

ESCOs now operate the power systems at almost 50,000 cell sites, rising to over 100,000 by 2024



ESCO market-makers TowerXchange and Orange call for leaders of this new ecosystem to gather at the ESCO Roundtable this March



By Kieron Osmotherly, CEO, TowerXchange

Telecom energy services companies today own and operate the power systems at 49,316 cell sites. While that represents only 1% of the 4.7mn cell sites in the world, it also represents more than 10% of the estimated 400,000 site addressable market for telecom ESCOs. The ESCO market has grown by more than 5.5x in the last five years. Over the next five years, telecom ESCOs will spend US\$1.8bn to deploy a total of 200MW of distributed generation and energy storage. Leaders from the telecom ESCO ecosystem will gather at the ESCO Roundtable on March 24 and 25 in Casablanca.

Keywords: Aktivco, Applied Solar Technologies, Ardom, Bhaskar Solar, Business Model, CREI, Camusat, Debt Finance, Distributed Power Africa, ESCOs, Energy, Energy Efficiency, Energy Storage, Energy Vision, Environ Solar, Fixed Price, Hybrid Power, ieng, IPT PowerTech, Market Forecasts, Multi-Region, O&M, Off-Grid, Orange, Renewables, Research, SLA, Sagemcom, Unreliable Grid, Uptime, Voltalia, Yoma Micro Power

Read this article to learn:

- The current scale of the telecom ESCO market - which companies are the market leaders?
- The pipeline of live ESCO RFPs
- Where will we find further growth beyond that near term pipeline?
- Sizing the ESCO market in aggregate MW and total capital to be deployed to modernise sites
- Forecast for the growth of ESCOs over the next five years

While it is impressive that the ESCO market has doubled in size in the last three years, even more importantly, ESCOs are achieving their performance objectives. Challenging Service Level Agreements (SLAs) requiring 99.95% uptime (the equivalent of 14 minutes of downtime per month) and above are being achieved and surpassed – TowerXchange has received multiple reports that ESCOs are regularly achieving 99.99% or even 100% uptime each month. Very few penalties for downtime are being incurred. Similarly, costs and carbon footprints are being reduced. The magnitude obviously varies by operating conditions, but savings in the range of 15-70% are regularly disclosed.

There has not just been operational proof of concept; investor buy-in in the form of hundreds of millions of dollars of committed capital represents the financial proof of concept for the business model. Development Finance Institutions are a popular source of affordable debt for ESCOs, but we've seen private equity and infrastructure funds linked with the asset class.

One thing that continues to attract a deepening pool of prospective investors in ESCOs is the healthy pipeline of opportunities are coming to market, which promise to sustain ESCOs' impressive growth trajectory in the coming years. TowerXchange is aware of live ESCO RFPs for a total of 6,600 sites across six countries in Africa (see figure one). We also understand that at least one of the Myanmar towercos has had an on-off ESCO RFP for several months, while the Pakistani market is beginning to open up with a landmark first ESCO proof of concept on almost 70 sites soon to be announced.

Meanwhile, ESCOs that have navigated the turmoil of market restructuring in India are seeing light at the end of the tunnel. ESCO pilots continue in Central and Latin America.

