

Shortening the Distance Between Reliable Energy and Remote Locations



LOCATION:

Arni Alberto Spiering Project, Mato Grosso, Brazil

PROFILE:

Rural locations are often at the mercy of unreliable and costly power. A diverse farm grower in Mato Grosso, Brazil, discovered that sustainable solar energy is a more dependable, economic solution than being on the grid.

CHALLENGE:

Remote location, Humid climate

SOLUTIONS:

Photovoltaic plant and center pivots, Hot-dip galvanizing for longer product life cycle

In the world of agriculture, Mato Grosso, Brazil, is a major player. With an area of more than 900,000 square kilometers, this state is Brazil's leading agriculture producer. In addition to land mass, Mato Grosso has plenty of sunshine, making it an ideal source of power for remote populations and enterprises.

A diversified grower in this region saw the value of coupling two of the state's assets: arable land and solar energy. Under the leadership of the Valley® team, he incorporated a photovoltaic plant to run the Valley center pivots on his 12,500-hectare farm.

The plant design features 3,840 modules (335Wp each) and 10 inverters (100kW each) which produce 1,897.21 MWh/year. This energy powers the center pivots that irrigate the soy, corn and beans cultivated on the farm. With the investment of the photovoltaic plant and center pivots, the farm reaped many benefits, including cutting energy costs 52.43%, reducing its carbon footprint and conserving precious water. In 2021, Spiering disconnected from the grid and relies solely on clean, renewable solar power.

Sustainability played a vital role throughout the specification process for this project. Exposure to different soils, moisture and heavy equipment coupled with the humid climate in Brazil creates a corrosive environment. Both the ground mounted structure for the photovoltaic modules and the center pivot are made from steel and, if left bare, would rust quickly. To prevent corrosion, Valley hot-dip galvanized the critical components, extending the life of the system and providing a high financial return.

Conserving resources and improving life have always been a focus for Valley. The Mato Grosso farm demonstrates how renewable solar power is a viable solution for remote locations that depend on reliable, affordable power for their livelihood.

Sustainable solar energy is a dependable solution for remote locations, providing 50% savings in energy cost versus traditional energy plants.*

**Based on a 1,285kWp photovoltaic plant in Mato Grosso producing 1,897MWh/year.*