The Indian telecom market is currently in a transitional phase. This is expected to change the game altogether and therefore it is important for operators to understand the changes and chalk out their game plan accordingly.

With presently around 3,50,000 towers all across the country, more than 2.5 billion liters of fuel is consumed every year, with emissions of 5.3 million tons of CO_2.

With the focus shifting to rural sites with no or low grid connectivity, opex savings and reducing energy and carbon footprints in existing as well as new sites becomes priority.

In this scenario, a new class of ESCOS is emerging, focused on complete site and energy management.

Present Business Model

The conventional passive infrastructure equipment space for the Indian telecom sector revolves around components like power management units, DC power systems, batteries, DG set, shelters and air conditioners.

Also, several manufacturers are competing in the marketplace to supply these components. However, the industry has already reached its nadir as the market has become saturated.

High Opex Challenges

- High DG set running costs towards fuel, fuel pilferage and maintenance. Today, diesel generators are functioning for almost five hours in the urban areas and 8-10 hours in rural areas. The challenge is to reduce and eliminate the number of hours.

- SMF batteries being used at the sites require air conditioning. The cost of running and maintaining air conditioners contribute to 50 per cent of energy bills for indoor sites. Apart from adopting means to reduce and gradually eliminate the use of air conditioners, there is an urgent need to evaluate alternative battery technologies.
- Multiplicity and integration of equipment is a challenge, along with managing the site for opex optimization.
- Limitations on remote management and control lead to high supervision and maintenance costs. With large numbers and remote locations, remote monitoring is the key for energy monitoring and reducing manpower cost.

Next Phase of Growth

The Indian telecom space has already crossed the 850 million mobile subscriber mark and urban teledensity has crossing 150 per cent, while rural teledensity is 33 per cent.

We are estimated to cross the one billion in 2012. The next market for passive infrastructure solutions is the rural segment.

This space can be addressed by providing hybrid solutions at low opex and carbon footprint. This market is also gradually maturing from components to complete solutions offerings.

Almost 50 per cent of site opex is related to energy costs, which need to be reduced.

Business case for green hybrid solutions

Green Hybrid Solutions can help in reducing the opex and carbon footprint at a telecom site.

The benefits of such solutions can be especially seen in remote areas with weak or no power grid connections.

The telecom industry's energy and site expenses and carbon footprints can be significantly reduced with high efficiency products, smart system management and the introduction of renewable energy sources.

Such solutions do not require heavy duty shelters, air conditioners and stabilisers or isolation transformers. The building blocks of such solutions include:

Alternative energy offerings including solar, wind, fuel cells.

Low maintenance batteries that are immune to temperature and have a longer life.

AC DG or DC DG set with variable speed engine and low fuel consumption.

Optimal energy management through auto prioritisation of input sources with priority to alternative energies, optimal usage/ management of batteries and DG.

Unified control with advance diagnostics and remote management. This is the most key element.

There is a common fallacy of viewing these building blocks independently and taking purchase-related decisions independently for each of the building blocks even today. It shifts the onus of total savings from the solution provider to the equipment buyer. It is important to understand each of the building blocks and examine the total solution offering. It is important to

compare solutions and total cost of ownership, rather than examining only the capex and building blocks separately.

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