product in their mind.

**Needs &Wants :** What are features or salient attributes that a customer has expects your product?

**Communication:** How to convey succinctly what your product is what it does, its benefits over the competition etc. and how it meets the needs and wants of the customer.

**Q.Please summarize your medium term plans for Billets and the corporate milestones would you like to see Billets attaining by (say) 2025?**

We plan to expand our existing product portfolio to cater to the American market, and are ramping up our tooling and UL testing to start supplies there. On the domestic front we are concentrating our R&D efforts to develop copper parts for the solar and EV market.

## पुणे येथे 'इलेक्ट्रिकल कॉन्ट्रॅक्टींग मधील संधी आणि करिअर' या विषयावर कार्यशाळा

दि. २४ जानेवारी २०२४ रोजी, इकॅम पुणे विभागाच्या वतीने नऱ्हे येथील झील कॉलेज ऑफ इंजीनियरिंग अँड रीसर्च मधील, पदवीच्या शेवटच्या वर्षातील विद्यार्थ्यांसाठी, 'इलेक्ट्रिकल कॉन्ट्रॅक्टींग मधील संधी आणि करिअर' या विषयावर एका कार्यशाळेची आयोजन केले होते. या कार्यशाळेसाठी इकॅम पुणे विभागाचे अध्यक्ष श्री. अनिल महाजन, माजी महासचिव श्री. मिलिंद नाईक, पुणे विभागाचे माजी अध्यक्ष आणि महासमितीचे संचालक श्री. अमरनाथ पाटील, महासमितीचे संचालक श्री. राजेंद्र सिन्नरकर, तसेच इकॅम पुणे विभागाचे संचालक सर्वश्री काळूराम जानकर आणि अजित काळे हे उपस्थित होते. यावेळी श्री नाईक यांनी वरील विषयास अनुसरून, योग्य रीतीने विद्यार्थ्यांचे प्रबोधन केले. श्री. पाटील यांनी विविध उदाहरणे देऊन, व्यवसाय कसा करता येईल, कसा वाढवता येईल, याबद्दल विद्यार्थ्यांना मार्गदर्शन केले. श्री. महाजन यांनी संघटनेची माहिती देऊन, विद्यार्थ्यांना इलेक्ट्रिकल कॉन्ट्रॅक्टींग या व्यवसायात येण्याचे आवाहन केले. श्री काळे यांनी व्यवसायात येताना भांडवलाची व्यवस्था आणि नियोजन कसे करावी याबद्दल मार्गदर्शन केले. श्री सिन्नरकर यांनी सुपरवायझर आणि इलेक्ट्रिकल कॉन्ट्रॅक्टींग लायसन्स काढताना काय करावे लागते, त्याची प्रोसिजर काय याबद्दल सविस्तर माहिती दिली. या कार्यशाळेसाठी साधारण ८० च्यावर विद्यार्थी तसेच इलेक्ट्रिकल डिपार्टमेंटचे प्रोफेसर्स उपस्थित होते. महाविद्यालयाच्या वतीने श्री. देशपांडे यांनी, या मोलाच्या मार्गदर्शनाबद्दल संघटनेचे आभार व्यक्त केले.

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# MNRE Outlines Incentives for 200,000 MT of Green Hydrogen Production

Oil and gas companies will be the implementing agencies under the program January 18, 2024 / Staff / Other, Renewable Energy The Ministry of New and Renewable Energy (MNRE) has released an implementation framework to incentivize the production of 200,000 MT of green hydrogen annually. Additional capacity, if any, may be decided by MNRE for subsequent tranches. The incentives will be granted over three years. The incentives for the production and supply of green hydrogen at the lowest cost for refineries through a competitive selection total outlay of ₹130.5 billion (~$1.57 billion) under all modes. MNRE recently unveiled its framework of incentives to produce 550,000 MT of green ammonia. In the first year, the incentive for green hydrogen will be ₹50 (~$0.60) /kg, ₹40 (~$0.48)/kg in the second year, and ₹30 (~$0.36)/kg in the third year. However, the incentives will not be available under two different modes of the SIGHT Program. Incentive payout will be calculated in ₹/kg of green hydrogen into allocated capacity or actual production and supply in the year, whichever is lower. Allocated capacity will remain constant for the period of the purchase agreement. To qualify for incentives, bidders must adhere to the 'National Green Hydrogen Standard' set by MNRE for the production and supply of green hydrogen. The Ministry of Petroleum and Natural Gas (MoPNG), one of the implementing agencies, may specify a minimum capacity below which bids will not be accepted. It may also specify a cap or maximum capacity that can be allocated to a single bidder. Any unallocated capacity during the tranche could be carried over to the subsequent tranche. Oil and gas companies, selected by MoPNG and the Centre for High Technology (CHT), will act as the implementing agencies, providing support and carrying out various tasks assigned by MNRE and MoPNG. Responsibilities for oil and gas firms include aggregating demand and calling for bids for the production and supply of green hydrogen, receiving and assessing applications, and issuing acknowledgments and awards. CHT will examine incentive claims from beneficiaries, verify claims with prescribed documents, and submit quarterly progress reports to MNRE through MoPNG.

CHT will inspect an applicant's production plants physically. It can seek assistance from third-party agencies to verify technical parameters. If necessary, MNRE or MoPNG may designate accredited labs like the National Accreditation Board for Testing and Calibration Laboratories or other third-party certification agencies for this verification. Eligibility Bidders must have a net worth equal to or greater than ₹150 million (~$1.8 million) per 1,000 MT per annum of quoted production and supply capacity as of the last date of the previous financial year.

They can be a single company, a joint venture, or a consortium of more than one company. Bidders must submit an earnest money deposit (EMD) during bid submission, with provisions detailing EMD forfeiture if the selected bidder refuses to submit required documents, performance bank guarantees (PBG), or similar instruments or if eligibility criteria are not met. Successful bidders must submit PBGs or other performance guarantee instruments upon accepting the award, with potential forfeiture in case of default or delayed commissioning. They must sign a Hydrogen Purchase Agreement (HPA) with procurers, and adherence to the HPA terms is linked to the disbursement of incentives.

A program monitoring committee, co-chaired by the Secretary of MoPNG and MNRE, with the Mission Director of the National Green Hydrogen Mission and other experts as members, will assess the progress and performance of green hydrogen production and supply capacities established under the program.

Last June, MNRE released a framework document outlining incentive programs for the manufacturing of electrolyzers and the production of green hydrogen, with a combined financial outlay of ₹174.9 billion (~$2.1 billion).

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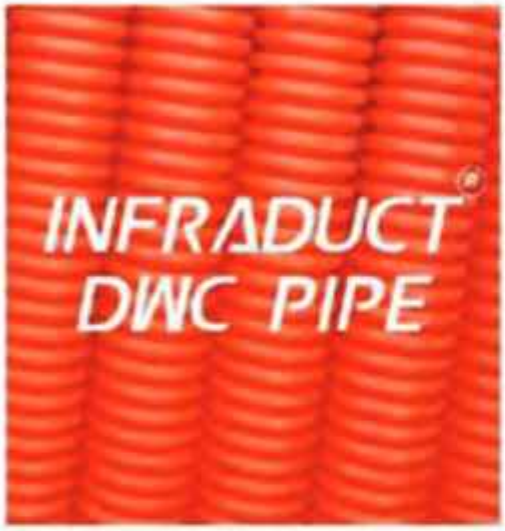


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# Operational Technology for Cyber Security

Operational Technology (OT) refers to the use of computers and software to monitor, control, and manage industrial processes, facilities, and infrastructure in sectors such as manufacturing,
energy, transportation, and utilities. OT systems are essential for the functioning of critical infrastructure, making them attractive targets for cyber threats. Therefore, cybersecurity for operational technology is crucial to ensure the reliability, safety, and security of these systems.

Here are some key considerations and strategies for implementing cybersecurity in operational technology:

**Risk Assessment:**

Conduct a thorough risk assessment to identify vulnerabilities and potential threats to the OT environment. Understand the potential impact of cyber incidents on safety, production, and the overall business.

**Network Segmentation:**

Implement network segmentation to isolate critical OT systems from other networks and the internet.

This limits the potential for lateral movement by attackers within the OT environment.

**Access Control:**

Enforce strict access controls and authentication mechanisms to limit access to authorized personnel only. Monitor and log user activities to detect any suspicious behavior.

**Patch and Update Management:**

Regularly update and patch OT systems to address known vulnerabilities. Implement a structured approach to testing and deploying updates without disrupting critical operations.

**Security Monitoring:**

Deploy intrusion detection systems (IDS) and security information and event management (SIEM) solutions to monitor for anomalous activities. Establish baselines for normal behavior and alert on deviations.

**Incident Response Plan:**

Develop and regularly test an incident response plan specific to OT environments. Define roles and responsibilities, and ensure that personnel are trained on how to respond to cybersecurity incidents.

**Vendor Management:**

Implement security measures in collaboration with vendors, especially for systems and components supplied by third parties. Regularly review and update security requirements in vendor contracts.

**Physical Security:**

Secure physical access to OT facilities and components to prevent unauthorized tampering or sabotage.

**Data Protection:**

Encrypt sensitive data in transit and at rest to protect it from unauthorized access.
Implement data integrity checks to detect and prevent tampering.

**Training and Awareness:**

Provide cybersecurity training for personnel involved in OT operations. Foster a culture of cybersecurity awareness to ensure that employees are vigilant against social engineering and other cyber threats.

**Regulatory Compliance:**

Stay informed about and comply with relevant industry-specific regulations and standards for OT cybersecurity.

