

Energy costs make up a large component, about 25 per cent, of the operational expenditure of telecom companies at tower sites. This is on account of several reasons, including high usage of an expensive fuel like diesel to run the towers, the absence or deficit of grid power connectivity at most sites, increasing cases of diesel pilferage, and low adoption of energy-efficient and renewable energy solutions. Given that energy management is not a core area of expertise for telecom operators and tower companies, it is not surprising that they have struggled to keep costs down, which, in turn, has impacted their operational efficiency as well as profitability. In such a scenario, the need to have specialised, professionally managed, technically competent and financially sound operations and maintenance (O&M) companies for energy management at tower sites has become inevitable. O&M support for dealing with energy challenge becomes all the more crucial in light of the Department of Telecommunications' target to reduce the industry's carbon emissions.

### Evolution of the telecom tower O&M industry

The telecom tower O&M industry has evolved significantly over the years. During the first phase of wireless communications in 1999-2000, tower companies mainly opted for in-house O&M. However, during the second phase, from 2000 to 2005, when the era of outsourcing began, original equipment manufacturers (OEMs) started providing passive O&M measures as a part of the overall managed services that included tower site build-up and roll-out. During 2005-11, when tower companies evolved to manage passive infrastructure, O&M and asset management began being outsourced to local players. It was only after 2011 that professionally managed companies entered the O&M arena and started conducting O&M at tower sites. During this period, tower in-frastructure management successfully commenced for telecom operators in India.

### Demand drivers

The demand for O&M companies is being driven by three factors. The first is the low power availability in the country. This necessitates tower companies to conserve whatever energy is available to them by taking O&M measures. The second is the low average revenue per user and revenue per minute for Indian operators. Undertaking O&M measures at tower sites can help companies manage energy efficiently and hence, optimise costs. The third major factor driving the demand for O&M is that telecom tower sites are spread across a vast geography. A reduction in opex, therefore, requires a focused approach with site-specific solutions. In such a scenario, O&M companies can step in to provide customised solutions at various tower sites.

Thus, the basic objectives behind hiring an O&M provider by tower companies are to facilitate power uptime management and achieve energy cost optimisation. They are also responsible for tower site hygiene and regulatory management. In addition, O&M providers have been fulfilling responsibilities such as billing of power and fuel, site upgradation on tenancy upgrade and asset integrity management for tower companies.

### Fixed-cost model

O&M providers in India follow a fixed-cost model for providing O&M services at telecom tower sites. This model has fixed energy costs, which are shared by the telecom operator and the tower company. Under this, comprehensive O&M outsourcing is done by the tower company, and both rewards and penalties are based on the performance. Moreover, this model requires long-term contracts, usually with tenors ranging from 7-10 years.

The biggest advantage of a fixed-cost model is that the cost is predictable, which implies quantifiable savings. This predictability of cost helps in better planning in terms of the investments required and the returns expected from the project. The requirement of long-term contracts in this model facilitates bank financing. Moreover, comprehensive O&M outsourcing by a tower company enables it to focus on its core business, that is, asset management. At a time when the industry is facing a funds crunch, such an alternative is advantageous.

### The way forward

Going forward, O&M companies need to ensure increased operational efficiency at tower sites at a reduced and fixed cost. To achieve this, multitasking is required by involving passive infrastructure maintenance teams in activities related to faultlevel management of the transmission infrastructure.

O&M companies would also have to come up with innovative solutions that not only result in efficient energy management at tower sites, but also have lower capex requirements.

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