Delivering cost savings for off-grid hybrid telecom power systems

Sunica.plus batteries

Saft provides a cutting edge solution for telecom operators using wireless sites that can significantly reduce both fuel consumption and maintenance costs for off-grid hybrid power systems.

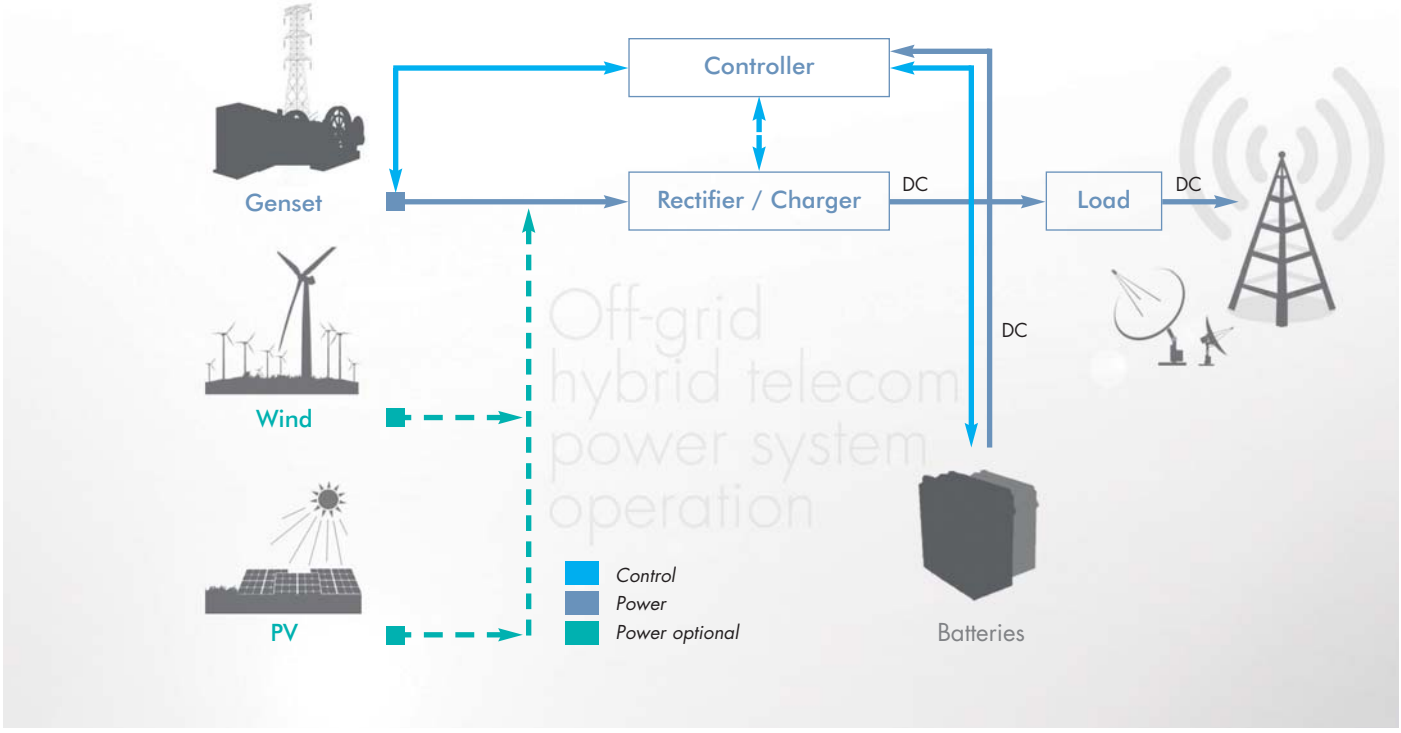
saft

Off-grid hybrid telecom power system operation

The choice of a reliable method of generating the power for off-grid sites is vital, and is a very significant factor in the site's overall operating costs and in the reduction of CO_2 emissions to help combat climate change.

Generally, off-grid telecom sites are powered by two diesel generators operating alternately to ensure a reliable power source. This solution is greedy in fuel, results in high operating costs and, for more remote sites, the need for refuelling and periodic maintenance creates logistical problems and results in significant additional costs.
A hybrid system combines a single diesel generator, and possibly renewable energy sources such as wind turbines or photovoltaic solar panels, with dedicated cycling battery.