**Redundancy and Resilience:**

Design OT systems with redundancy and resilience in mind to mitigate the impact of cyber incidents on critical operations.

Implementing a robust cybersecurity strategy for operational technology requires a combination of technical controls, organizational policies, and employee awareness. Regular assessments, updates, and collaboration with industry peers are essential to staying ahead of evolving cyber threats.

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# Two Rotor Slotted Axial Flux Machine for Wind Energy Generators

**Balaji Bedre**

Assistant Professor, Electrical Engineering,
SVPM's College of Engineering, Malegaon, India

**Abstract**

**Nowadays, the need of energy resources is increasing at a much faster rate. We need to capitalize all the available options to complete all our needs with ease. In the wind energy generation system up till now almost all the systems are employing radial generator which is having single rotor and single stator. However, many researches show a new concept for the generator used in wind turbines that is use of double rotor which has many advantages over a traditional single rotor.**

**This Paper presents the axial flux machine technology which consists of one stator and two rotors. The stator is located in the middle of the two rotors and slotted on both sides. An iron flux path is needed on the rotor back of yoke, but the stator back yoke can be eliminated and saved.**

## Introduction

Renewable energy is one of the important sources of electricity generation. The current scenario shown below indicates its importance. This topic deals with new techniques in wind energy generation. In the wind energy generation system up till now almost all the systems are employing radial generator which is having single rotor and single stator.

However, many researches show a new concept for the generator used in wind turbines that is use of double rotor which has many advantages over a traditional single rotor.

The conceptual study done by different researchers in the world is collectively utilized to design the machine.

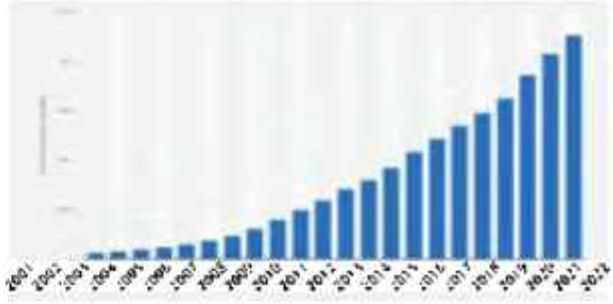
Wind turbines can make a major contribution to the production of renewable energy. When oil crisis were occurred in the 1970s in Europe, the development and commercial production of wind turbines for generating electricity was strongly stimulated. Developments in harnessing wind power continually improved and during the last decade a considerable expansion of the wind power industry has taken place. Turbines have become larger, with improved efficiency, and wind farms have become bigger. Worldwide consumption of electricity continues to grow. Most governments have set target to reduce the emission of carbon dioxide in order to reduce the rate of global warming and large – scale exploitation of renewable energy.

The use of wind turbines is a serious option for achieving these aims. Wind energy has become an important renewable energy source nowadays. Many states have already passed legislation to increase the penetration of wind energy.

With the rapid development of wind power systems, more technical issues need to be addressed to make the operation of wind power systems more reliable and cost effective.

## Wind Power Installed Capacity- Worldwide

Worldwide development of wind energy expanded rapidly starting in the early 1990s. As shown in Figure 1.1, the average annual growth rate from 1994 to 2001 of the world installed capacity of wind power is 31% [6], making the wind industry one of the fastest growing. Unlike the last surge in wind power development during 1970s and early 1980s which was due mainly to the oil embargo of the OPEC countries, the current wave of wind energy development is driven by many forces that make it favorable.



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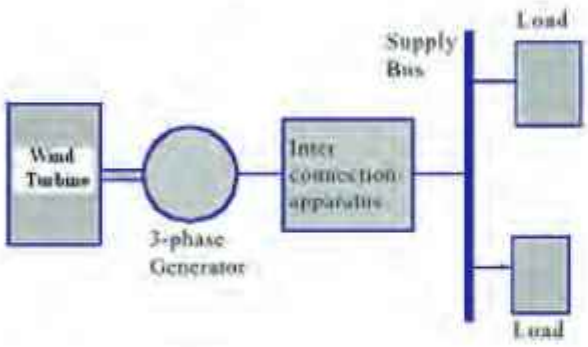
**Structure of Wind Energy Conversion Systems**

The major components of a typical wind energy conversion system include a wind turbine, generator, interconnection apparatus and control systems, as shown in Figure 1.2. Wind turbines can be classified into the vertical axis type and the horizontal axis type. Most modern wind turbines use a horizontal axis configuration with two or three blades, operating either down-wind or up- wind. A wind turbine can be designed for a constant speed or variable speed operation. Variable speed wind turbines can produce 8% to 15% more energy output as compared to their constant speed counterparts, however, they necessitate power electronic converters to provide a fixed frequency and fixed voltage power to their loads. Most turbine manufacturers have opted for reduction gears between the low speed turbine rotor and the high speed three-phase generators.




Direct drive configuration, where a generator is coupled to the rotor of a wind turbine directly, offers high reliability, low maintenance, and possibly low cost for certain turbines. Several manufacturers have opted for the direct drive configuration in the recent turbine designs. At the present time and in the near future, generators for wind turbines will be synchronous generators, permanent magnet synchronous generators, and induction generators, including the squirrel cage type and wound rotor type.

For small to medium power wind turbines, permanent magnet generators and squirrel cage induction generators are often used because of their reliability and cost advantages. Induction generators, permanent magnet synchronous generators and wound field synchronous generators are currently used in various high power wind turbines.

Interconnection apparatuses are devices to achieve power control, soft start and interconnection functions. Very often, power electronic converters are used as such devices. Most modern turbine inverters are forced commutated PWM inverters to provide a fixed voltage and fixed frequency output with a high power quality. Both voltage source voltage controlled inverters and voltage source current controlled inverters have been applied in wind turbines.

**Machine Topologies**

Permanent magnet wind Generator comparison of different topologies can be given as

- Conventional Inner Rotor Radial-flux Machine
- Radial-flux Machine with Outer Rotor
- Double Stator Slotted Axial-flux Machine
- Double Rotor Slotted Axial-flux Machine
- Single Sided Axial-flux Machine with Stator Balance
- Single Sided Axial-flux Machine with Rotor Balance
- Axial-flux Machine with Toroidal Winding

Conventional Inner Rotor Radial-flux Machine is a kind of typical radial-flux generator, with the permanent magnet poles rotating inside the stationary armature windings, as shown in wind, the cooling condition is improved for the magnets, so that the resistance to high temperature demagnetization is enhanced.

Fig.1.3. The stator is made up of electrical grade steel laminations with distributed windings. The rotor is cylindrical in shape with a shaft on which the bearings are mounted. There are two magnets providing the MMF required in a pair of poles, which can effectively resist the demagnetization caused by the armature reaction in a sudden short circuit. The air-gap flux density is closely related to the magnet remanence and the magnet working point. It is difficult to get high air-gap flux densities with low remanence magnets in this configuration.

**Radial-flux Machine with Outer Rotor**

As illustrated in Fig.2, the wound stator in the outer rotor configuration is stationary, located in the center of the machine, while the magnets are mounted evenly along the inner circumference of the rotating drum supported by front and rear bearings. The magnetic circuits are the same as those in the conventional inner rotor radial-flux generator. But the blades of the wind turbine can be conveniently bolted to the front face of the drum to realize the direct coupling between the wind turbine and the PM generator. Because of the enlarged periphery of the

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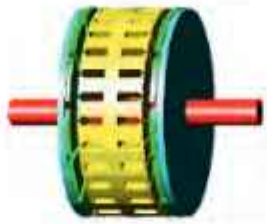
outer rotor drum, the multi-pole structure can be easily accommodated, and therefore the total length of the magnetic path is reduced. As the rotor is directly exposed to the wind, the cooling condition is improved for the magnets, so that the resistance to high temperature demagnetization is enhanced.

**Double Stator Slotted Axial-flux Machine**

The layout of this type of machine is shown in Fig.3. The shape of the stator as well as the rotor resembles a pancake and these machines are commonly referred to as pancake machines.



The machine consists of two external stators and one inner rotor. The permanent magnets are axially magnetized and they are surface mounted or inset into a cut window on the rotor disc. In all axial flux machines, the rotor rotates relative to the stator with the flux crossing the air-gap in the axial direction. The stator iron core is laminated in the radial direction and resembles concentric rings that have a constant slot width and tapered teeth

This configuration is similar to that of the double stator slotted axial-flux machine, except that there is one stator and two rotors. The stator is located in the middle of the two rotors and slotted on both sides. An iron flux path is needed on the rotor back of yoke, but the stator back yoke can be eliminated and saved.

Figure 1.7: Single Sided Axial-flux Machine with Stator Balance

This configuration is simple, as there is only one stator and one rotor. However a large attractive force exists between the stator and rotor. To prevent the rotor from moving in the axial direction, a special thrust bearing must be used, which will make the construction more complicated. By adding an additional stator to the construction, an effective way is introduced in this paper to balance the attractive force, as shown in Fig. 4. On the opposite side of the rotor, permanent magnet poles are needed to produce the magnetic field necessary to induce the balance force. The stator is laminated, as the magnetic field oscillates creating hysteresys and eddy current losses. When the flux path is carefully designed, the force produced between the rotor and the additional stator can balance the force between the rotor and the slotted machine stator.

Single Sided Axial-flux Machine with Rotor Balance

This configuration is similar to the single sided axial-flux machine with stator balance, except that an additional rotor with mounted magnet is added to the construction instead of a stator balance. The stator yoke length should be extended to provide a path for the magnetic field through which the balance force will be induced. An iron flux path is needed on the additional rotor back of yoke. Thus this construction uses more materials than the stator balance construction.

