

GURU SPEAK



PRAMOD DEO
chairperson, CERC

We don't have to wait for the outcome of 14 smart grid pilot projects. The regulator of Delhi must move from the average cost of plan for power and consumers shouldn't be overburdened

We have done fairly well in the smart grid sector, so far. Now, looking at the future needs, the thrust should be on embracing latest technologies



RV SHAHI
former power secretary and chairman, Energy Infratech Pvt Ltd



REJI PILLAI
president, India Smart Grid Forum

To provide electricity supply to all the households in India we need to leverage all technological benefits and smart grid is the need of the hour

In Aurangabad, we are using some of the smart grid technologies to monitor the end user consumption for better efficiency. This helps in raising revenues and using energy efficiently



ANURAG VASHISTHA
president, Power Business, GTL



KAMAL MEATTLE
chairman, Paharpur Business Centre

Our company has 24 measuring points for electricity and 18 for water. So, we know how much energy we are using. If you can't measure something you can do nothing.

There is an enablement issue in the sector. Few of immediate steps for smart grids include aspects like standardisation, effective communication and grid mapping for the country



MANU RISHI PURI
principle, Resources Group, Accenture



RATHIN BASU
country president and MD, Alstom T&D India

Smart grid is the choice for the future. With the grid, the congestion and transmission is effectively managed, increasing the power flow by 30 per cent

To prepare the grid plan, we should start from the house level consumption. Besides, we need to map data digitally. Power theft can be reduced by punishing the perpetrator



CHANDAN CHOWDHURY
MD, Dassault Systems



RAHUL TONGIA
advisor, India Smart Grid Task Force and Smart Grid Forum

We don't need smart grid to cut down on losses, as there are other systems available to handle them. It should be put to some greater use

The skill gap needs to be addressed first for a smart grid for the future. Also, data recovery is a must, especially when it comes to security and hacking issues



ANANTH CHANDRAMOULI
head, Energy and Utilities, Infosys India



S PADMANABAN
program director, South Asia Regional Initiative & sr energy advisor, USAID

We need research tools to monitor how customers use energy and how the sector needs energy on a whole

Resources are not going to be everlasting so we need to conserve. Focus should be more on increasing awareness amongst manufacturers in creating efficiency systems



MILI MAJUMDAR
director, Sustainable Habitat, ADARSH, TERI



Expert panel

Rathin Basu, country president and MD, Alstom T&D India; R V Shahi, former power secretary and chairman, Energy Infratech Pvt Ltd; Reji Pillai, president, India Smart Grid Forum; Pramod Deo, chairperson, CERC; Manu Rishi Puri, principle, resources group, Accenture; and Anurag Vashistha, president, power business, GTL

Energise economy with smart grids

Energy experts say that the usage of smart energy infrastructure brings down energy demand and helps offset the pressure to increase generation capacity. To share insights into various power challenges and discuss probable solutions, The Economic Times organised 'Smart Grid Summit', recently in the Capital

PALLAVEE DHAUNDIYAL PANTHRY

Indian economy is prospering and hence the need of consumers for higher energy use. But, apparently, India today suffers from chronic power shortages and distribution losses. The government is analysing over 750 energy users towards reducing energy consumption by approximately 10,000 megawatts (MW) per year.

To discuss various insights into the power grid sector, current and future problems, a road map of tackling them while finding capable solutions, The Economic Times organised 'Smart Grid Summit', in association with India Smart Grid Forum as a knowledge partner to the initiative, recently, in the Capital. The discourse was kick started by Himangshu Watts, senior editor, energy, The Economic Times. According to him, the way the grid looks today is like the telecom sector of 1990s. The dramatic grid collapse last year made everyone understand the definition of grid, its relevance and functions.

The summit, spread over three sessions, offered a platform to leading electricity grid distribution specialists, investors and regulators to share insights into immediate challenges and pilot projects, which are started to realise the smart grid roll-out.

The panelists of the first session focused their discussion on topics like key objectives and overview of India's smart grid roadmap, pilot projects, intelligent grids, electricity distribution infrastructure upgrades and policies for electric vehicles. While speaking on the importance of grids and sharing industry insights, Pramod Deo, chairperson, Central Electricity and Regulatory Commission, said, "The state grids have paved the way for regional grids. Power grids are vital for a country's economy, for they help generate electricity and decentralise power supply with equal distribution. Grids reduce cost of power and are capital intensive too. Most importantly, from a consumer's perspective, it is necessary to incentivise the system."

RV Shahi, former power secretary and chairman, Energy Infratech Pvt Ltd, dwelled on government's perspective and regulatory issues in the implementation and execution of power grids across the country. "Accelerated power development and reforms programme (APDRP) encompasses as much advanced

technologies as it can. The power situation is yet to become good as far as distribution of power is concerned, though it has improved in the past few years. Besides, the state owned distribution companies could be doing well, but they are in a bad shape financially. Investment should be justified on the basis of saving. Regulatory authorities must keep all these points in mind while formulating rules and guidelines for the power grid industry," said Sahi.