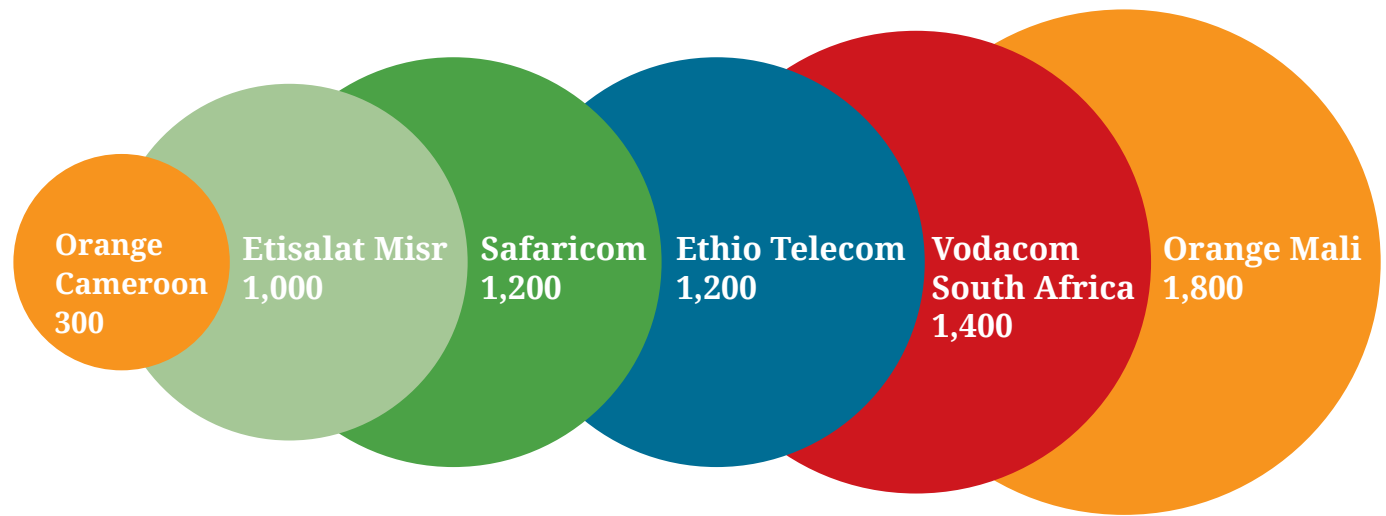
Looking beyond opportunities in the immediate term, TowerXchange has identified a next tier of 73,250 cell sites where conditions are suited to partnerships with ESCOs. That five year pipeline totalling 79,850 cell sites represents a further 200MW of distributed generation and energy storage. Including sites where the power systems are already owned and operated by ESCOs, the market size aggregates to a total of 300MW, much of it renewable.

We estimate the value of the telecom ESCO market, in terms of total capital outlay on site modernisation in the coming five years to be US\$1.8bn. That market valuation is based on equipment vendors' addressable market including both currently contracted sites not yet modernised, and the aforementioned five year pipeline of a further 79,850 sites, but adjusting for the lower capex deployed at on-grid sites.

Turning to the ESCO market leaders (see figure two), you could describe any of seven different ESCOs as the market leader, depending on how one defines market leadership.

- In sheer site count terms, IPT PowerTech is the world's largest telecom ESCO with over 10,000 sites across Lebanon, Guinea and through their 'guaranteed savings plan' with IHS Towers Nigeria