Axial-flux Machine with Toroidal Winding

This kind of prototype generator has a simple construction;. Single Sided Axial-flux Machine with Stator Balance This configuration is simple, as there is only one stator and one rotor.

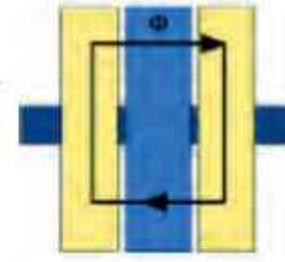
However a large attractive force exists between the stator and rotor. To prevent the rotor from moving in the axial direction, a special thrust bearing must be used, which will make the construction more complicated. By adding an additional stator to the construction, an effective way is introduced in this paper to balance the attractive force, as shown in Fig.

4. On the opposite side of the rotor, permanent magnet poles are needed to produce the magnetic field necessary to induce the balance force. The stator is laminated, as the magnetic field oscillates creating hysteresis and eddy current losses. When the flux path is carefully designed, the force produced between the rotor and the additional stator can balance the force between the rotor and the slotted machine stator.

**Radial Generators-**

It has very simple and extremely rugged, almost unbreakable construction, low cost, its reliability, high efficiency good power factor and minimum maintenance are the advantages of radial generators. While more length of the machine, rotor cooling and it is difficult to get high air gap flux densities with low remanence magnet are the main disadvantages of in this configuration.

Axial generators-




1. External excitation and conductor losses, eddy current losses are removed from the rotor. Total machine length can be reduced, High efficiency, high reliability, reduced

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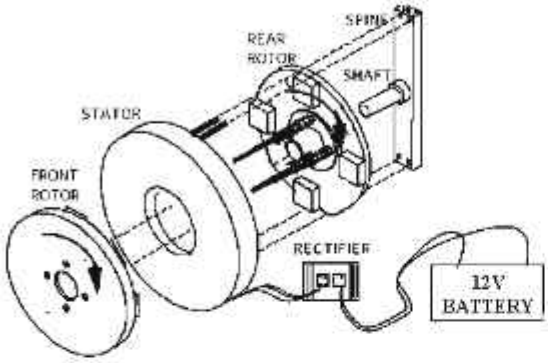
cost and highest torque density or torque /volume Vs power are the merits of the proposed design.

Working of Two Rotor Slotted Axial Flux Machinefor Wind Energy Generators

This project describes how to build a 'permanent

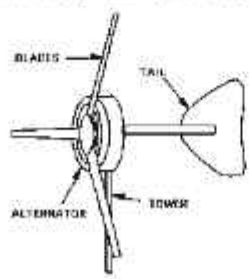



magnet generator' (PMG). We can also call it an 'alternator', because it generates alternating current (AC). It will not generate 'mains voltage' or 'utility power' AC. It generates low voltage, 'single phase' AC, and then changes it into 'direct current' (DC) for charging a 12 volt battery.

The PMG (see diagram 1) consists of:-

- A steel spine and shaft
- A stator containing coils of wire
- Two magnet rotors
- A rectifier

The stator contains four coils of copper wire, cast in fiberglass resin. This stator casting is mounted onto the spine; it does not move. Wires from the coils take electricity to the rectifier, which changes the AC to DC for charging the battery. The rectifier is mounted on an aluminum 'heat sink' to keep it cool. The magnet rotors are mounted on bearings, which turn on the shaft. The rear rotor is behind the stator, and enclosed within it. The front one is on the outside, fixed to the rear one by long studs which pass through a hole in the stator. The wind turbine rotor blades will be mounted on the same studs. They will turn the magnet rotors, and move the magnets past the coils. Magnetic flux passes from one rotor to the other through the stator. This moving magnetic flux is what produces the electric power.




The PMG works at low rotational speed. The chart shows the power output of the PMG, charging a 12 volt battery. At 420 rpm it generates 50 watts, which is 4 amps at 12 volts (4A x 12V = 50W). At higher speed, the PMG can generate more power. But high currents cause the coils to heat up, and so the efficiency gets worse as the output current gets higher. For higher speed it is better to change the stator coils, either by using different size wire, or by changing the way they are connected.

If the PMG is always used at higher speeds, it is better to use thicker wire, which can carry more current without getting so hot. Using thicker wire means there are fewer turns on the coils, which means that the PMG would not work at low speed. To use the same PMG for both low and high speeds, it is possible to change the connections. There are two ways to connect the stator wires to the rectifier. They can be connected 'series' or 'parallel'. See Section for a detailed description of the series and parallel connections. See diagram for the graph of power vs. speed. Series begins to work at low speed (170 rpm). Parallel gives more power, but only at higher speed. Series is good in very low wind speeds, and parallel is better in higher winds. A bigger version of this PMG would be able to give higher power at lower speed.

### 3.2 Design Equations

The air-gap flux per pole in a PM wind generator can be expressed as radial length (mm) leakage coefficient Lm=6 Lm=4 Leakage flux coefficient where r B is the rema,nence of the magnet; m A is the magnet cross area; o b is the magnet working point, and o σ is the leakage coefficient of the magnet, which can be computed in the magnetic circuit calculation. The fundamental flux per pole is the flux waveform coefficient, and I α is the effective polearc coefficient. Then the excitation voltage can be expressed as To solve the equivalent magnetic circuit, the d-axis armature reaction MMF ad F is required,

### 5.1 Conclusions

The experiments were conducted by varying different parameters such as speed, voltage and load current. For double rotor wind generator different equations are found.

For this entire test different readings are taken. Analytical and experimental data are compared.

Following conclusions are drawn from the present study.

Double rotor axial-flux PM generators cores have many advantages over the machines with other topologies in efficiency, total length, and output power Vs speed ratio.

For most of comparisons, the low speed constructions are superior to the high speed constructions, which mean that multi-pole PM

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generators are preferred in application of small, gearless, low speed wind system.

For all of the comparisons, the outer rotor axial-flux construction is superior to the inner rotor radial-flux construction. The former also has advantages such as ease of installation and cooling

Therefore the outer rotor construction is more suitable to be applied in wind energy systems.

Slot less construction is reduced iron loss in double rotor wind generator.

The combination of axial –flux structure and property of FPR can develop new PM wind generator designs with improved performance, if proper design precautions are taken.

The comparable design of four structure machines and a construction of a prototype have proved the research objective.

### 5.2 Future Scope

The concept of PMSG cascade is similar to the flexible ac transmission systems (FACTS). There the power electronics converter is also used to improve the transient stability of the system in case of power flow fluctuations, grid voltage disturbances, and torsional oscillations in the drive train.

One of the main scopes of this system is a PMSG cascade control method designed to actively damp the system subject to input power fluctuations. The proposed control law comprises three components: the damping component, the active resistance based compensator component and the dc bus voltage control component. Their functional analysis is given

in detail as well as the parameter design criteria.

### 5.3 Applications

The main application of the machine is it can be mostly used for the wind mills situated in storm areas. More efficient use in tri-brid systems

It can also be used in co-generation systems

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The company achieved an impressive coal production of 19.117 million metric tonnes (MMT) until October FY24, as compared to 10.282 MMT in the same period of the previous year, according to a media statement on Friday.

In addition, NTPC has also achieved a coal dispatch of 20.225 MMT until October 31 in FY 2023–24, marking a significant 94 percent increase over the previous year for the same period.

This outstanding performance reflects NTPC's relentless commitment to enhancing coal production from its captive mines and ensuring efficient supply to meet the nation's energy needs.

To achieve sustained growth in coal production, NTPC has implemented a range of strategies and technologies. These include the adoption of rigorous safety measures, improved mine planning, equipment automation, workforce training, and the implementation of continuous monitoring and analysis systems. These initiatives have played a vital role in optimizing operations, enhancing productivity, and ensuring the safety of the workforce.

NTPC remains committed to delivering reliable and sustainable power to the nation. This remarkable growth in coal production and dispatch is a testament to NTPC's dedication to operational excellence and its contribution to meeting India's energy demands.

The company will continue to explore innovative technologies and sustainable practices to further enhance its performance and support the nation's energy goals.

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# Idemitsu and Toyota Announce Beginning of Cooperation toward Mass Production of All-Solid-State Batteries

Idemitsu Kosan Co.,Ltd. (Idemitsu) and Toyota Motor Corporation (Toyota) announced today that they have entered into an agreement to work together in developing mass production technology of solid electrolytes, improving productivity and establishment a supply chain, to achieve the mass production of all-solid-state batteries for battery electric vehicles (BEVs). Through this collaboration, the two companies, which lead the world* in the fields including material development relating to all-solid-state batteries, seek to ensure the successful commercialization of all-solid-state batteries in 2027-28—as announced at the Toyota Technical Workshop in June 2023—followed by full-scale mass production.

Combination of Idemitsu's social implementation of energy one step ahead and materials and Toyota's multi-pathway approach is promoting BEV development, which is a vital option in the move towards carbon neutrality. As for next-generation batteries which support an evolution of BEVs, Idemitsu has been working on research & development on elemental technologies for all-solid-state batteries since 2001, while Toyota started in 2006.

This collaboration focuses on sulfide solid electrolytes, which are seen as a promising material to achieve high capacity and output for BEVs. Sulfide solid electrolytes are characterized by softness and adhesiveness to other materials, which is suitable for battery mass production.

