The Move to Outsourcing

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Mobile network operators (MNO) in emerging markets are faced with the challenge of addressing the following realities:

- Growing subscriber base predominantly in rural areas
- The necessity to expand the number of off-grid base stations
- Capital constraints and the need to reduce operating costs (OPEX) with the uncertainty of diesel prices.

Since 2008 there has been a noticeable shift in the industry. Telecom operators in the past used to be more sceptical about being able to reliably run a site from renewable energy from a technical point of view, as well as about the potential saving that could be achieved. Through data from numerous trials, pilot sites and case studies that have been released across the industry, a level of confidence has been built in the technology and financial benefits. Continued price reductions and technological improvements have set the stage for a market poised for expansion; the only factor to consider at this point is when the willingness of operators to make large-scale capital outlays will catch up with the long term benefits of the technologies.

Until recently the options to get the capital for renewable energy rollouts have been limited to internal financing, external debt or equity financing, but new developments in the industry have changed that. MNOs have approached vendors to share the burden of the capital costs, which has now gone a step further to become the complete outsourcing of power.

In this scenario, the vendor, referred to as an ESCO (Energy Service Company), not only takes responsibility for financing the equipment, but also the full provision of power to the MNO or tower company. This ESCO outsourcing facility can operate under several different schemes, but there is no industry standard or accepted structure at this stage. Some of the ESCO business and energy service models that are being considered, developed and tested in the market place include: (i) power purchase agreement (PPA); (ii) energy services or energy savings agreement (ESA); (iii) operating lease with fixed fee combined with ESCO services.

Power Purchase Agreement

A power purchase agreements (PPA) is where the ESCO installs the renewable energy power system and sells power to the operator at an agreed per kWh rate. The main benefits of a PPA to the operator are that the payments for energy are an operating expense, i.e. the operator is only paying for the power that they use and the financing of the power equipment is the responsibility of the ESCO. In this type of arrangement the MNO must typically commit to a minimum take or capacity payment otherwise they assume the risks of energy load levels. (See Figure 7.)

Energy Savings Agreement

An energy savings agreement (ESA) is where an ESCO installs the renewable energy system and the operators pay based on a portion of verified energy cost 'savings'. The key component to the ESA is the operator payment formula which will determine how much of the saving will be passed through to the operator and how much will go to the ESCO to recover the capital cost of the equipment. This formula to split the saving will sometimes change at an agreed time during the term of the contract. (See Figure 7.)

Fixed Fee Operating Lease

In an operating lease or fixed fee structure, the ESCO would own, install, operate and maintain the renewable energy equipment and provide power to the operator's site for a fixed monthly cost. In addition to capital expense being the responsibility of the ESCO, one of the other benefits is that it stabilises the MNO's OPEX associated with power so that it is no longer a variable part of the budget. (See Figure 7.)

A number of operators, tower companies and ESCOs have executed pilot and small rollouts using outsourcing models. The majority of these rollouts are in India, but the use of the model is starting to be apparent in other parts of Asia and Africa. In the Indian market, the tower sharing model is predominant and a number of tower companies and service providers have deployed third party energy solutions for their telecom towers. Several more are actively looking to deploy to a third party and this model is likely to see rapid expansion in the coming years.

Benefits for MNO's and Tower Companies

Any of the models mentioned have significant advantages to the MNO or Tower Company and the industry as a whole. It allows the MNO to achieve a portion of the potential saving of using renewable energy without the CAPEX. Simultaneously, while lowering operating costs the MNO is able to minimise the resources needed to manage power for the network and stabilise their operating expenses. These advantages come at the expense to the ESCO who would be responsible for the CAPEX of providing cheap reliable power to the network. In order for a MNO to get the benefits of outsourcing the provision of power to a third party, it needs to have sufficient confidence in the ESCO to entrust them with the BTS power systems, which requires the ESCO in many cases to have a proven track record in the renewable energy systems, site operations and maintenance.

Barriers to Outsourcing

The demand for these outsourcing solutions and the shift of the related responsibilities to the ESCO brings about new challenges and issues to the industry. In order for ESCOs to compete in this new market place of power outsourcing, it requires the ESCO to have internal capital or the ability to raise the external funds needed to implement outsourcing projects. This combined with the MNOs requirement for ESCOs to have significant prior experience and a proven track record in renewable energy power systems creates financing and marketing barriers to enter the market and often makes it challenging for small, less experienced ESCOs to compete.

The GPM programme is initiating a new programme in India, where these outsourcing models will be hugely significant and poised for large scale adoption. Through this initiative in India, GPM plans to further investigate the workings of the power outsourcing model and track its progress with the intention of disseminating this information, as well as other learnings, to the wider industry.

Figure 6. Evolution of Telecoms Infrastructure Business Models

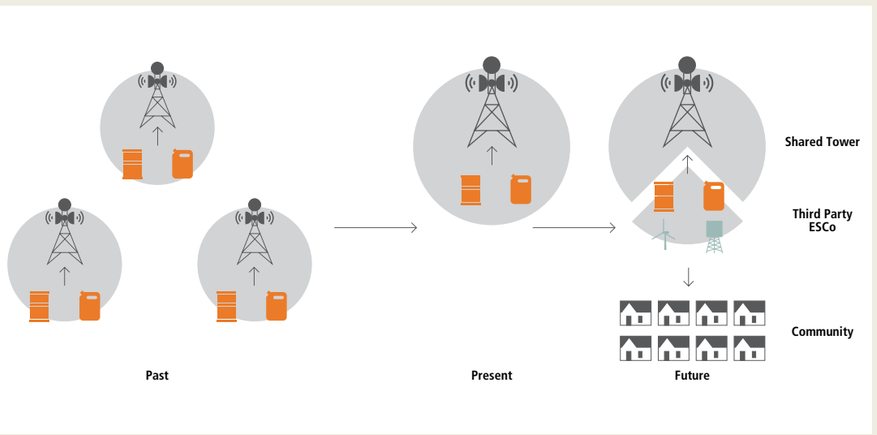


Figure 7. ESCO Models