Reji Pillai, president, India Smart Grid Forum, added, "More systems and consumers are being added to the

embark on new technological advancements. "The 14 pilot projects running across the country will decide the suitable technology for the grid industry", said Pillai.

By 2027, it is envisaged that aggregate technical and commercial (AT&C) losses would go below 10 per cent. This means cities like Delhi and Mumbai would have losses below three per cent. The targets can be achieved if plans are executed properly. The 13th Five-Year Plan looks at no power cuts. How do we achieve that? "The immediate steps include: standardisation of the power system, for example of electronic meters.



Vasudha Lathey, USAID; S Padmanaban, USAID; Kamal Meattle, Paharpur Business Centre; Mili Majumdar, TERI; and Rajendra Mahajan, GTL



Subodh Belgi, India Smart Grid Forum; Chandan Chowdhury, Dassault Systems; Rahul Tongia, Smart Grid Forum; Prakash Nayak, ISGF; and Ananth Chandramouli, Infosys

grid. The grid needs to continue to grow in the future too, for the economy is flourishing. We need to leverage all technological benefits, especially the solar energy, to meet the increasing demand."

Other two sessions, which followed, discussed on subjects such as: smart technologies; potential threats; renewable integration; cyber security for smart grid; automating grid management; technologies for advanced meter infrastructure; energy management system; and net zero energy building. "Marriage of IT and communication will take power grid industry forward", said Prakash Nayak, chairman, Working Group on Renewables and Microgrids, ISGF

Most of the speakers focused on technological advancements in the industry. Some talked about consolidating the existing ones, while some opined to

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Communication is also an essential element. Smart grid map needs to be designed for the country like the solar map. Also, with proper guidelines, ROI should be established with ease," said Manu Rishi Puri, principle, Resources Group, Accenture.

Elaborating on communication aspect, Rajendra Mahajan, associate vice president, power automation, GTL, "The idea is to connect, while providing information and knowledge to key stakeholders about their consumption

patterns to help them optimise their systems to do load side management." Other panelists who shared their perspectives at the summit included, Subodh Belgi, cyber security expert, India Smart Grid Forum and Vasudha Lathey, deputy chief of party, PACE-D Program, Nexant/USAID.

Sustainable energy roadmap will spur economy

With the growing economy, India needs to aggressively focus on narrowing down the ever widening demand-supply gap in the energy sector

India's economy is one of the fastest growing economies in the world. With this growth, also increases the demand of energy, which is accelerating faster than the supply. As per Dr Chandan Chowdhury, managing director Dassault Systems, India has not been able to achieve the target of power production in the successive five year plans since independence except for once. As per the Economic Survey, India witnessed a peak power shortage of nine per cent during the five years ending 2012 when over 50,000 MW new generation capacity was created.

The major factor that leads to insufficiency of power is the staggering network loss. In India, it even exceeds 30 per cent. This loss in transmission and distribution (T&D) raises the demand and increases the pressure on the installed capacity. Even though it is difficult to calculate the exact portion of electricity theft in T&D losses but utility organisations suffer the losses, which further results in increased power tariff for the end user.



The Indian economy is currently growing at an average rate of seven or eight per cent and if it continues to be same for coming ten years, the power demand is

likely to grow from the present 120 GW to 315-335 GW by 2017, which would be 100 GW higher than the current growth rate.

Prakash Nayak, chairman, Working Group on Renewable and Microgrids, ISGF said, "Till now, approximately 300 million people in rural India can't even get power for one hour a day. We are not utilising the renewable energy appropriately. Powering the future of India means strengthening its backbone, which refers to 'power' and for that the support of renewable energy is must."

In 2011, the International Energy Agency had said that the development of affordable, inexhaustible and clean solar energy technologies will have huge longer-term benefits. It will increase countries' energy security through reliance on an indigenous, inexhaustible and mostly import-independent resource, enhance sustainability, reduce pollution, lower the costs of mitigating climate change, and keep fossil fuel prices lower than otherwise. These advantages are

global. Hence, the additional costs of the incentives for early deployment should be considered learning investments; they must be wisely spent and need to be widely shared.

Globalisation is apparent in India. These days, various companies from across the world are spreading their wings in the Indian market. Moreover, Upsolar High performance Poly crystalline and Mono crystalline panel producer from Shanghai China is now available in India.

The private sector has risen to meet the challenges of India's growing power needs. The ever increasing demand for electricity can only be met by developing pollution free and renewable energy. Besides, there is a need to sensitise everyone for energy conservation and the efficient usage of power. Fortunately, India has supply of solar energy in abundance but to incorporate its optimum use, huge investment is involved. The storage of power generated at various points is another major problem, though different battery systems, viz, lithium ion, simple fuel cells, Proton Exchange Membrane fuel cells and hydrogen cells are now available for use, to meet growing energy needs.

—Compiled by Vandana Singh