To prepare for full-scale mass production, both companies have established a task force consisting of dozens of members and will proceed the collaboration as follows:

**Details of collaboration**

**Phase 1**

**Development of sulfide solid electrolytes and preparation for a large pilot facility**

· Through feedback and development support from each other on each company's technical area, both Idemitsu and Toyota will work together on creating better sulfide solid electrolytes with attention to quality, cost, and lead times, which both companies believe will realize mass-production demonstration of sulfide solid electrolytes using an Idemitsu pilot facility.

**Phase 2**

**Mass production using a large pilot facility**

· Through construction and startup of a large pilot facility, Idemitsu will promote sulfide solid electrolyte manufacture, and then will obtain mass production technology.

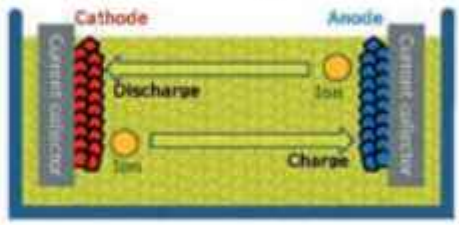
· Toyota will promote development of both all-solid-state batteries which sulfide solid electrolytes are used and BEV development in which the batteries are incorporated, and then will ensure market launch of BEVs with all-solid-state batteries in 2027-28.

**Phase 3**

**Study of future full-scale mass production**

· Based on the results of Phase 2, both companies will study of future full-scale mass production and commercialization.

· Idemitsu has also been developing production technologies of lithium sulfide which is an intermediate material for solid electrolytes, using by-products which are generated in the course of petroleum refining. And through such development, it has been working on development of mass production technology on sulfide solid electrolytes, aiming to establish a stable supply system. Further, the company is steadily increasing the capacity of its small pilot facility—announced in June 2023—and is proceeding construction plan of a large pilot facility—announced in April 2022, which will contribute to commercialization of all-solid-state batteries in 2027-28.




· Through combination of both companies' material development technologies, Idemitsu's material manufacture technologies and Toyota's battery processing and assembly technologies which is obtained through BEV development, both companies will aim to realize mass production of both solid electrolytes and all-solid-state batteries suitable for global widespread use. Both companies, working together across industries, will contribute to global carbon neutrality, and will lead the future with technologies created in Japan.

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# HIGH RISES CAN BE DEATH TRAPS SANS STRICT EXIT ROUTE SAFETY COMPLIANCE

Maharashtra, like the rest of the country, is currently witnessing a phase of rapid infrastructure growth. As per last year's statistics, Maharashtra has 6,712 high-rise buildings and 378 Skyscrapers, amongst which the capital city Mumbai alone has 3,629 high-rise constructions and 362 skyscrapers. That means Mumbai city dominates the Indian skyline with 77% tall buildings, as stated by the CBRE South Asia Report.

MASSIVE FIRE BREAKS OUT IN A BUILDING NEAR THANE'S DOMBIVALI

A massive fire broke engulfed all the floors of a building at Khoni Palava near Dombivli, Thane in Maharashtra on Saturday. After the incident, residents immediately contacted the fire brigade. The fire was doused an hour after the two fire engines were deployed. No person was injured during the incident because the people staying in the high rise managed to come down safely amid the fire as it was confined to one side of the structure. The fire in the building was triggered by a short circuit on the 8th floor and extended to numerous apartments in the building, according to the report.

PITAMPURA (DELHI) HOUSE FIRE CLAIMS 6 LIVES AS SAFE EXIGENCY BLUNDER SEALS THEIR FATE

It was first reported that five people had died in the ghastly fire that broke out at a multi-storey residential building in northwest Delhi's Pitampura area on 18th January in the evening. A total of 8 fire tenders were rushed to the spot that day and the fire was brought under control according to fire officials. "At least four people were charred to death when a fire broke out in a house in northwest Delhi's Pitampura area on Thursday evening," fire officials said at that time.

Two days later, the death toll rose to six. Now, the clincher, family members of the victims of the Pitampura fire incident have alleged that the automatic door locks installed at the residence got locked during the blaze, preventing the victims from escaping from the site. A relative outside, who saw smoke could not enter and save the people in the critical moments because of the locks. Ironical, that a safety measure installed without proper knowledge and farsighted wisdom and obviously prompted by half baked knowledge of safe exigency protocols actually sealed the fate of the inhabitants.

A major question arises, how to deal with accidental fires, especially in higher floors? Current issues in evacuation from high-rise

buildings, i.e., to either evacuate using staircase or elevator, the condition of escape routes provided in high-rise residential buildings, and common man's attitude toward fire safety, are still being debated. Escape routes in high-rise residential buildings is an important element for emergency escape.

The growth is imminent as high-rise construction will always have the logic of being practical given high-density urban development. With urbanization, the state is also responsible for the safety of its citizens. Fire safety and Evacuation have become a critical aspect of building design and management, with a particular focus on ensuring the efficient evacuation of occupants during fire emergencies. The recent fire incidents like the One Avighna Park and Goregaon Jay Bhavani complex fire have made the government consider stricter rules and measurements for the safety of Occupants and Firemen.

It can no longer be the easy option to ignore basics like sprinklers, alarms, emergency lights, proper signages and directions to help any common man to follow easy steps of quick escape in the desperate moments. The burden of responsibility is mostly on builders, developers, architects and home owners to ensure that the safety tools are in place and the safety rules are observed 24x7.

Prolite has always cautioned you against taking the serious issue of safety in your surroundings lightly. And as we enter the New Year we reiterate that Prolite is your PAL for sure. A builder or home owner who hides the fact that the building you choose to occupy is not safe as per NBC guidelines cannot be your friend. An architect who plans a project but conveniently ignores or window dresses safety protocols cannot be your friend either. In fact, they may be the ones who are actually putting you in danger of losses of property, belongings and probably, your own life. The safety inspector who issues licences and clearances to buildings, shops or establishments in exchange for bribes comes in the same category.

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# Revolutionizing the Generator Industry: India's Transition to CPCB IV+ Emission Standards Sparks Innovation & Sustainability.

Embracing eco-friendliness is the latest trend in the Power Industry, and gensets are no exception. As of July 2023, India has transitioned from CPCB II to CPCB IV+ emission standards for gensets up to 800kW. This regulatory shift is poised to have a profound impact on the entire generator set industry, marking the Indian government's commitment to combat air pollution, as demonstrated by the announcement of CPCB IV+ emission standards in November 2022.

This transition is not merely a regulatory change but a strategic move guiding the industry toward a more sustainable trajectory. It also encourages the development of new technologies and innovative ideas. Notably, India has now aligned its emission standards with those of European and American economies, showcasing its commitment on a global scale.

The introduction of CPCB IV+ emission standards also signify a robust commitment to tackling air pollution. These regulations mandate an impressive 90% reduction in particulate matter (PM) and nitrogen oxide (NOx) concentrations in generator exhaust, surpassing the existing CPCB II standards. The simplicity of the regulatory landscape is a key feature of the CPCB IV+ guidelines. They establish a unified benchmark for portable and fixed generators, irrespective of fuel type, with a power output of up to 800 KW. This streamlined approach ensures clarity and compliance for the generator industry while maintaining stringent emission reduction targets.

Beyond regulatory compliance, the CPCB IV+ guidelines are driving significant technological innovation within the sector. The CPCBIV+ compliant genset range is now equipped with advanced engines and emission control technologies, such as electronic fuel systems, advanced after-treatment systems (ATS), and exhaust gas recirculation (EGR) systems, to meet these standards. These technological upgrades promise more efficient fuel combustion, improved pollutant control, and enhanced fuel efficiency. Customers can now monitor real-time generator performance, leading to improved fuel efficiency and increased generator lifespan. Reduced fuel consumption by CPCB IV+ compliant generators also translates to lower greenhouse gas (GHG) emissions, contributing to global climate change mitigation efforts.

The adoption of CPCB IV+ emission standards bring numerous advantages and opportunities for stakeholders within the generator industry and the broader economy. Technology providers and engine manufacturers can distinguish themselves by offering products equipped with sophisticated technology. Generator manufacturers can capitalize on this situation by providing specialized service packages to ensure continuous compliance with CPCB IV+ norms. End-users, including residential and commercial properties and industrial entities like data centers, telecom facilities, and infrastructure projects, will experience improved air quality, decreased environmental impact, enhanced social responsibility, and contribute to the nation's sustainable development objectives.

In conclusion, Powerica Limited, in collaboration with Cummins India Limited, stands as a pioneer in innovation and customer-centricity in the Indian diesel genset market. With strong capabilities in manufacturing of low, medium, and high-capacity diesel generators, the four-decade-old partnership is committed to powering the success of its customers through innovative products and offerings. This along with ARAI (Automotive Research Association of India) approved CPCB IV+ compliant power solutions, positions Cummins India and Powerica to play a major role in enforcing CPCB IV+ emission standards. Embracing these standards, the generator sector assumes a crucial role in advancing sustainable development and demonstrating environmental responsibility.

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# इकॅमच्या शताब्दी महोत्सवी वर्षाच्या शुभारंभाचा दिमाखदार सोहळा...


