

Case study

Atmospheric Water plant

St. Thomas

Barbados



The challenge

EcoSkyWater is a company that produces pure drinking water from the air using ZeroMass Water Sources units. The owner wanted to develop a completely ecofriendly production plant, so he wanted the power to be supplied by renewable energy. We were given



EnSmart

the challenges of provide power for this plant, which was needed to be completely autonomous, but reliable and stable.

Why STUDER

EnSmart wanted a flexible, robust, reliable inverter as our premium inverter when we started the business as off-grid specialist. After reviewing and tested several inverters we quickly realized that Studer was the best grid-interactive inverter on the market at the time. Studer's Smart-boost capability was also a feature that was a game changer for us and the product offering to our clients. Studer quality and attention to the system load handling made it possible to provide power to our clients' entire house or business with a mix of load types, AC units, air compressors even welding equipment with the confidence that it would be reliable and stable.

System components

The system contains the following components:

- 2 Xtender XTH 6000-48-01 inverters
- 3 Xtender XTM 4000-48-01 inverters
- 3 VarioString VS-70 Charge Controllers
- 4 Soltaro/Wattsonic 5KWH LiFePo4 batteries
- 24 Amerisolar AS-CP330 - 330W
- 12 Trina Solar TSM-DEG15M.20(II) - 400W
- 1 RCC, 1 Xcom LAN and 1 Xcom-CAN

The Solution

EnSmart of course knew this was possible with Studer inverters and charge controllers. The plant started with a power requirement that was not fully known at the time. The initial requirement was for a split-phase system to power air condition units, lights, office equipment, water pumps and a small bottling machine and bottle capping machine. The plant started with two XTM4000-48-01 inverters, three VS-70 charge controllers, four 5KWH Soltaro Lithium batteries and 24x 330W panels. Once the plant was operational the demands on the system grew quickly as the owner evolved the product offering and there was a requirement for three phases. This was not a problem for Studer Xtender series, so another XTM4000-48-01 was added and we reconfigured the system. However, the plant power requirement continued to grow and started to push the XTM4000s to the limit. The owner wanted to upgrade but did not want to lose his investment in the XTM4000s, so the solution was to add two XTH6000-48-01, one for L1, one for L2 and combine the existing 3x XTM4000-48-01 in parallel to work on L3. EnSmart also added more panels 12x 400W.

Project outcome

The client is happy with the solution. It runs his plant every day and produces power for a variety of functions, while keeping with his ecofriendly philosophy. The plant maintains a zero-carbon footprint and operates autonomously from the grid. ECO SKYWATER is currently expanding to other countries and has formatted their product into an all-encompassing offer in which they are looking to include Studer.

The Company

EnSmart Inc is committed to deliver high-quality solutions that will meet all our clients power needs. We have pioneered affordable off-grid system, which are fully grid-interactive. This means renewable energy becomes the primary source of energy and the grid becomes your secondary source. We can also provide our clients with a grid-tie solution or a battery backup system for your existing grid-tie system. Our solutions are cutting edge and are feature rich, which provides you with many options to integrate your home into the future as energy management systems and the Smart grid become more common place.

For more information please contact:

Studer Innotec SA

www.studer-innotec.com/ victor.penas@studer-innotec.com
Contact at Studer: **Victor PENAS**

EnSmart

jerryfranklin@ensmartinc.com
<https://ensmartinc.com/>