Figure one: Live ESCO RFPs known to TowerXchange



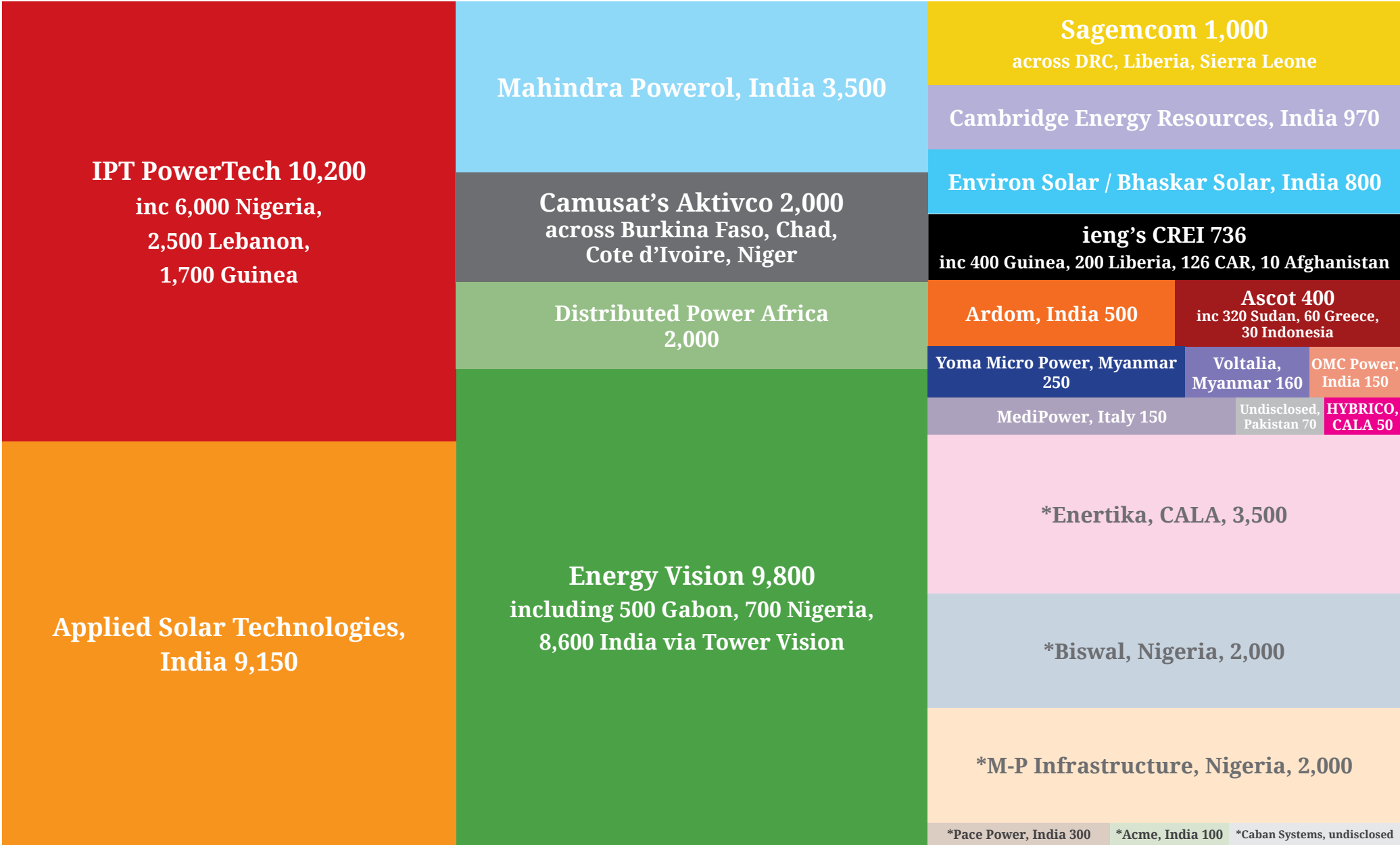
Source: TowerXchange

How we define a telecom ESCO

TowerXchange has used a broad and inclusive definition of an ESCO in this study. We define an energy services company (ESCO, sometimes known as a TESCO – Telecom Energy Services Company, or RESCO – Renewable Energy Services Company) as any company which deploys their own capital to acquire energy equipment for telecom cell sites, then selling energy back to the site owner (MNO or towerco), either charging a fixed monthly fee or charging by the kWh consumed.

An alternate model is the 'guaranteed savings' model, under which the towerco or MNO continues to deploy their own capex, but their ESCO partners still take a risk in guaranteeing the performance of their systems ■

