

OFF-GRID AC-COUPLED HYBRID SYSTEM

➤ CITY OF JOY, DEMOCRATIC REPUBLIC OF CONGO



“TROJAN BATTERY IS HONORED TO BE A PART OF SUCH A WORTHWHILE PROJECT THAT FOCUSES ON HEALING AND BRINGING STABILITY BACK INTO THESE WOMEN’S LIVES. BATTERY-POWERED RENEWABLE ENERGY TECHNOLOGIES HAVE MADE IT POSSIBLE TO ESTABLISH RELIABLE POWER IN REMOTE REGIONS AROUND THE GLOBE WHERE ACCESS TO ELECTRICITY IS UNRELIABLE OR EVEN NONEXISTENT.”

BRYAN GODBER ➤ SENIOR VICE PRESIDENT OF RENEWABLE ENERGY, TROJAN BATTERY

➤ LOCATION	➤ CHALLENGE	➤ SOLUTION	➤ OUTCOME
City of Joy, Democratic Republic of Congo	To provide reliable power to a refuge for female survivors of sexual violence.	Solar-electric system using Trojan AGM batteries.	Reliable clean energy for the community 24 hours a day.



40 BATTERIES

\$6,000 ANNUAL SAVINGS

24/7 ELECTRICITY FOR 180 WOMEN

LOCATION

The City of Joy, located in the city of Bukavu in the Democratic Republic of Congo, was founded in 2012 by Eve Ensler's V-Day Foundation as a solar-powered refuge for female survivors of sexual violence perpetrated during the recent decades of war in the region. The community houses more than 180 women of all ages and offers programs designed to empower them to become leaders and provide for their families.

CHALLENGE

Prior to the solar installation in 2012, the City of Joy was powered by the Congo's unstable national electric grid which only provided electricity for a couple of hours a day. An oversized diesel generator was used for backup, but it was loud, polluting, and expensive to operate.

SOLUTION

The 7.2kW solar electric system is grid-tied with battery-backup and storage. Excess electricity generated by the solar panels or from the grid is stored in Trojan deep-cycle batteries. Of the 40 31-AGM batteries supplied by Trojan, two banks of 16 were installed and wired in strings of four to match the inverter voltage (48V). The eight remaining batteries will be used with an AC battery charger for general use in the community.

SYSTEM SPECIFICATIONS

- Batteries: (40) Trojan SAGM 12 105* 12V
- Inverters: (2) SMA SunnyBoy 3800 and (2) SMA SunnyIsland 5048
- Solar modules: (32) SunPower 225W
- Racking: Local materials

**The Solar AGM SAGM 12 105 battery was previously known as the 31-AGM battery.*

OUTCOME

Due to difficult conditions and a lack of proper equipment, installing the system was challenging. But after ten days of hard work, the system was installed and turned on. When the power went out in the city one night, the City of Joy stood as a beacon of hope and a symbol of a sustainable future when the surrounding areas went dark.

BATTERY SOLUTION



- Maintenance Free
- Durable and Reliable
- Designed to Withstand Rugged Conditions



PARTNERS



www.greenempowerment.org



www.cityofjoycongo.org/splash/

CHARGING  FORWARD

For More Information / www.trojanbattery.com / www.greenempowerment.org / www.cityofjoycongo.org

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