दीप प्रज्ज्वलन

गणेश वंदना

प्रमुख अतिथी सत्कार

विशेष अतिथी सत्कार

दि. ११ जानेवारी २०२४ रोजी, दादर येथील स्वामीनारायण मंदिरातील योगी सभागृहामध्ये इकॅमच्या शताब्दी महोत्सवी वर्षाच्या शुभारंभाचा सोहळा, अतिशय भव्य दिव्यपणे पार पडला. राष्ट्रगीताने या सोहळ्याची सुरुवात झाली. योगेश पाटकर आणि सहकारी यांच्या ग्रुपने आकर्षकपणे रचना केलेली गणेश वंदना सादर केली. इकॅम महासमितीचे अध्यक्ष, श्री. वामन भुरे आणि महासचिव श्री. देवांग ठाकूर हे सन्मानाने मान्यवरांना व्यासपीठावर घेऊन गेले. हे मान्यवर होते, श्री. श्रीगोपालजी काबरा (आर आर काबेलचे व्यवस्थापकीय संचालक तथा आर आर ग्लोबलचे अध्यक्ष) आणि श्री. हेमांगजी शाह (ग्रेटव्हाईटचे व्यवस्थापकीय संचालक). या पाहुण्यांसह इकॅमचे पदाधिकारी व इकॅमच्या सर्व विभागांचे अध्यक्ष व्यासपीठावर उपस्थित होते. यामध्ये सर्वश्री रावसाहेब रकिबे (कोषाध्यक्ष), उमेश रेखे (उपाध्यक्ष), अनिल महाजन, सचिन फरतडे, दत्ता झिंजुर्डे, बाबुभाई मेहदी, बाळासाहेब कदम, प्रवीण बडगुजर, निलेश तिवरामकर आणि उल्हास वजरे. सर्व मान्यवरांच्या हस्ते दीप प्रज्वलन झाल्यानंतर, महासचिव श्री देवांग ठाकूर यांनी प्रस्तावना केली. यावेळी त्यांनी इकॅमचा इतिहास, वृद्धी याबाबत सविस्तर माहिती दिली. याचबरोबर संघटनेच्या भविष्यातील उद्दिष्टांबद्दलही सांगितले. या शताब्दी महोत्सवाचे औचित्य साधून संघटनेच्या हयात असलेल्या सर्व माजी अध्यक्ष आणि महासचिवांचा, त्यांनी संघटनेसाठी दिलेल्या योगदानाबद्दल पाहुण्यांच्या हस्ते सन्मान करण्यात आला. सर्वश्री शैलेश डॉक्टर, चंद्रकांत ब्रीद, केशव काळे, कमलेश शाह, अनिल गचके आणि मिलिंद नाईक यांचा

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प्रमुख अतिथी श्री. श्रीगोपाळ काबराजी आणि विशेष अतिथी श्री. हेमांग शाह यांचे उद्‌बोधन

इकॅम डायरी प्रकाशन

इकॅम कॅलेंडर प्रकाशन

श्री सुकेतू झवेरी आणि ज्येष्ठ सभासदांचा सन्मान

यामध्ये समावेश होता. याच वेळी काही ज्येष्ठ सभासदांचा ही सन्मान करण्यात आला. सर्वश्री दीपक खंबाटी, सुकेतू जव्हेरी, सतीश काझी, महुवेकर इत्यादींचा यामध्ये समावेश होता. श्री. केशव मालकर (ISLE), श्री. केतन ठक्कर (उपाध्यक्ष, इलेक्ट्रिकल मर्चंट्स असोसिएशन), श्री संदीप भोजने (प्रिसिजन पाईप) यांच्यासह इतर अनेक संघटनांच्या प्रतिनिधींचाही सन्मान करण्यात आला. यामध्ये कॉस्मो, वाइंडिंग वायर ट्रेडिंग असोसिएशन आणि नॅशनल सेफ्टी कौन्सिल. श्री. शैलेश डॉक्टर यांनी माजी अध्यक्षांच्या वतीने मनोगत व्यक्त केले. ते म्हणाले की, पूर्वी सगळीकडेच अल्युमिनियमच्या वायर्स वापरल्या जात असत. कॉपर वायर वापरण्यासाठी संघटनेच्या वतीने शासन दरबारी प्रयत्न केले. सेल्स टॅक्सच्या प्रश्नासाठी सुप्रीम कोर्टापर्यंत गेलो होतो. या सर्व आठवणी सांगताना, जुन्या सहकाऱ्यांच्या आठवणी येत आहेत. जसे कै. शिरीष जव्हेरी, कै. उदय चित्रे, कै. सुनील भुरे. संघटनेने सुवर्ण महोत्सव, हीरक महोत्सव तसेच अमृत महोत्सव साजरा केला, त्यावेळी मी संघटनेत कार्यरत होतो. अमृत महोत्सवी समितीत होतो. आता शताब्दी महोत्सवाच्या वेळीही आहे, आणि शतकोत्तर रोप्य महोत्सवी वर्षीही असेन.

इकॅमचे ज्येष्ठ सभासद, श्री. सतीश काझी यांनी आपल्या मनोगतात संघटना करीत असलेल्या कार्याबद्दल समाधान व्यक्त केले. ग्रेटव्हाईट कडून श्री. हेमांग शहा आणि श्री केतन डिडवाणीया यांनी संघटनेला पुढील वाटचालीसाठी भरघोस शुभेच्छा दिल्या. या शताब्दी महोत्सवी वर्षाच्या शुभारंभ प्रसंगी एक खास स्मरणिका प्रकाशित करण्यात आली. या स्मरणिकेचे वैशिष्ट्य म्हणजे, संघटनेचा ९९ वर्षांचा तसेच सर्व विभागांचा स्थापनेपासूनचा इतिहास, त्याची चित्रबद्ध सफर, विविध क्षेत्रातील मान्यवरांच्या शुभेच्छा, माहितीपर लेख. या स्मरणिकेसोबतच संघटनेच्या २०२४ च्या दैनंदिनीचे आणि दिनदर्शिकेचे प्रकाशनही सर्वश्री गोपालजी काबरा आणि हेमांग शाह यांच्या हस्ते करण्यात आले. स्मरणिकेसाठी श्री प्रकाश जाधव तर दैनंदिनीसाठी श्री. नरेंद्र शिंदेकर यांनी परिश्रम घेतले. इकॅम महासमितीचे अध्यक्ष श्री. वामन भुरे यांनी स्वखर्चाने दिनदर्शिका वितरणासाठी छापल्या आहेत. इकॅमचे सामाजिक कार्यातही कायम योगदान राहिले आहे. याचाच एक भाग म्हणून यावेळी, सामाजिक कार्यकर्ते, आणि डॉक्टर फॉर बेगर्स अशी ओळख असलेले डॉ. अभिजीत सोनावणे आणि त्यांच्या पत्नीचा सन्मान करण्यात आला. यावेळी इकॅं'च्या वतीने त्यांना ५१ हजारांचा धनादेश देण्यात आला. आपल्या मनोगतात डॉ. सोनावणे यांनी सांगितले की, ही सेवा करताना अनेकांचे प्रबोधन केले. त्यापैकी अनेकांनी आता भीक मागणे सोडून, स्वतंत्र व्यवसाय सुरू केले आहेत. त्यासाठी त्यांना मानसिक आर्थिक पाठबळ दिले आहे. अनेकांची मुले उत्तम शिकली आहेत. त्यासाठी वसतीगृह सुरू केले आहे. यात ५२ मुले दत्तक घेतलेली आहेत ही सेवा करताना आम्हाला अनेक नातेवाईक लाभले. साधारण १५० आई वडील, शंभरावर भावंडे आणि दोनशेच्या वर मुले लाभली आहेत. आता आमच्या कुटुंबाची संख्या साधारण ११०० च्या वर आहे. श्री. गोपालजी काबरा यांनी आपल्या मनोगतात इकॅमला शुभेच्छा दिल्या. आणि पुढील काळात एकत्र काम करू असे आश्वासन दिले. ते पुढे

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डॉ. अभिजीत सोनवणे व सौ. सोनवणे यांचा सत्कार

प्रमुख अतिथी यांचे समवेत....

चला हवा येऊ द्या – मनोरंजन कार्यक्रम

म्हणाले की, आपला देश विद्युत सुरक्षित व्हायला हवा. त्यासाठी सर्वांनी एकत्र प्रयत्न करणे फार गरजेचे आहे. त्याचबरोबर त्यांनी एक मोलाचा सल्ला दिला तो असा की, Don't Create Followers, Create Believers. श्री काबरा यांनी डॉ. सोनवणे यांना रुपये ५ लाख देण्याचे घोषित केले.

ECAMEX 24 चे चेअरमन श्री. मारुती माळी यांनी पुढील महिन्यात होणाऱ्या या प्रदर्शनाबद्दल सविस्तर माहिती दिली. विद्युत सुरक्षा ही, या प्रदर्शनाची थीम असेल. ते पुढे म्हणाले की, विद्युत क्षेत्रातील हे प्रदर्शन म्हणजे एक मैलाचा दगड ठरेल, संघटनेच्या तसेच सभासदांच्या साठी ही भूषणावह गोष्ट असेल. संघटनेमध्ये कार्यरत असलेल्या कर्मचाऱ्यांचाही सन्मान यावेळी करण्यात आला. श्रीमती सुनीता अरगेकर, श्री. संदीप राऊत, श्री. सुशील मल्होत्रा, श्री. विकास गावड, श्री. शेखर पेटकर आणि सौ. दर्शना बांगर यांचा यामध्ये समावेश होता. इकॅम महासमितीचे अध्यक्ष श्री. वामन भुरे यांनी आपल्या मनोगतात सांगितले की, कुठेही आग लागली की, आगीचे कारण ती शॉर्टसर्किटने लागली असेच सांगितले जाते. आणि त्यास विद्युत ठेकेदाराला जबाबदार धरले जाते. परंतु विद्युत ठेकेदार काम पूर्ण करून गेल्यानंतर अनेकदा ग्राहक सदर विद्युत संच मांडणीत अनधिकृत माणसांकडून वेळोवेळी बदल करून घेतो, आणि अशा कारणांमुळे आगीच्या घटना संभवतात. यासाठी संघटनेच्या वतीने जनसामान्यांचे प्रबोधन करण्याचा प्रयत्न आहे. विद्युत सुरक्षा हा विषय शालेय अभ्यासक्रमात समाविष्ट करण्यासाठी, शासन दरबारी प्रयत्न सुरू केले आहेत. संघटनेच्या सभासद वृद्धीचे मोठे उद्दिष्ट डोळ्यासमोर ठेवले आहे. साधारण पाचशे सुशिक्षित बेरोजगार ठेकेदारांना फक्त प्रवेश फी घेऊन संघटनेचे सभासदत्व देण्याचा मानस आहे. पुढील वर्षात सभासद व त्यांच्या कुटुंबीयांसाठी भरगच्च कार्यक्रमांचे नियोजन केलेले आहे.

