



# African Energy Solar Success Series

## Sola Saves Souls with Solar

Babies in Nigeria had a problem. If they were born premature or developed respiratory problems such as pneumonia, they risked dying in the local hospital. Research discovered that many of the deaths were not due to a lack of medicine or care, but simply due to a lack of oxygen. Oxygen was traditionally supplied from large cylinders that had to be purchased and hauled to the hospital and then administered at the cost of about Naira 1,000 per hour. To make matters worse, each cylinder could only serve one patient at a time. Realizing this, several donors cooperated to purchase oxygen concentrators for the hospitals, which could produce unlimited amounts of oxygen on site and serve several patients at a time. There was only one problem – the machines required stable electricity, and this was Nigeria, where power can drop at any time.

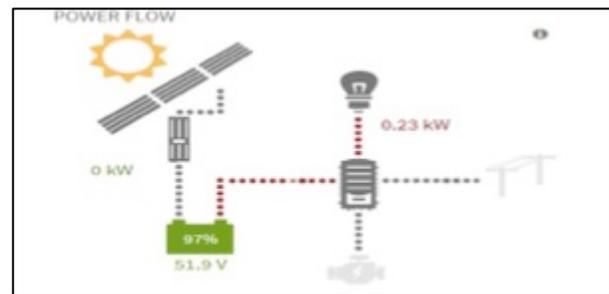


Deka Gel Batteries Used in the System

The donors quickly looked around for some solar equipment and found an installer who promised to solve the problem. Sadly, the system he installed could not even maintain the 350w base load per machine and the systems were considered a failure. About this time, the donors met Sola Odeku at Schon Peesol Energy in Ibadan, Nigeria

and started what must have surely been the most rigorous due diligence ever employed for a solar system. Sola started the process in April 2016, designing systems and using computerized models to convince the customer that his system would work. By July 2016, he was finally granted two proof of concept sites and he came to African Energy for the equipment he would need.

Because reliability was essential, Sola chose the Outback VFX1448E and VFX3048E inverters for his test sites and installed them with Deka gel batteries. Remote monitoring was very important to the client, so he used the Outback Optics RE remote monitoring and control package that comes free with every inverter. As this was his first time installing monitoring, he experienced a few challenges. For example, he didn't realize that he needed shunts to measure the current flow from the battery, and so his first installations constantly showed a 100% state of charge. Internet instability also meant that the Mate3 needed to be manually reset a few times. Once those issues were sorted, the monitoring was a great selling point. He showed me all of the sites (with working internet) on his phone, and we could see how they had performed that day and how much power was remaining in the battery at that moment.



Screen shot of the Outback monitoring



Solar Panels on the Clinic

Thanks to Sola's careful design, good equipment, and clean installation, the systems have done even better than expected. The client was so pleased with the performance that Sola has now installed 16 systems in 12 hospitals spread over 4 states in Nigeria. The first system installed has now logged 17 months with zero downtime. The cost of oxygen to patients has dropped from N1,000/hour to N62/hour and the mortality rate has dropped to less than 5%. This is a great professional achievement for Sola and for the equipment manufacturers. But the real impact is seen in the lives of the patients and their parents. One night during an installation, Sola was tidying up the site, which was not yet officially handed over to the client. The nurses approached him and said they were out of oxygen and could he please turn on the system for a baby who was struggling to breathe. He decided to go ahead, although the system was not complete, because it was the only source of power. The oxygen started flowing and Sola's system saved the life of that baby that night.

