

A Smart Switch All Set to Illuminate the Power Sector

By- Sanjay Banga, CEO Tata Power-DDL

I believe electricity is the basic human need and a must for overall sustenance and development. As a nation, in recent years we have made significant strides in making electricity accessible to all but still much more needs to be achieved as nearly 3 crore households are yet to receive electricity (as per the Saubhagya Dashboard of GoI), the average national AT&C loss levels are still hovering above 20 per cent, the distribution and transmission areas need joint efforts of the Government and private sector in form of Public Private Partnerships, renewable power integration, large scale DSM initiatives and technology intervention also calls for immediate attention.

The time is ripe to create a detailed electric blueprint that will power, empower and enlighten the India of future. At the core of that electric blueprint lies the smart grid technology, which is an amalgamation of technologies that form a basic foundation like SCADA, GIS, AMI to advanced technologies like Advanced Distribution Management System that assimilates not only the technologies of conventional system but also technologies like Smart Metering, Distributed Energy Resources, MicroGrids, Automated Demand Response and various Energy Efficiency Programs; underpinning of what we can call as the future of any utility.

At present, we have engineered our energy infrastructure for large-scale centralised conventional generation, transmission and distribution. While, this somewhat fulfils the present requirements, smart grid can help develop a modular model that deals with the challenges and easily incorporates opportunities of future.

Through Smart Grid technology we can strengthen the four pillars of the energy sector – access, efficiency, sustainability and security. The technology can provide access to electricity for all, especially in a geographically diversified country like India where rural and remote areas are not connected to the centralised electricity in-

frastructure and electrification is only possible through distributed energy resources. While 10 per cent electrification is counted as an electrified area, smart grids can help make each and every household to be electrified.

Furthermore, smart grids can act as an important element that addresses the concerns of infrastructure and increases peak demand as well as help in enabling and integrating clean energy technologies including renewables, solar rooftop, electric vehicles etc. and help



meet targets like addition of 175GW of renewable energy by 2025, 100 per cent electric transport through FAME II. Smart grids gather consumption data even down to appliances level, to help better manage the demand and response in real time, while also helping the end user save on cost and opening doors to technologies like home automation and remote usage tracking and management.

As people are progressively migrating to cities to earn better livelihood and a refined lifestyle, sustainable development and growth of cities is the need of the hour. While smart grids will surely power the smart cities, they have the potential to transform India into a smart nation. In future we will definitely see an empowered and enlightened India. ■