इकॅम शताब्दी महोत्सवाच्या निमित्ताने, एका भव्य लकी ड्रॉचे आयोजन केले होते. उपस्थित बालचमूच्या हस्ते लकी कूपन्स काढण्यात आली.

महिलांसाठी लकी ड्रॉ

खास महिलांसाठी असलेल्या लकी ड्रॉ मधील पैठणीच्या विजेत्या पुढील प्रमाणे...

हर्षा बडगुजर रूपाली जाधव बिजाब पत्रे नील कल्पक, अमृता हंकारी, श्रद्धा थोरात, मनीषा डिकोजा, नलिनी भालोरे, शोएब अहमद, सीमा बडगुजर अशा कुंभार अश्विनी ठाकूर हीरा चव्हाण, कोमल कोळपकर, शीला देशमुख, अलका सावरकर, रुजेरा खोबरेकर, शैलजा शेट्टी, ज्योती देशपांडे, मल्लिका, ताणस्कर, जामदार, रूपाली पाटील, उषा शेवाळे,

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सायली फुलतुरे,

पॉवर बँक विजेते - मयूर पाटील-सोहम इलेक्ट्रिकल्स, सुमित पॉवर-मधुकर पेंढारकर, हरिश्चंद्र चौरसिया-शिव इलेक्ट्रिकल्स, प्रशांत पटेल-साधना सूर्यवंशी, हेमंत सोनार-मितेश छाबरा, संतोष सूर्यवंशी, गंगाप्रसाद तिवारी, दिगंबर गवळी राहुल पिंगळे, योगेश वाकडे, अमित गरुड, पराग भुरे, संतोष पिसाट-श्री कृपा इलेक्ट्रिकल्स, हरेश उदेही-यशोधन बर्वे साईराज इलेक्ट्रिकल्स

मोबाईल विजेते- अरुण बेंद्रे, अनिकेत भिसे, श सनलाइट इलेक्ट्रिकल्स

टॅबलेट विजेते-निलेश बडगुजर, संतोष एडके, जी एच दमानिया

लॅपटॉप विजेते-दगडू कांबळे, डी आर सूर्यवंशी, नसीम असाना

ई बाईक विजेते-नरसिंग

इकॅम शताब्दी महोत्सव उद्घाटन सोहळा पार पडल्यानंतर सभासद आणि त्यांच्या कुटुंबियांसाठी 'चला हवा येऊ द्या' फेम कलाकारांचा मनोरंजन कार्यक्रम आयोजित केला होता. यामध्ये श्रेया बुगडे, भाऊ कदम, भारत गणेशपुरे, योगेश शिरसाट, अंकुर वाढवे आणि स्नेहल शिदम यांचा सहभाग होता. त्यांच्या काही सहकाऱ्यांनी यावेळी विविध प्रकारची गीते सादर करून उपस्थितांचे मनोरंजन केले. दुपारी आणि कार्यक्रमानंतर सर्व उपस्थितांसाठी सुग्रास भोजनाची व्यवस्था संघटनेने केली होती.

या कार्यक्रमाचे आभार प्रदर्शन शताब्दी महोत्सव समितीचे तथा नाशिक विभागाचे अध्यक्ष, श्री. सचिन फरतडे यांनी केले. तर या सर्वांग सुंदर, दिमाखदार सोहळ्याचे सूत्रसंचालन सौ. स्वाती पेंडसे यांनी अत्यंत सुंदर पद्धतीने केले. या कार्यक्रमाच्या नियोजनासाठी टीम इकॅम नाशिक आणि टीम कॅम्पेन मास्टर्ससह श्री. सतीश सिन्नरकर यांनी विशेष परिश्रम घेतले.

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# Gautam Adani bets big on vast solar and wind plant

Gautam Adani's ports-to-airports, media and energy empire -- which critics say has benefited from his links with Indian Prime Minister Narendra Modi -- made him for a brief time in 2022 the world's second-richest man, with a $154 billion fortune.

Khāvda: Deep in the desert along the border with Pakistan, billionaire Gautam Adani is building the world's largest renewable energy park as he races to future- proof his coal-linked fortune.

Gautam Adani's ports-to- airports, media and energy empire -- which critics say has benefited from his links with Narendra Modi -- made him for a brief time in 2022 the world's second-richest man, with a $154 billion fortune.

A year ago his firms were hit by accusations of a "brazen stock manipulation and accounting fraud scheme" by US short-seller Hindenburg Research and their market value slumped by more than $150 billion.

But they have since recovered much of their losses and the publicity-shy 61-year-old high school dropout is betting hefty sums on making billions more from the energy transition.

India is the world's third-biggest carbon emitter and Modi's government has been at the forefront of attempts to push back against the "phase out" of coal at global summits.

But the world's most populous country and fastest-growing major economy needs ever more power, and Adani is building what he calls a "monumental" solar and wind project he boasts will be "visible even from space".

As the wind whips up sand in the baking heat of the Rann of Kutch desert, thousands of labourers erect vast rows of solar panels, dig foundations for wind turbines and lay seemingly endless rolls of wires.

Sagar Adani, Gautam's nephew and executive director of Adani Green Energy, told AFP that the project's teams are working "at an accelerated pace".

When complete in 2027, the $2.3-billion Khavda Renewable Energy Park will cover 726 square kilometres (280 square miles) -- nearly the size of New York City.

The park is aimed to have the capacity to generate 30 gigawatts of solar and wind energy -- enough to power the homes of 18 million people, more than the combined populations of London and New York.

Adani will produce 17GW, with the rest generated by other companies.

The project is slated to produce a third more power than China's Three Gorges Dam, currently the world's biggest power-generating facility.

'Proud Indian'

The scheme is the showpiece of Adani Green Energy -- in which France's TotalEnergies bought a 19.7 percent stake for $2.5 billion three years ago.

In Mundra, site of India's largest commercial port -- run by another arm of the Adani empire -- it is manufacturing key components for its aggressive solar and wind energy foray, including colossal wind turbine blades nearly 80 metres long.

Solar panels are churned out on high-tech production lines nearby.

New Delhi has called for ambitious clean energy projects to create 500 gigawatts of renewable capacity to meet half its energy needs by 2030.

Adani -- who rejected Hindenburg's charges as "maliciously mischievous" has said he will invest an estimated $100 billion into that energy transition.

When fully operational, Adani's renewable energy park will make up the equivalent of a quarter of India's current capacity from wind and solar.

But India also plans to sharply increase its coal-based power capacity and vows to become carbon neutral only by 2070, two decades later than many countries.

# Architectural Lighting

K-LITE INDUSTRIES an ISO company, manufacturing indoor and outdoor luminaires have launched a new series of LED Architectural Lighting. Being the trend setters in outdoor lighting and inspired by the "Make in India" vision, K-LITE, through their innovative outlook, have showcased an all new product portfolio under Architectural Lighting. The application includes Facade Lighting, Pathway Lighting, In-ground Luminaire, Up-down Lighting, Billboard Lighting, Vertical Light Bars, Wall Washers, Area Lighting poles and above all popular sleek polar lighting solutions.

The solutions offered are backed by extensive understanding of illumination in urban spaces and the expertise gained over a period of three decades. The fixture are designed to provide value technology, ideally suited to Indian Conditions. The LEDs used comply to LM 80 testing requirements and from Internationally reputed makes such as Nichia / CREE. The luminaires are RoHS, LM 79 and CE certification compliant. The luminaire efficacy (lumens/ per watt) is much above 100 for all luminaires. Varied optical options for lighting distribution and correlated colour temperature (CCT) for cool white, neutral white or warm white are available to suit specific requirements.

The outstanding item of the series viz., the Sleek Polar Lighting Solutions is a contemporary design that is both timeless and unique in its impression. Compact without visible mounting equipment and optimised integration, Polar Lighting is in perfect continuity with the geometric lines of the square column. These assemblies are ideal for surroundings of contemporary architectural constructions.

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# BIS Recruitment 2024: Check Post, Vacancies, Qualifications, Experience and How to Apply

**BIS Recruitment 2024: The Bureau of Indian Standards (BIS) is recruiting bright, young dynamic persons for the post of Management System Certification Department (MSCD). There are 03 openings for the position listed. As given in the official notification of BIS Recruitment 2024, the maximum age limit for the assigned position is 30 years as of 02.02.2024. The chosen candidate will be placed purely on a contract basis for a period of 02 years, per the official BIS Recruitment 2024 notification. Referring to the official notification of the BIS Recruitment 2024, selected candidates will get a remuneration of Rs.70000 fixed for 02 years.**

**Candidate must hold a Graduation in any discipline of Science/ Engineering/ BE/B. Tech from a recognized University as mentioned in the Official notification of BIS Recruitment 2024. Based on the official notification of the BIS Recruitment 2024, shortlisted candidates will be called for practical assessment, written assessment, technical knowledge assessment, interview etc. The candidate will be posted at the Bureau of Indian Standards, Western Regional Office, Mumbai as given in the official notification of BIS Recruitment 2024. Interested applicant should submit their online application form through the official website along with supporting documents. The online application process for BIS Recruitment 2024 will start from 19.01.2024 from 10 AM.**

**Post Name and Vacancies for BIS Recruitment 2024:**

The Bureau of Indian Standards (BIS) is looking for bright, young, creative individuals to fill the position of Management System Certification Department (MSCD). There are 03 vacancies for the listed position.