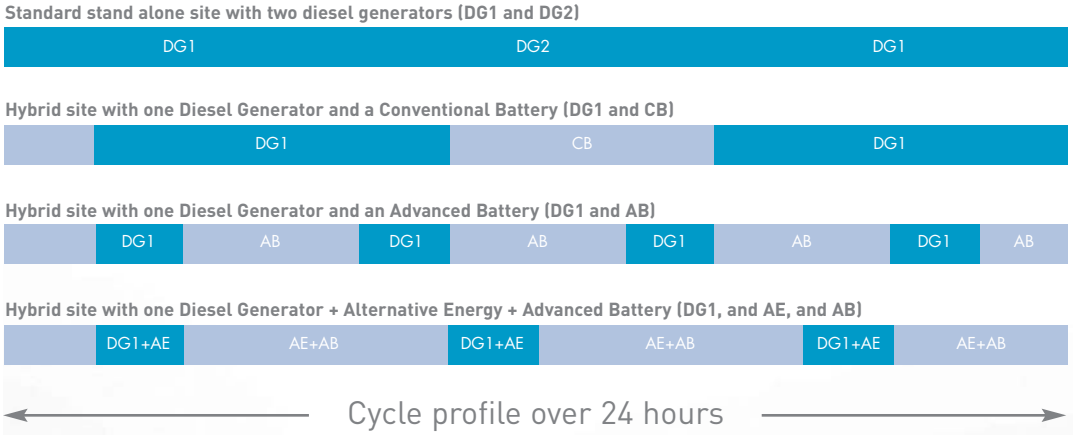
This approach can reduce operating costs for fuel and maintenance by up to 65%, while also cutting CO_2 emissions in the same range.
To ensure the lowest Total Cost of Ownership (TCO) of the hybrid solution, the various different sub-systems such as genset, rectifier, controller and battery must be carefully selected and sized to ensure the highest system efficiency.



Advanced nickel battery technology
The advantages for hybrid power solutions



In a hybrid telecom power system it is only necessary for the diesel generator to run for part of the time. The cycling battery supports the system load when the generator is off and there is no power available from alternative sources. The use of an advanced nickel-based technology with a proven high level of reliability allows a single diesel generator to be used. At the same time, it reduces running time of diesel generator with reduced battery size. This maintains system reliability while reducing capital expenditure -part of the cost of the battery can be covered by the elimination of the second generator. The addition of solar panels or possibly a wind turbine can increase the cycling time; this in turn will extend the calendar life of both the battery and the generator while further increasing the environmental benefits.



Diesel generator running time = fuel consumption

No fuel consumption and reduced maintenance

DG = Diesel Generator
AB = Advanced BatteryGreen
CB = Conventional Battery
AE = Alternative Energy

Hybrid systems combined with a dedicated cycling battery operating offer a number of advantages:

- Ensure continuous energy-efficient operation of off-grid RBSs,
- Reduce fuel costs,
- Reduction in maintenance requirements by 65% on average,
- Significant reduction in CO_2 emissions,
- Provides a quieter and cleaner operating site,
- Substantial reduction in operating costs (OPEX).

Off-grid hybrid telecom power system operation

Sunica.plus batteries
The ideal choice for hybrid installations

Well suited for hybrid applications and ensure fail-safe, reliable and efficient energy storage for innovative telecom hybrid power systems.

- Good chargeability that enables highly efficient operation under fluctuating charging conditions (50% within 3 hours).
- Good cycling capability to withstand daily and seasonal cycling at variable depths of discharge and state of charge without significant degradation in performance.
- Operating at a wide temperature range (from - 20°C to + 50°C) ensuring continuous operation at any state of charge and long life capacity.
- Ultra-low Total Cost of Ownership (TCO).
- Optimized electrode design, combined with an internal gas recombination process, that provides superior behaviour under erratic charging conditions and significantly extends the interval for topping-up with water (at least 1 year).

Overall, Sunica.plus is easy to install thanks to its block battery concept and robust design, with a large range of capacities from 45 to 1110 Ah. Cells can also be connected in parallel to create even higher capacities.

▶ To obtain the complete Sunica.plus brochure, please go to www.saftbatteries.com

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