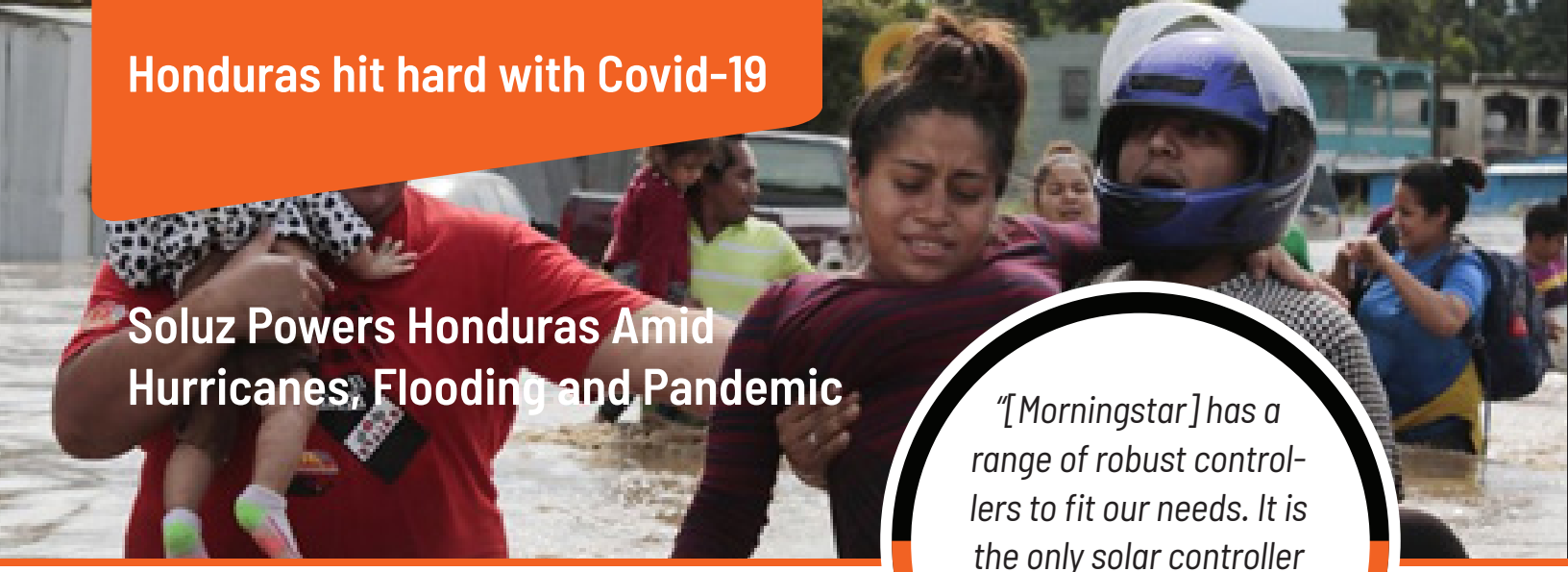
Honduras hit hard with Covid-19



Soluz Powers Honduras Amid Hurricanes, Flooding and Pandemic

> *"[Morningstar] has a range of robust controllers to fit our needs. It is the only solar controller supplier that we use."*
>
> Richard Hansen
> President Soluz

Summary

Honduras is marked by beautiful mountains and rivers, but unfortunately these natural wonders make the area vulnerable to catastrophic flooding considering the increasing effects of climate change. This flooding is devastating to Honduras as one of the poorest countries in the Americas where 28% of the rural population still does not have access to the electrical grid. The impact was compounded by natural events in late 2020 on top of the COVID-19 pandemic.

Project

Richard Hansen, president of Soluz Honduras, has been working to electrify rural communities in Central America since the 1990s. He spent ten months there in 2020 helping the company navigate through the pandemic. In November, hurricanes ETA and IOTA hit the country.

"There was terrible flooding," Hansen said. "The San Pedro Sula Airport was underwater, roads were washed out, crops and livestock destroyed in the more rural areas. Thousands of families were displaced, all amid alarming rates of COVID-19 cases and deaths. It will take months, if not years, to recover."

While the flooding is devastating, the stand-alone solar and battery PV systems Soluz provides is keeping many online. Over the years, Hansen and his team have provided solar solutions for more than 25,000 households, businesses and schools.

During the pandemic, Hansen has seen increased demand for freezers powered by PV systems, especially in rural grocery shops which are commonly women-owned. A typical PV system for a 13-cubic-foot (390L) Sundanzer freezer consists of two Jinko 330W (72 cell) PV modules and a Morningstar EcoPulse controller to charge a bank of four Trojan 229Ah flooded lead-acid batteries.

Soluz finances these solar-powered freezer packages with a two-year payment plan.

"During COVID-19, we have sold, installed and financed dozens of these solar-powered freezers to preserve food during the pandemic," Hansen said. "It's one of my favorite applications!"

Hansen said Soluz Honduras has used Morningstar products in thousands of rural installations and even in his own urban home.

Because Hansen and his wife spend so much time working in Honduras, they built an energy-efficient home in San Pedro Sula, the main industrial city in Honduras, in the "ecologically-themed" Campisa community. The home is served by the local utility grid but Hansen also included a 2.6kW grid-tied PV system with battery back-up consisting of eight 330W Jinko modules, Magnum Energy and Solectria inverters and a Morningstar TriStar MPPT 600V controller to charge the 48V/310Ah Trojan battery bank.

"This a basic residential PV system that allows us to produce and consume solar-generated electricity to reduce our electrical bill like you'd commonly find in the U.S.," Hansen said. "However, we are not in the U.S. and Honduras suffers from much more frequent power outages. San Pedro Sula is an extremely hot city with temperatures often rising to 95 to 105°F (35 to 40°C). It is important for us to have backup power for our air conditioning because high heat for a gringo like me from New England can actually be dangerous."

The system was completed just in time for the 2020 hurricane season. Even though the house was not flooded, grid power was down for days with each storm and the backup system kicked into gear.

"Our house never lost power, and I got points with my wife!" Hansen said. "Neighbors were even coming over to charge their cell phones."

Soluz did a similar installation using the Morningstar TriStar MPPT 600V in the home of a former New York teacher who returned to Honduras upon retiring.

"We use Morningstar because we trust in the quality and excellent customer attention," Hansen said. "They have a range of robust controllers to fit our needs. It is the only solar controller supplier that we use."

Solution

Hansen believes that solar is a proven way to build resilience for the inevitable effects of climate change and the vulnerability of traditional distribution grid systems.

In places with significant rural populations living without access to electricity, the use of solar PV systems is rapidly evolving. Many companies, including Soluz Honduras, are now offering small, plug-and-play kits to provide basic lighting and cell phone charging to reach poor

rural families. But Hansen recognizes that their efforts to serve a range of needs, including productive use, require larger PV systems integrated from high-quality components such as Morningstar controllers. Soluz is committed to meeting the specific long-term needs of many homes, businesses and schools with robust PV systems that can last 20 years or more.

"Having COVID-19 then two hurricanes on top is too much for Honduras," he said. "But the Soluz Honduras team is determined to keep serving rural areas to help reduce energy poverty with resilient battery-based solar PV systems."

During the pandemic, women entrepreneurs in rural Honduras have become increasingly interested in solar-powered freezer systems with battery backup. For example, Jency, a 35-year-old mother of four, owns a rural store in the Department (Province) of Yoro. You can see the Morningstar EcoPulse controller which powers her system over her left shoulder.

Soluz President Richard Hansen installed a solar system with battery backup using a Morningstar controller in his home. While hurricanes knocked out grid power, his system generated electricity for days.

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