**Tenure for BIS Recruitment 2024:**

According to the official BIS Recruitment 2024 notification, the selected candidate would be employed on a contract basis for a duration of two years.

SAI Recruitment 2024: Notification Out for 210+ Vacancies, Check Post, Age, Salary and Application Process

**Qualification for BIS Recruitment 2024:**

Candidates applying for the BIS Recruitment 2024 must have the following qualifications.

Applicant must have a regular Graduation in any discipline of Science/ Engineering/ BE/B.Tech from a recognized University

Applicant must have a regular MBA or equivalent in Marketing/Sales, Retail Management, Logistics and Supply Management and Operations Management from a recognized University.

**Experience for BIS Recruitment 2024:**

Candidates applying for the BIS Recruitment 2024, must have a minimum of two years of experience in Marketing or equivalent fields. Preferably conversant with Management System Certification.

ONGC Recruitment 2024: Salary Upto 105000, Check Posts, Age, Vacancies, and Process to Apply

**Age Limit for BIS Recruitment 2024:**

The official BIS Recruitment 2024 notification states that the allocated position's maximum age limit is 30 years old.

AIIMS Bhubaneswar Recruitment 2024: Salary upto 101370 Per Month, Check Posts, Age, Qualification and Interview Details

**Salary for BIS Recruitment 2024:**

According to the official BIS Recruitment 2024 notification, those who are chosen will receive a salary of Rs. 70000 for a period of two years.

NHIDCL Recruitment 2024: 130+ Vacancies Notification Out, Check Posts, Experience, and Process to Apply

**Place of Posting for BIS Recruitment 2024:**

As specified in the official BIS Recruitment 2024 notification, the candidate will be assigned to the Bureau of Indian Standards, Western Regional Office, Mumbai.

**Selection Procedure for BIS Recruitment 2024:**

The shortlisted candidates will be contacted for interviews, written assessments, technical knowledge assessments, and practical assessments, as per the official notification of the BIS Recruitment 2024.

**Important Date for BIS Recruitment 2024:**

The Important Dates for BIS Recruitment 2024 are listed in the table below.

**How to Apply for BIS Recruitment 2024:**

It is advised that candidates follow the instructions to submit an online application for BIS Recruitment 2024. These are simple to understand and follow steps.

The application procedure is outlined in detail below.

Step 1: Applicants need to visit the BIS's official website.

Step 2: Select the Career area.

Step 3: Click on the Advertisement on the homepage.

Step 4: Complete the application.

Step 5: In the end, click "Submit."

Step 6: Print the page out for records purposes.

The online application interface will be closed on 02.02.2024 till 5:30 PM.

# 18,000 MWhydel power projects underway, India to lead in green hydrogen: R.K. Singh at 'BID 2024'

During his address at the three-day exhibition and conference held at the Bombay Exhib Centre in Goregaon, the minister stressed India's commitment to the emerging green hydrogen sector

process of constructing 18,000 MW of hydel power capacity, Union Power and New and Renewable Energy Minister R.K. Singh said at the 'BID 2024' event in Mumbai. The conference, organized by the Indian Electrical and Electronics Manufacturers' Association (IEEMA), highlights the country's focus on bolstering its renewable energy infrastructure. During his address at the three-day exhibition and conference held at the Bombay Exhibition Centre in Goregaon, the minister stressed India's commitment to the emerging green hydrogen sector. He outlined the nation's strategy to develop an end-to-end value chain in the renewable electricity sector, which includes everything from poly-silicon to photovoltaic modules, with the aim of establishing India as a key player in green hydrogen

R.K. Singh pointed to the significant role of the electricity sector in India's industrialization and economic growth. He cited the growing demand for electricity and the expanding opportunities for manufacturers in this sector. The minister also noted substantial improvements in the power sector, including a 65% increase in the transmission network over the last nine years and a reduction in AT&C losses from around 27% in 2014 to approximately 15% in 2023, with a further reduction to about 12% expected. The union minister highlighted the policy measures in place to ensure power adequacy and the responsibilities of distribution licensees. He mentioned the penalties for defaulters and assured continued efforts to increase capacity for uninterrupted electricity supply.

The event also featured the awarding of certificates to the top seven startups from the Electraverse Sparks Competition 2024 by R.K. Singh. The minister inaugurated BID 2024 and toured the exhibition stalls, with IEEMA President Hamza Arsiwala and Director General Charu Mathur in attendance. Hamza Arsiwala, President IEEMA, said, "The fact that BID 2024 has more than doubled in size from the previous edition, is a testament of the growth Indian Electrical Equipment industry is seeing, as a result of the power reforms and the fast pace of transformation that the power sector is undergoing for the past 9 years."

building electrical systems. The 6th edition of the Intelect Conference, themed "Transformative Journey - Reliable, Sustainable and Safer Prosumer Ecosystem," is being held concurrently. The host utility for the event is the Maharashtra State Electricity Distribution Company Ltd (MSEDCL). IEEMA, established in 1948, is a leading industry association representing manufacturers of electrical, industrial electronics, and allied equipment in India.

# REC receives SCOPE Excellence Award for Digitalization

Posted On: 19 JAN 2024 5:58PM by PIB Delhi

REC Limited, a Maharatna Central Public Sector Enterprise under the Ministry of Power and a leading NBFC, has been honored with the prestigious Scope Excellence Award in the category of Special Institutional Category (Digitalization). The award acknowledges REC Limited's unwavering commitment to the digitalization of its workplace and the promotion of best practices in establishing a paperless office.

The award was presented by the Vice President of India, Shri Jagdeep Dhankhar, at a ceremony held at Vigyan Bhawan in New Delhi on January 18, 2024. Director (Finance), Shri Ajoy Choudhury and Executive Director (BDM), Shri Saurabh Rastogi of REC Limited graciously accepted the award from the Vice President of India at the ceremony.

This accomplishment underscores REC Limited's dedication to embracing technological advancements and fostering a culture of innovation within the organization.

SCOPE was established in 1973 as an apex body of Public Sector Enterprises (PSEs), and is dedicated to promoting competitiveness and excellence within the PSE sector. The SCOPE Excellence Award recognizes and commemorates exemplary performances of Public Sector Enterprises.

# Renewable Energy:
# A Key to India's Industrial Growth

**Introduction:**

**Renewable energy plays a crucial role in India's efforts to fight climate change and promote sustainable industrial growth. By using clean and sustainable sources like sunlight, wind, water, and geothermal heat, renewable energy helps meet India's energy needs while reducing harmful carbon emissions. Let's explore how renewable energy is making a big impact on India's industries and its fight against climate change.**


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


Why Renewable Energy Matters for Indian Industries:

Renewable energy is important for India's industries for several reasons:

1. Less Dependence on Fossil Fuels: Renewable energy helps reduce India's reliance on fossil fuels like coal and oil. These fuels create a lot of pollution and harm the environment. By shifting to renewable energy sources like solar and wind power, India can reduce its use of fossil fuels and make its industries cleaner and more sustainable.

2. Generating Electricity without Pollution: Renewable energy technologies, such as solar panels and wind turbines, can generate electricity without causing pollution. They use the power of the sun and wind to create clean energy. By using these technologies, industries can reduce their carbon footprint and help fight climate change.

3. Saving Money and Resources: Renewable energy can help industries save money and resources. For example, using energy-efficient practices alongside renewable energy can lower energy costs and reduce waste. This means industries can become more efficient and save money on their operations.

4. Creating Jobs and Boosting the Economy: Investing in renewable energy can create jobs and boost the economy. When industries adopt renewable energy technologies, they need skilled workers to install and maintain them. This creates employment opportunities and stimulates economic growth in the renewable energy sector.

