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# ieema journal

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## From the President's Desk

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## Samvaad

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## Appointments

This new space in the IEEMA Journal will incorporate recent important appointments in the power and related sectors

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## Cover story

### Financial Performance of Indian Electrical Equipment Industry

(Efforts required for making Indian Electrical Equipments' Exports more competitive)



Financial Performance of Indian Electrical Equipment Industry  
 (Efforts required for making Indian Electrical Equipments' Exports more competitive)

Requirement of sustainable source of power for infrastructural development is needed for all times to come. Therefore, it is highly important to nourish back-bone of power industry viz. Transmission and distribution, which includes machines, equipments, electric lines and management systems.



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## Face to Face

Smart Grid is a continuous journey and its trajectory will be directed by urgency of the challenges being faced by the utilities: Mr Vikram Gandotra, Chairman, IEEMA Smart Grid Division

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## Opinion

### Making a smart energy grid work for India



Making a Smart Energy Grid Work for India

The power grid is a complex marvel of engineering that has had a profound impact on society.

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## Interview

Smart Grid to improve efficient utilisation of energy also considering reliability of the grid: Mr Pankaj Batra, Member (Planning), CEA

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## Interview

The global market for Smart Grid space is projected to exceed US \$75Bn by 2020: Mr Sunil Singhvi, Vice Chairman, IEEMA Smart Grid Division

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## Interview

We are developing an Electric Mobility Eco-system in the journey of Smart Grid: Mr Sanjay Banga, Vice President, Tata Power Delhi Distribution Ltd

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## Insight

### How India Could Go to 100% Renewable Energy by 2050



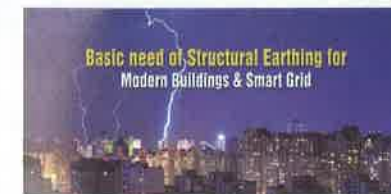
By 2050, India could go 100% on Renewable Energy to create a sustainable energy future.

In the coming years, India will face seemingly insurmountable challenges to its economy, environment and energy security. To overcome these challenges India needs to shift to non-polluting sources of energy.

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## In Focus

### Basic need of Structural Earthing for Modern Buildings & Smart Grid



Lightning have always been a fascinating natural phenomenon. However, they also present a risk for human and the environment that should not be underestimated. The task of a lightning protection system is to intercept lightning strikes, divert it towards the earth and distribute in the ground. The idea is to prevent thermal, mechanical, electrical and electromagnetic effects that cause damage to the building to be protected.



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## Expert Speak

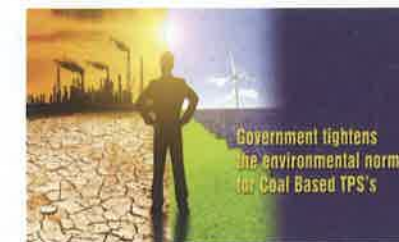
### HOW INDIA CAN EXPORT SUNSHINE AROUND THE WORLD

Solar energy is a free source of non-polluting renewable energy that is sustainable and totally inexhaustible. Most people are aware of photovoltaics (PV), and that solar panels can be used to generate electricity and produce hot water. Now experts have developed techniques to convert sunlight into "Solar Fuels."

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## Policy matters

### Government tightens the environmental norms for coal based TPS's



Coal is central to India's energy needs. It contributes around 70 per cent of India's current electricity generation will remain the dominant source of power for the next couple of decades. Coal is abundantly available and provides a reliable, cheap base load power.

57

## In Focus

### Growth of Wind Energy

(India ranked fourth in terms of wind power installed capacity)

The wind power development in the country started in 1990s and with the conducive policy environment provided at Central and State level this segment has achieved highest growth amongst the other renewable energy technologies. Concern about climate change and action to reduce green house gas emissions are powerful drivers for renewable energy.

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## Expert Speak

### Use of premium efficiency (IE3) motors and variable speed drives - analysis in Indian perspective



The paper addresses the present need of Green House Gas emission reduction by deploying state of art equipments to bring down the energy consumption substantially. It presumes that suggested schemes will results in equivalent reduction of electricity generation by thermal plants.



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## Guest article

**“Special properties of key insulating materials and their evaluation techniques”**



Special Properties of Key Insulating Materials and their Evaluation Techniques

Insulating materials and systems play critical roles in the performance and reliability of electrical machines. Insulation is rightly known as the heart of an electrical machine.

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## Technology

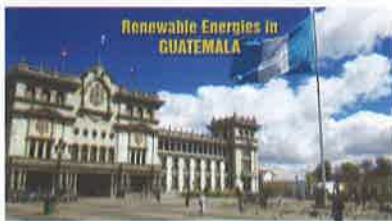
**Design and optimization of three phase permanent magnet synchronous machine in fan and pump applications**

Single phase and three phase induction motors are commonly used in industries because of their loading capacity. Fan and pump affinity law shows that the power demand of the load is proportional to the cube of the shaft speed.

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## Country Profile

**Renewable Energies in Guatemala**



Over the last few decades there has been a global trend towards renewable energy. More developed nations have now incorporated policies to promote renewable technologies, in order to reduce generation costs, reduce dependence on fossil fuels, and to contribute towards halting the effects of climate change

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