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SunRanch Solar Newsletter

# WITH BATTERIES FULLY CHARGED, VENCOR POWERS AHEAD

*Sunranch Solar's Three-Act Energy Transformation Complete*

## MEET THE PLAYER: VENCOR HOLDINGS

Vencor Holdings is an integrated meat production operation based in Polokwane, managing a full value chain from feedlot to abattoir to distribution, and supplying major South African retailers with high quality beef and lamb. With operations driven by high-throughput processing, refrigeration, and cold-chain logistics, electricity is not a secondary cost but a core input into production. As a result, energy strategy plays a critical role in overall operational performance. At this scale, the equation is simple: *controlled energy costs + operational efficiency = sustainable profitability*.

"What we needed wasn't just more solar panels – we needed to manage our energy the way we manage the rest of the operation. The batteries do that. They give us control over power drawn from the grid in conjunction with power stored. This shifted how we think about our electricity load. SunRanch Solar understood what we required and delivered a system that solved the challenge."

**Ruan Erasmus** - CEO, Vencor Holdings (Pty) Ltd

## THE TRILOGY: HOW WE BUILD ENERGY OPTIMISATION

### *ACT ONE (PHASE 1)*

The journey began with a 302.4 kWp rooftop PV system paired with 300 kVA of inverter capacity. Built using 945 x JA Solar 320W modules and six Huawei inverters, this phase established a strong solar generation baseline. *Proof of concept achieved.*

### *ACT TWO (PHASE 2)*

Vencor then expanded to an additional 349.98 kWp of rooftop solar, supported by three Huawei inverters. Higher – efficiency Longi 570W modules increased generation density, while the integration of grid and generator metering, along with controller functionality, introduced a new layer of visibility. Vencor could now track, measure and better understand energy flows across the facility. *Momentum building*.

### *ACT THREE (PHASE 3)*

The last phase shifted the system from generation to optimisation. A 542.08 kWp ground-mounted array, built using 896 Longi modules, was combined with a 2,150.00 kWh Battery energy storage system and hybrid inverter architecture. This is where the system evolved from "solar installation" to fully integrated energy management platform – capable of controlling when energy is generated, stored and deployed. *Game Changed*.

## WHAT PHASE 3 ACTUALLY CHANGED *(THE TECHNICAL BIT)*

Phase 3 is not just additional capacity – it's operational intelligence.

The integration of 2,150.00 kWh of lithium ion phosphate (LFP) battery storage (10 x LUNA2000 Batteries) allows Vencor to actively manage its load profile rather than passively consume energy. Instead of drawing heavily from the grid during peak tariff periods, the system now strategically discharges stored energy, flattening demand spikes and reducing maximum kVA charges.

At the same time, excess solar generation – previously underutilised during lower load periods – is now captured and stored. This significantly increases solar self-consumption, ensuring that more of the generated energy directly offsets grid purchases rather than being curtailed or lost.

The inclusion of a third-party energy management system (EMS), combined with Huawei Smart Logger infrastructure, enables real-time optimisation of the entire system. Energy flow between PV, batteries, and grid are continuously adjusted based on load demand and tariff structures. The result is a system that doesn't just generate power – but actively minimises cost.

## THE FINANCIAL REALITY: WHY VENCOR INVESTED

The most immediate impact is seen in *demand charge reduction*. By using battery storage to shave peak load, Vencor reduces its billed maximum demand – one of the most significant cost drivers in electricity tariffs. This alone can result in substantial monthly savings.

Equally important is *time-of-use optimisation*. The system effectively shifts energy consumption by storing energy during lower-cost periods and utilising it when tariffs are highest. Over time, this arbitrage between tariff windows lowers the blended cost of electricity across the facility.

Another key advantage is the improvement in *solar utilisation efficiency*. With storage in place, a far greater portion of generated solar energy is used on-site, reducing reliance on grid imports and improving the overall return on the PV investment.

Finally, the system has been designed with *scalability in mind*. The ground-mounted configuration and modular battery architecture allow Vencor to expand capacity as operational demand grows, without requiring fundamental redesign.

## THE BOTTOM LINE

Three phases - One outcome: Vencor transformed from just consuming energy to controlling energy.

Vencor is no longer simply consuming electricity – they are actively managing it. By combining solar generation with battery storage and intelligent control, they've reduced energy costs, stabilised demand and improved overall efficiency.

The rooftop phases proved it could work. The ground-mounted phase 3 proved it could scale. And the batteries? They're the difference between absorbing unpredictable energy costs and controlling them completely.

**That's what "fully charged" really means.**

## INTERESTED IN YOUR OWN ENERGY OPTIMISATION STRATEGY?

SunRanch Solar designs and deploys end-to-end solar and battery storage solutions for agricultural, industrial and commercial facilities. From initial feasibility to long-term performance optimisation, our focus is on delivering systems that make financial sense.

Whether you're starting with solar or ready to integrate battery storage and advanced energy management, SunRanch Solar can help your operations – and your bottom line.

**Let's talk about how to turn your energy from a cost centre into a controllable asset.**

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