Conclusion:

Renewable energy is essential for India's industrial growth and its fight against climate change. By embracing renewable energy sources such as solar and wind power, India can make its industries cleaner, more efficient, and sustainable. This transition will help reduce pollution, save money, create jobs, and contribute to a greener and brighter future for India. Investing in renewable energy is not only good for the environment but also for the economy and the well-being of the Indian people.

www.relservices.in

# Gensol Secures ₹1.39 Billion Solar EPC Contract from Sarda Energy

The captive solar project will have a capacity of 33 MW and will be developed in Chhattisgarh

Engineering and consulting firm Gensol Engineering has secured an engineering, procurement, and construction (EPC) contract for a 33 MWac (50 MWdc) captive solar power project from the steel and ferro alloys manufacturer Sarda Energy and Minerals to meet power requirements for its Kharora plant in Chhattisgarh. The project is expected to cost about ₹1.50 billion (~$18.06 million), according to Sarda Energy. Gensol will undertake the design engineering, procurement, construction, and commissioning of the solar power project with the order valued at ₹1.39 billion (~$16.7 million). The project is

Gensol has installed ground-mounted and rooftop solar power projects with a combined capacity of over 600 MW to date. "Known for its rich mineral deposits and burgeoning industrial sector, Chhattisgarh presents a dynamic market with immense potential for renewable energy integration," said Ali Imran Naqvi, CEO (Head – BD & Projects) of Gensol Engineering. "This project aligns with our vision to tap into such high-growth areas and to contribute to a greener, cleaner tomorrow," he added. Chhattisgarh has made rapid strides toward expanding the solar open access market during the third quarter of 2023. The state accounted for 3.5% of India's total open access solar capacity, making it the ninth highest in the country, according to the Q3 2023 Mercom India Solar Open Access Market Report. The state's recent policy adjustments, particularly focused on green open access, have boosted the state's overall solar capacity. It added 28 MW open access solar in the third quarter alone. India added 907.3 MW of open access solar capacity in Q3 2023, up 36.1% from 666.4 MW in the previous quarter. Textile, mining, packaging, telecommunications, steel, cement, information technology, automotive, chemicals, pulp and paper, fast-moving consumer goods, and a few other industries, along with flour mills, contributed to the open access solar capacity additions in Q3 2023. Captive and group captive projects continue to drive the open access solar capacity additions. Several consumers are switching to captive and group captive projects instead of exchange-based procurement, according to Mercom India Research. Electricity constitutes a major portion of the operational expenses of the cement, steel, and mining industries. The opportunity to reduce costs and meet the net zero targets are incentives for open access solar adoption

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# SECI Floats Tender for 1.5 GW ISTSConnected Solar Projects

The Solar Energy Corporation of India (SECI) has invited bids to set up 1,500 MW inter-state transmission system (ISTS)-connected solar power projects in India under Tranche XIV. The last date to submit bids is February 23, 2024. Bids will be opened on February 28. Bidders have to submit a bid document fee of ₹29,500 (~$354) and a bid processing fee of ₹500,000 (~$6,014) + applicable taxes for each project for quoted capacity from 50 MW up to 90 MW and ₹1.5 million (~$18,041) + applicable taxes for each project from 100 MW and above-quoted capacity

The successful bidder must set up the solar projects connected to the ISTS, encompassing the transmission network extending up to the interconnection/delivery point. The project developer's responsibilities include identifying suitable land, installing and owning the project, and securing connectivity and requisite approvals for interconnection with the ISTS network/State Transmission Utility (STU) or intra-state transmission system (InSTS) network, as applicable, to supply power to SECI. The developer may choose to locate the project in the same state as the buying entity for STU interconnection. A bidder, which includes its parent, affiliate, or ultimate parent, or any group company, is required to submit a singular bid, offering a contracted capacity ranging from a minimum of 50 MW to a maximum of 750 MW, according to the specified formats. Bids for projects must be quoted in increments of 10 MW. Bidders are free to choose the locations for the projects. The project design must facilitate interconnection with the ISTS or InSTS in compliance with Central Electricity Regulatory Commission regulations. If the buying entity is situated in the same state as the project, the project developer may opt to interconnect the project at the STU or InSTS substation, adhering to the minimum voltage level as per the applicable state regulations. The stated or adjusted annual Capacity Utilization Factor (CUF) must not fall below 17%.

The developer must attain an annual CUF within the range of +10% and -15% of the declared value throughout the initial ten years. This is contingent upon maintaining a minimum annual CUF of 15%. Subsequently, from the 11th year until the conclusion of the PPA term of 25 years, the annual CUF should be within +10% and -20 %

Approved List for Models and Manufacturers must be used. The net worth of the bidders must be equal to or exceed ₹9.28 million (~$111,619)/MW of the quoted capacity as of the last date of the previous financial year. Bidders must have a minimum annual turnover of at least ₹3.75 million (~$45,108)/MW of the quoted capacity during the last financial year. They can also possess an internal resource generation capability in the form of profit before depreciation, interest, and taxes of at least ₹751,000 (~$9,033)/MW of the quoted capacity as of the last day of the previous financial year. They can also show approval from lending institutions committing a line of credit for a minimum of ₹938,800 (~$11,292)/MW of the quoted capacity toward meeting the working capital requirement of the project. In December, SECI invited bids to set up 1,500 MW ISTS-connected solar power projects in India under Tranche XIII. Subscribe to Mercom's India Solar Tender Tracker to stay on top of tender activity in real-time

# Govt launches fresh incentive scheme for green hydrogen, green ammonia production based on demand aggregation


**This is the first incentive scheme specifically for the production of green ammonia under the National Green Hydrogen Mission. Moneycontrol was the first to report the incentive scheme plan in May last year.**

The central government has launched a new incentive scheme via the demand aggregation mode for the production of green hydrogen and green ammonia in the country.

On May 24, 2023, Moneycontrol was the first to report that the government is planning to offer incentives for green hydrogen and green ammonia production under the demand aggregation model.

Under this model, implementing or nodal agencies will aggregate demand and call for bids for the production and supply of green hydrogen and its derivatives at the lowest cost through a competitive selection process.

The first set of incentives (termed Mode 1) under the National Green Hydrogen Mission (NGHM) was announced in June 2023, which was based on a different model. Under this, the bidding was done on the least incentive demanded over a three-year period, through a competitive bidding or auction process. Here there were no nodal or implementing agencies.

# Take a Walk Outdoor Day: 10 benefits of walking every day; ways to increase your daily steps

Whether it's a brisk walk in the morning or a stroll post lunch, every step counts and helps you move towards a healthier body and mind.

Staying active and avoiding a sedentary lifestyle is the key to good health and longevity. Walking is one of the best exercises ever as one can decide the pace and intensity as per the body's capability. Whether it's a brisk walk in the morning or a stroll post lunch, every step counts and helps you move towards a healthier body and mind. As technology has taken over our world and everything is available at the doorsteps, there are lesser opportunities to venture outside and stay active. Sitting for 10 hours or more can be a silent trigger for many lifestyle related diseases be it cardiovascular illness, hypertension, diabetes or joint disorders.

Take a Walk Outdoor is celebrated every year on January 20 to motivate people to get out of their houses and walk outdoor. (Shutterstock)

Take a Walk Outdoor is celebrated every year on January 20 to motivate people to get out of their houses and walk outdoor. Walking not only reduces risk of chronic diseases, but can also boost mental health. A new study on walking suggests that brisk walking can multiply health benefits and further reduce chances of dementia, heart disease, cancer and even premature death. Walking during pregnancy can offer numerous benefits for both the expecting mother and the unborn child.

Stay tuned for all the latest updates on Ram Mandir!


Shazia Shadab, Lead Physiotherapist at Cloudnine Group of Hospitals, Bangalore, Jayanagar shares benefits of walking every day.

1. **Cardiovascular health:** Regular walking strengthens the heart, improves circulation, and helps manage blood pressure. It contributes to a healthier cardiovascular system, reducing the risk of heart disease.
2. **Weight management:** Walking is a moderate aerobic exercise that aids in weight maintenance or loss by burning calories. It's accessible to people of different fitness levels and can be easily incorporated into daily routines.
3. **Mood enhancement:** Physical activity, including walking, triggers the release of endorphins, which are known as 'feel-good' hormones. This can help alleviate stress, anxiety, and depression, promoting a positive mood.
4. **Joint health:** Walking is a low-impact exercise that's gentle on the joints. It helps improve joint flexibility and reduces the risk of conditions like arthritis.
5. **Bone density:** Weight-bearing activities, such as walking, support bone health and can help prevent conditions like osteoporosis by promoting bone density.
6. **Improved digestion**: Regular movement, including walking, aids in digestion by promoting the smooth functioning of the gastrointestinal system.
7. **Enhanced immune function:** Moderate exercise, like walking, has been linked to improved immune system function, helping the body defend against illnesses and infections.
8. **Better sleep:** Regular physical activity, including walking, can

contribute to better sleep quality. It helps regulate sleep patterns and promotes restful sleep.

9. **Increased energy levels:** Walking boosts circulation and oxygen flow, providing an energy boost. It can combat feelings of fatigue and enhance overall vitality.
10. **Social connection:** Walking can be a social activity, fostering connections with friends, family, or walking groups. Social interactions contribute to mental and emotional well-being.

**Ways to improve your step count everyday**

1. **Set realistic goals:** Start with achievable step goals and gradually increase them over time. This helps build consistency and prevents burnout.
2. **Take short walk breaks:** Incorporate short walks into your daily routine. Instead of long sedentary periods, take brief walks around the office or your home.
3. **Use a pedometer or fitness tracker:** Track your steps with a pedometer or a fitness tracker. Seeing your progress can motivate you to reach and surpass your step goals.
4. **Take the stairs:** Opt for stairs instead of elevators whenever possible. Climbing stairs is an effective way to increase your step count and engage different muscle groups.
5. **Walk during phone calls:** Use phone calls as an opportunity to move. Whether at home or at work, pace around or take a stroll while on the phone.
6. **Schedule regular walks:** Plan dedicated walking time into your daily schedule. Whether it's a morning stroll, a lunchtime walk, or an evening walk, consistency is key.
7. **Explore new routes:** Make walking more interesting by exploring different routes. This can be in your neighbourhood, a nearby park, or a scenic trail. Changing scenery can keep things fresh and exciting.
8. **Join a walking group:** Consider joining a walking group or finding a walking buddy. Having a social component can make walking more enjoyable and help you stay committed to your step goals.

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**Enhancing Safety through Emergency Lighting and Photo-Illuminated Safety Signage for Effective Evacuation**

Safety is of paramount importance in any environment, whether it's a commercial building, an industrial facility, or a public space. One of the critical elements of ensuring safety is the ability to provide clear and efficient evacuation procedures in case of emergencies. In this article, we will explore how emergency lighting and photo-illuminated safety signage contribute to enhancing safety and facilitating safe evacuations.



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