

# Cutting diesel usage by 50% or more and reducing site OPEX for generator powered base stations

## The network power dilemma

As communications service providers manage existing networks and roll out new networks in remote markets, the need for reliable, efficient power sources has become a critical factor – the difference between profit and loss.

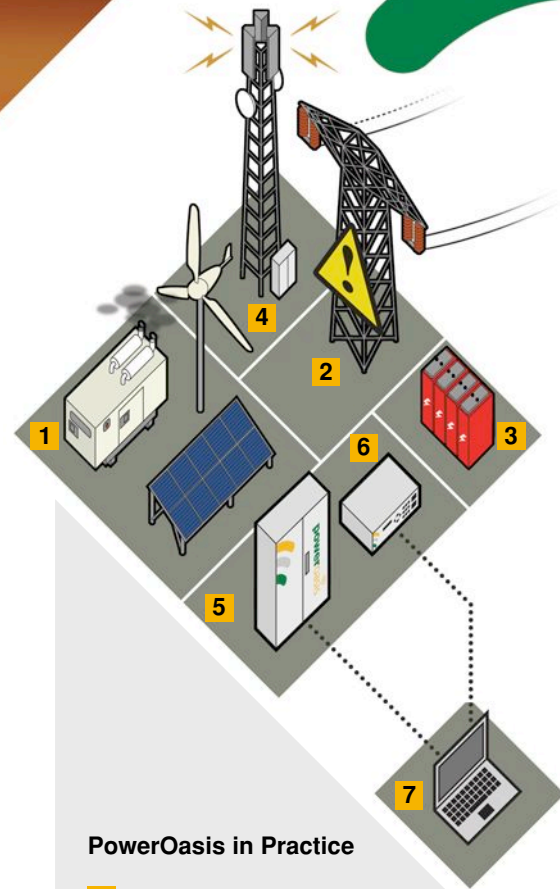
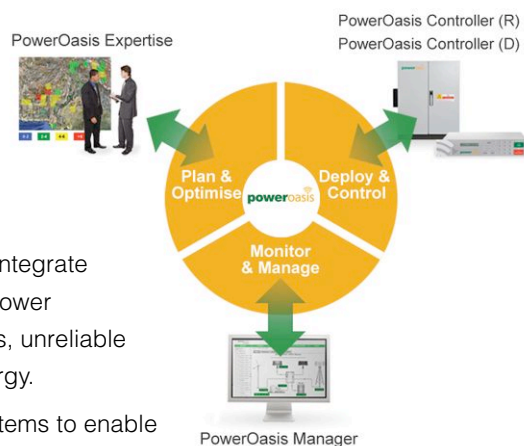
Would you like to achieve the following for your network ...

- Reduced diesel consumption and diesel delivery costs?
- Reduced operations and maintenance truckrolls?
- Maximised remote site availability?
- Remote monitoring of site power system performance against KPIs?
- Reduced dependency on volatile fuel prices?
- Proven alternatives to running diesel generators 24/7?
- Intelligent solutions that overcome the CAPEX v OPEX dilemma?

## Total diesel reduction solutions

PowerOasis address three critical elements required for successful solutions:

- Carrier-grade power controllers to integrate batteries with any combination of power sources including diesel generators, unreliable grid and renewable wind/solar energy.
- Remote monitoring and control systems to enable operators to efficiently maintain on-site power by reporting network power performance against KPIs.
- Economic and technical modelling to define the ideal diesel reduction solution for each base station within a network to achieve maximum ROI.



### PowerOasis in Practice

- 1** Use any combination of diesel, wind and solar power sources
- 2** Utilise an existing unreliable grid power source
- 3** Optimise battery power storage and charging
- 4** Maximise base station availability
- 5** PowerOasis Controller (R) to supplement or replace diesel generators with renewable energy
- 6** PowerOasis Controller (D) for smart generator-battery hybrid power
- 7** PowerOasis Manager for remote monitoring, control and ongoing optimisation

## PowerOasis works with leading equipment providers and enjoys strong relationships with operators and tower companies around the world



### **Vodafone Qatar: Wind-Solar-Generator-Battery Solution**

Vodafone Qatar commissioned Alcatel-Lucent to deploy its first hybrid powered base station in Qatar, using a combination of solar and wind energy. The PowerOasis Controller (R) sits at the heart of the solution to integrate the renewable energy sources and provide carrier-grade power. The site is remotely managed against network power KPIs using the PowerOasis Manager to assure site availability and performance. An integrated weather station enables meteorological data to be displayed alongside energy generation and consumption parameters.

**“It is one of the most innovative and best-performing solutions that we have tested so far in Vodafone”**

*(Jenny Howe, CTO Vodafone Qatar)*



### **PowerOasis/Lister Petter/EnerSys: Generator-Battery Solution**

The PowerOasis Controller (D) managed a Lister Petter generator and EnerSys battery hybrid combination to improve generator and battery service life whilst reducing diesel consumption. The results speak for themselves – a 53% reduction in diesel consumption and a 72% reduction in generator run time. The PowerOasis Manager monitors, controls and measures diesel consumption, fuel levels, power parameters and battery state of charge.

**“The PowerOasis Controller (D) delivers excellent battery management”** *(EnerSys)*



### **Digicel Vanuatu: Wind-Solar-Generator-Battery Solution**

Digicel was presented with a number of challenges in the roll-out of base station sites across Vanuatu, a volcanic archipelago of eighty-two islands in the South Pacific. At the heart of the network are three PowerOasis powered remote backbone sites that carry 60% of the network traffic. Importantly, the wind and solar solution provides differential autonomy which significantly reduces renewable equipment CAPEX by reducing battery size. The Digicel Vanuatu network is a good example of how a PowerOasis solution strikes a practical balance between CAPEX and OPEX.

**“PowerOasis Controller (R) offers superior performance control and configuration”** *(GSMA case study)*



### **T-Mobile Montenegro: Wind-Solar-Battery Solution**

T-Mobile Montenegro needed a reliable power solution for a series of base stations providing coverage for a new motorway, connecting the airport to the coast. They turned to PowerOasis for a one-stop planning, control and monitoring solution utilising wind and solar power. The network now operates with minimum intervention during the winter months when the sites are inaccessible for more than 4 months.

**“The only solution that meets the needs of mobile network operators”** *(SISTEM, local installation partner)*



### **Alcatel-Lucent France: Wind-Solar-Battery Solution**

Alcatel-Lucent's Alternative Energy program bridges the alternative energy and the telecom worlds to make renewable power a large scale mainstream deployment case for Radio Access Networks. Alcatel-Lucent have integrated the PowerOasis Controller (R) and PowerOasis Manager into their Alternative Energy program. For Alcatel-Lucent the combination provides high quality on-site control of multiple renewable power sources and full remote management to verify equipment operation and provide network power visibility to prospective customers.

**“Exceptional levels of fuel efficiency, power assurance and operational cost control”** *(Alcatel-Lucent)*

## Let's get started ...

If you need to reduce diesel fuel costs, increase site availability and lower overall site OPEX within your existing network, PowerOasis are the people to talk to. If you are planning or rolling out new base stations come and talk to us and tap into our experience and expertise. Take advantage of our proven methodology to achieve the optimum CAPEX / OPEX solution to powering your network.

  
Intelligent telecoms power solutions