Sustainable solar solutions for dairy farming

In the lush landscape of Creighton Valley in KwaZulu-Natal (KZN), a transformative journey to renewable energy is underway for dairy farmers and cheese producers, who are turning to solar power from SolarSaver to reduce their electricity costs and ensure a stable power supply.

In KZN, dairy farming has long been the backbone of the local economy. A transformation to solar power is underway in this industry, with a company called SolarSaver providing solar photovoltaic (PV) installations that are making a significant difference by reducing electricity costs and stabilising the supply on farms.

Dairy farming is an energy-intensive operation. From powering milking machines to maintaining refrigeration units, a consistent supply of electricity is crucial for the seamless running of the farms. The Creighton Cheese Company processes approximately 70 000 litres of locally-sourced milk every day, which is processed into 6.0 t cheese, which also relies on a considerable amount of power.

Three years ago, SolarSaver completed a grid-tied solar installation at the Creighton Cheese Company. The impact was immediate and significant, prompting owner Hayden Stokes to refer SolarSaver to other farmers in the valley. Consequently, a hybrid solar PV with battery backup was installed at Burnview Dairy.

"SolarSaver's installations have already made a huge difference to the farms in terms of electricity costs, having reliable, stable power and reducing the impact on the environment," says Stokes. "We needed to reduce our dependency on Eskom, and SolarSaver provides a scaleable solution."

The need for reliable power

With the Creighton Valley region powered by Eskom, unstable power, voltage fluctuations and load-shedding have created ongoing challenges that result in significant financial losses and threaten the viability of these businesses. While grid-tied solar systems provide power during daylight hours, Stokes needed to find a way to keep his businesses operational and productive 24/7.

SolarSaver recently added batteries to the existing grid-tied installation at Burnview Dairy to create a hybrid system, which is working well. Stokes now plans to add batteries to the Creighton Cheese installation and increase the available PV capacity by 50 kWp.

"As milk is perishable, we risk losing thousands of litres of milk when outages occur," says Stokes. "Load-shedding disrupts the daily routines of dairy farming. Dairy cows must be milked at regular intervals, and power outages can interrupt this process, leading to decreased milk production and potential health issues for the cows."

Grid-tied solutions are offered through SolarSaver's unique rent-to-own model, which enables solar photovoltaic systems to be installed at no capital cost while clients pay only for the green power produced at lower rates than Eskom. The company further provides solar battery hybrid solutions for a set monthly fee or as a direct sale.

"While our rent-to-own grid-tied systems offer a powerful solution to save costs using greener power that requires no capital investment, we've found that due to the extent of loadshedding and the cost of generators, battery hybrid solutions can also make financial sense," says Lance Green of SolarSaver.

SolarSaver completed a grid-tied solar installation at the Creighton Cheese Company.

Every days, the Creighton Cheese Company processes approximately 70 000 litres of locally-sourced milk which is processed into 6.0 t cheese.

The cold room at Creighton cheese.

Through ensuring a consistent, stable power supply whilst reducing dependency on generators, solar installations are enabling farms to save costs and maintain production. "Burnview Dairy and Creighton Cheese are great examples of how renewable energy can help farmers to remain competitive as we work together to deal with power challenges and create a more sustainable future for South Africa," says Green.

Pleased with the installations, Stokes referred SolarSaver to other dairy farmers in the Creighton Valley. As a result, SolarSaver has installed grid-tied and hybrid systems at Sunnyside Dairy, Vlei Villa, Twin Dams, Valhalla Dairy and Helston Farm – totalling just under 700 kWp.

SolarSaver allows business owners to "go green" and allows them to start saving on their monthly electricity bills without any capital investment. Instead, SolarSaver pays for the system and clients only pay for the cheaper, greener electricity produced.

SolarSaver's effective tariffs are cheaper than grid power, so clients save money from day one and SolarSaver remains responsible for all ongoing maintenance and management into the future.

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