

Life Is On

**Schneider**  
Electric



# Improving the standard of living with sustainable energy

HMB Solar designed and installed a residential solar backup power system with monitoring to overcome the issue of unreliable grids in rural areas of Venezuela.

[solar.schneider-electric.com](https://solar.schneider-electric.com)



Venezuela, the country with world's largest oil reserve, relies heavily on oil and hydro power to generate electricity. In recent years, residents, especially those in rural areas, have been experiencing unreliable grids. To overcome the issue, HMB installed a backup power system using Schneider Electric's residential solar and storage solutions.

### Challenges

Venezuela is one of the world's leading exporters of oil with large reserves of oil and gas. With one of the cheapest electricity costs in the world, it has a strong dependence on oil and hydro power for the generation of electricity. However, in recent years, Venezuela is experiencing instability and lack of reliability in its electrical power system.

This problem is more prominent in rural Venezuela, including its households, small health centers, and schools. In many cases, people only have diesel and gas generators as an alternative power source in these areas.

With the recent advance in Photovoltaic technology, HMB Solar helps residents reduce the impact of fluctuating power and outages by being energy independent, producing their own energy in a cost-effective way. Additionally, HMB Solar comprehends the global goal of reducing greenhouse gases and wants to be an active part of the solution.

## Customer Profile

HMB is a leading civil, electrical, and mechanical constructor in Venezuela with more than 20 years of experience in the design and building of infrastructure projects for the public and private sectors. In 2017, HMB started its solar division **HMB Solar** to serve as an EPC company to execute projects using PV technology for Residential, Commercial and Rural markets in Latin America, especially Venezuela.

## Distributor Profile

Intermepro provides complete sustainability and energy efficiency solutions to Argentinean and other Latin American countries.

## Goal

The goal of this project was to provide stable and sustainable electricity for a family living in rural Venezuela, where electricity is rationed to 3-6 hours per day, in order to help them gain energy independence while reducing generator consumption.

## Solution

Schneider Electric's residential backup power solution including Conext™ SW inverter/charger, MPPT charge controller, Gateway and Insight 2, and power distribution panels.

## Results

The residential backup power system HMB Solar installed was well received. The homeowner now has reliable electricity that allows them to continue their daily activities even when the grid goes down, improving their standard of living.

### Solution

HMB Solar designed a 4 kW DC-Coupled grid-interactive hybrid system that includes a string array with 12 panels roof-mounted mono with perc technology with total power of 4,620W and an integrated lead crystal battery bank with a capacity of 220Ah at 48 volts. The installation included the following solutions from Schneider Electric:

- 1x Conext™ SW 4048 120/240 inverter/charger
- 1x Conext™ MPPT 80 600 charge controller
- 1x Conext™ Gateway
- Conext™ Insight 2
- 1x Conext™ System Control Panel
- 1x Conext™ SW AC Power Distribution Panel
- 1x Conext™ SW DC Power Distribution Panel

The Conext™ SW inverter/charger, together with Conext™ MPPT solar charge controller, provided a robust and reliable solution for small and medium residential and rural installations with different types of loads. Working as an off-grid or backup power system, the enhanced grid support feature allows for harvesting the maximum power available from the sun without affecting the power quality delivered to the loads.

### Conext™ Gateway and Insight 2 for monitoring and remote management

This type of installation could be implemented in isolated areas with limited access for a rapid response to any issue faced by the end client. The Conext™ Gateway is the ideal solution to achieve remote connectivity with full access to the system. It also allows clients to feel confident that HMB Solar would give them a timely response.

As a system integrator, HMB Solar finds that Conext™ Insight 2 is a powerful tool for multi-site management. Conext™ Insight 2 is a cloud-based energy management platform where all HMB's solar projects are stored in a centralized repository, allowing remote access from any location.

“From the moment of installation, our life has changed. We can now lead a normal life knowing that we have an automatic, reliable and environmentally friendly energy system in case of electrical outages.”

— Magaly Becerra, Homeowner



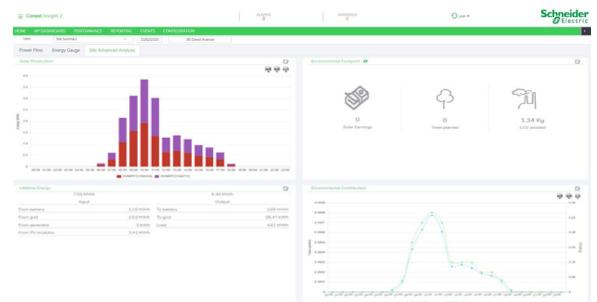
HMB Solar designed 4 kW DC-Coupled grid-interactive system

**Solar Monitoring Solution**

Learn more about the [Conext™ Gateway](#) and [Insight 2](#) and how the simple yet powerful solar monitoring tools can help installers and homeowners.



Watch our Conext™ Gateway video.



Conext™ Insight 2 together with Gateway make the solar monitoring accessible from anywhere at anytime.

# Learn More



Powering rural clinics in Nigeria with solar microgrids



Powering remote island with sustainable electricity



Viable electricity supply alternative in New Zealand



One Everton – A South African flagship for communal energy independence



A flexible and cost-effective battery storage solution for a high-end residential development



Providing power to an off-grid community in Kigbe, Nigeria

## Schneider Electric

Head Office  
35 rue Joseph Monier  
92500 Rueil Malmaison Cedex. France  
Phone: + 33 (0) 1 4129 70 00

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