Figure two: ESCO pioneers by site count

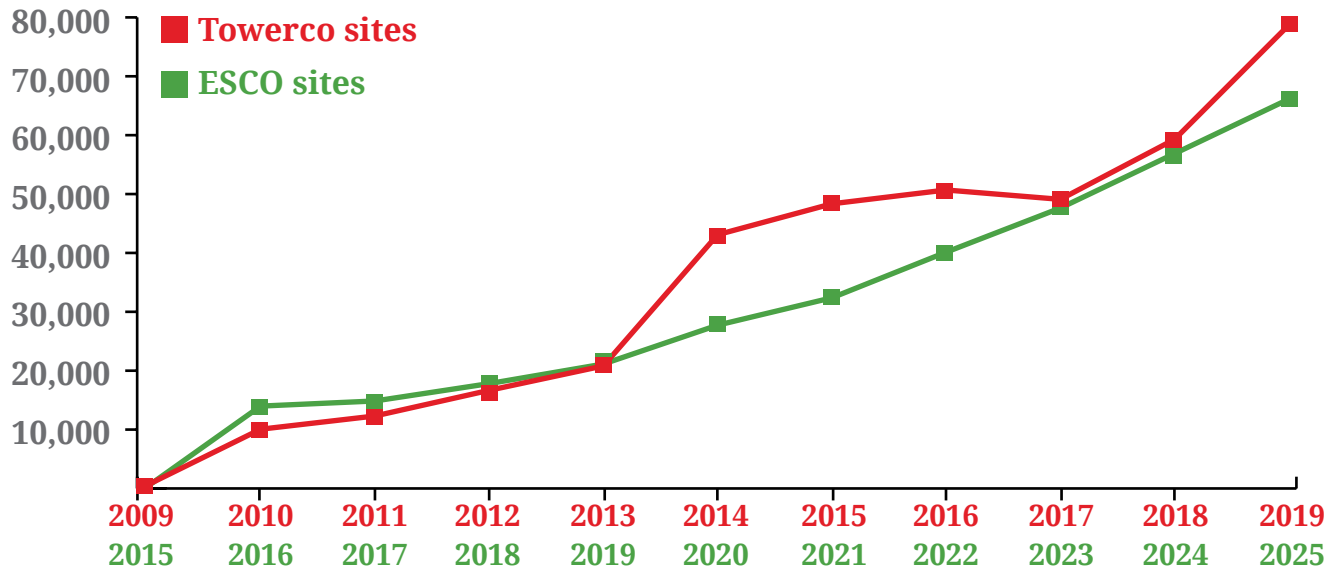


*Unverified site count

Source: TowerXchange

Figure three: Comparing towerco growth in MEA from 2009 with ESCO growth six years later

Source: TowerXchange



- Camusat’s Aktivco may be the fastest growing ESCO, having won contracts from Orange in four African countries totalling 2,000 sites, with at least one more award imminent
- India’s Applied Solar Technologies (AST) has the highest site count of ESCO sites under the fixed cost model, with over 9,000, supplemented by a solar rooftop business for other C&I off-takers
- The Energy Vision extended management team provides energy as a service to just under 10,000 cell sites, including Africa’s oldest ESCO with Airtel Gabon, a recent contract win for 700 sites from a Nigerian towerco, and via their relationship with India’s Tower Vision, which provides energy as a service on all 8,600 sites in their portfolio
- If you want to measure market leadership by

organic growth, the Yoma Micro Power portfolio has grown 25x in the past 18 months: they had 10 hybrid power plants serving towers, communities and commercial and industrial (C&I) off-takers in Myanmar a year and a half ago – that figure is up to 250, and they’re targeting 2,000

- Speaking of telecom ESCOs that also serve C&I off-takers, the market leaders in this category are Distributed Power Africa, which provides power to 1,800 Econet cell sites, but also provides installations up to 5MW, serving C&I customers as well as 200 PoPs, including data centres and switching centres, for Liquid and DFA

A review of credible ESCOs must also mention CREI, the new investment vehicle from ieng, which is

