



Case study

Cattle farm improves reliability and saves money with solar pump

Property/Farm Profile

The Pastoral Company is a family owned beef cattle business located north-west of Rockhampton in regional Central Queensland. The property’s electricity supply was comprised of a rural 22kV powerline to the homestead and ancillary buildings and a low voltage powerline to a dam pump which is used to supply water to the property.



Water supply arrangements

The water pump used on the property was a Farmmaster Onga Jet pump – loved by farmers for its simplicity and reliability. The pump draws water from a catchment dam and pumps it to a series of storage tanks around the property. The pump is controlled by a pressure switch that switches the pump off when the tank is full and the float valve has closed. At 2.4kW output, the pump size and the delivery requirements fall within the capabilities of many solar pumps now available. In the previous 12 months before the solar pump was installed, the water supply pump consumed 1,968kWh, at a nominal cost to the customer of \$1,195*.

Customer solution

The customer had been looking at ways to reduce connection costs and improve reliability. A site visit found that the existing water pump could be replaced by a stand-alone energy solution in the form of a solar powered pump - specifically a high efficiency submersible pump, capable of delivering the farm’s water needs within the window of solar availability.

*values have been updated to reflect 2023/24 Tariff Pricing.

Solar pump water and energy production												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Water production [m ³ /day]	53.4	52.1	52.2	51.9	49.6	48.1	49.9	53	54.3	55.9	54.7	54.9
Energy production [kWh/day]	8.6	8.4	8.4	8.4	8.1	7.8	8.2	8.5	8.7	8.9	8.8	8.8

Source - Grundfos Product Centre

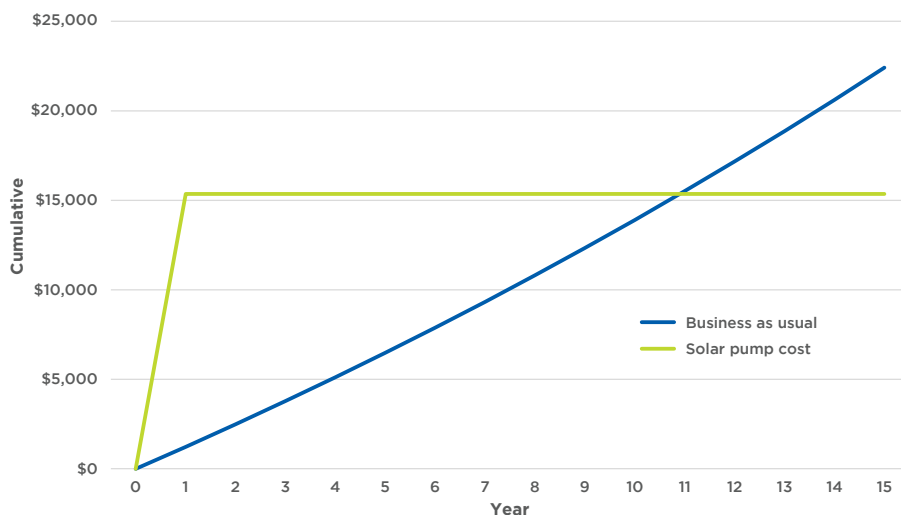


Solar Pump Results

The solar pump solution provides the customer with a cost-effective, reliable and innovative alternative to the traditional network connected supply. The customer's storage capacity, usage and infrastructure proved ideal for installing a highly efficient and reliable solar pump. The customer abolished supply to the old pump location and is now enjoying their new reliable solar pump - a practical solution that makes sense technically, environmentally and financially.

By adopting the stand-alone solar pump, the customer should, based on tariff structures as of the 2023/24 financial year, avoid over \$22,400 in network supply and energy charges over the life of the asset. In addition, being eligible for financial assistance to purchase the customer's preferred pump system meant that the initial outlay of \$15,359 for the solar pump was significantly reduced. The cashback reward and installation of the solar pump means no further energy costs should be incurred over the anticipated life of the asset. This solution presents a positive return on investment, when considering a basic forward estimate of energy bills increasing in line with CPI and pump repairs or renewal being covered by the achieved savings. After the cash back reward, the total outlay was much lower meaning the return on investment was experienced sooner.

Pump Lifecycle Energy Cost - Forward Estimate *Tariff T20



Cost of solar pump and savings will vary greatly from site to site, future energy costs are calculated at 2.75% CPI.

Snapshot of solar pump benefits



Real cost savings

Reduced electricity and pump maintenance costs



Improved reliability

Reliable pumping when the sun shines with paddock-proof technology



Renewable energy

Powered by the sun and great for the environment



Removal of powerlines

Providing a safer work environment by eliminating the need for us to access your property



Get in touch

If you think you might qualify, or for more information, contact us at:

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