



# Innovative off-grid solar energy storage in Madagascar



**Saft Sunica.plus nickel-cadmium batteries store solar energy in a scheme set up by Schneider Electric to provide safe and clean electricity to residents of an isolated village.**

## Isolated and remote locations

Schneider Electric's programme of social responsibility, named BipBop (Business, Innovation and People at the Base Of the Pyramid) aims to use the electrical systems firm's expertise to provide safe, affordable and green energy to the people who need it most. With an operation in Madagascar serving the mining industry, Schneider saw an opportunity to provide a reliable off-grid power supply to the population

of the village of Marovato, on the east coast of the island.

- Marovato's 120 residents are spread across 20 houses and used only 490 W.
- Schneider specified a system to generate 1,400 W at peak times.
- 18 of Saft's Sunica.plus 920 Ah cells were specified to store energy for night-time use.
- Batteries were selected for their long life, rugged design, operation in extreme temperatures and suitability for photovoltaic applications.

With 1.6 billion people worldwide having no access to electricity, solar energy storage can play a part in providing reliable energy.

Case study



**SAFT**

## Solar applications

Saft developed its Sunica.plus Ni-Cd battery specifically for storing photovoltaic, wind and hybrid energy in isolated locations, with many remote installations for utilities, signaling and telecoms applications. The cells can operate reliably at various states of charge and depth of discharge, wide temperature fluctuations and under mechanical and electrical abuses.

## Reliable off-grid electricity

*“After access to clean water, access to electricity is one of the top priorities for many people in new economies. Our BipBop programme brings together forward-thinking partners like Saft to create solutions that disadvantaged communities can take ownership of.”*

Gilles Vermot Desroches,  
Senior Vice President, Sustainable Development at Schneider Electric

- The average person in Madagascar uses 56 kWh energy per year, versus 6,400 kWh for Europeans and 160 kWh in sub-Saharan Africa.
- Only 3 per cent of the rural population in Madagascar has access to electricity.



## Saft Sunica.plus batteries – key benefits

- Ideal for photovoltaic energy, wind and hybrid systems; offshore and remote applications; utilities; and telecommunications networks
- Electrochemically stable nickel-cadmium battery with low Total Cost of Ownership
- Tough and reliable construction in shock-resistant polypropylene containers
- Long life-cycle – achieves 8,000 cycles at 15% depth of discharge
- Extreme operating temperature range of - 20°C to + 50°C and can tolerate extremes of temperature of - 50°C to + 70°C
- Low maintenance: more than four years without topping-up
- Capacity range from 45 Ah to 1110 Ah at C<sub>120</sub> rate



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