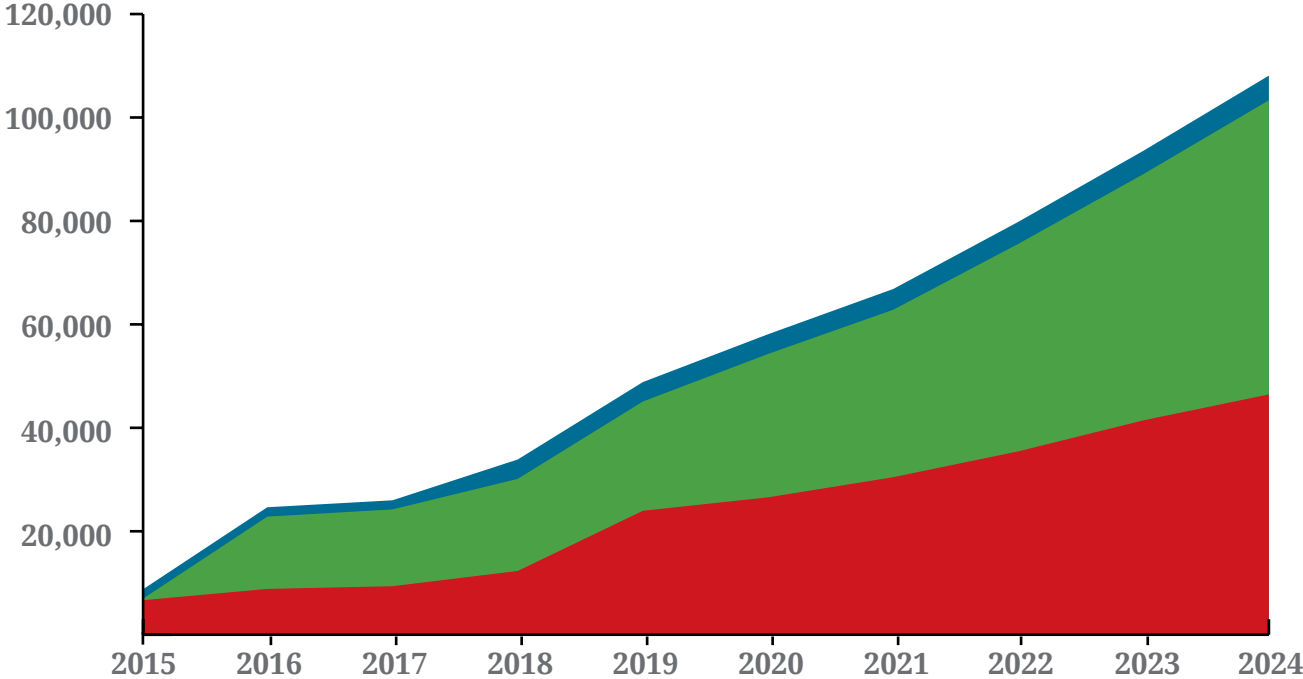
deploying ESCOs for Orange CAR and for MTN in Guinea and Liberia. Sagemcom also has 1,000 ESCO sites for Orange in three countries.

Turning to India, several credible ESCOs have emerged with leaner processes and improved margins after the turbulence of MNO market consolidation. The aforementioned AST lead the way, but Mahindra Powerol operates 3,500 sites on an energy as a service (EAAS) basis, most for American Tower. American Tower, alongside Indus Towers, are also among the principle customers of the impressive Ardcom.

New ESCOs are emerging serving new markets. Engro’s Reon are poised to make a big impact in Pakistan, alongside SBEEC which provides smart metering for 1,000 sites, with intention to expand into full EAAS. In Latin America, HYBRICO and Caban Systems are piloting ESCOs for MNOs and towercos, while Enertika claims to be providing an EAAS-type service focusing on air conditioning at 3,500 sites.

We have not seen a disruptive innovation like ESCOs, with the potential to unlock new capital, new efficiencies and performance improvements in the operation of communications infrastructure, since the advent of the towerco business model. Indeed, when one overlays the adoption of ESCO with the adoption of towerco partnerships six years later in MEA (see figure three), you can see there is a precedent for the continued scaling of ESCOs. ESCOs already operate more than 10% of the cell sites in bad grid markets – they already operate 20% of such sites in SSA, rising to 50% by 2022.

Figure four: TowerXchange forecasts ESCOs will operate the power systems at 108,566 cell sites by 2024



TowerXchange market sizing and forecasting methodology

TowerXchange doesn't use mathematical models to map market size and to forecast growth. We prefer to speak to market stakeholders, quantify the scale of their businesses today, and speak to their prospective customers, size current RFPs, and identify the specific markets where they are considering partnering with ESCOs. We aggregate those insights to build our market sizing and forecasting data ■

Referring to figure four, TowerXchange forecast that the number of sites where power systems are owned and operated by ESCOs will more than double from 49,316 today to 108,566 by 2024. Three years ago, the narrative around ESCO concerned the search for “proof of concept”. Today, ESCOs have achieved launch velocity, and the next five years will be about driving to scale, whether that's by engaging new MNO and towerco customers, attracting more low-cost capital, entering new markets, or adding incremental customers and new off-takers to ESCOs' existing footprints ■

Join the market leading ESCOs, plus many of their current and prospective MNO and towerco customers, and their investors and suppliers at the ESCO Roundtable, taking place on March 24 and 25 at the Hyatt Regency Casablanca. The event will be co-hosted by TowerXchange and Orange, together with founding sponsors Aktivco and IPT PowerTech, and associate sponsors Energy Vision and ieng.

www.towerxchange.com/meetup/esco-roundtable

Source: TowerXchange