



# Lion Landcare Grants 2016/2017

## Project Case Study

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<b>Recipient:</b>	TG and RG Hamilton
<b>Project Name:</b>	Solar Hot Water Conversion for Dairy
<b>Location:</b>	Jaggan, Queensland
<b>Funding Amount:</b>	\$9,900
<b>Objectives:</b>	<ul style="list-style-type: none"><li>Decrease dependence on coal fired electricity production</li><li>Produce clean, efficient, reliable hot water service</li><li>Achieve a smaller carbon footprint</li><li>Decrease overall operational cost of production</li></ul>

### Background

In Queensland's Tablelands region third generation farmers, the Hamilton family, manage a mixed beef, dairy and bamboo operation. For over 100 years successive Hamilton generations have supplied milk to the domestic and international markets.

In continuing the family tradition, the family is committed to producing quality milk. To ensure milk quality and to avoid contamination, the dairy shed machinery is washed down after each milking. This simple task of washing down equipment is, however, made difficult due to the unreliable electrical network it relies on to heat the water.

Far North Queensland relies on an electricity network that has infrastructure that dates back to the 1940s. Combine this with a large geography and limited people resources to repair breaks, and the result is a black-out whenever a storm or strong winds hit anywhere in the network.

Tired of this unreliability and also wanting to reduce electricity costs, the Hamilton family researched hot water systems that could be taken off the grid while supplying a reliable source of hot water.

### Lion Dairy Pride Landcare Grants

As a family, the Hamiltons had a history of researching and implementing sustainability improvements. So, after being told about the Lion Landcare Grants from their Lion representative, Veronica Hamilton said the family applied for funding to upgrade their hot water system.

"In our region, approximately 70 percent of farmers install a system that can back up their power supply to keep milk refrigerated and operate the shed machinery." Veronica said.

The back-up system to be installed was the same that was heating their water in their house in town – an evacuated solar hot water system with a gas booster.

The system heats the water with solar power when the sun shines and for the times that doesn't happen it is backed up with a gas booster. Fortunately, the tropical north Queensland sunshine is frequent and intense enough that the solar system provides a reliable supply of hot water.

## Outcome

Veronica said the new system keeps the hot water flowing to wash and sanitise their dairy machinery.

While it is still early days, Veronica said they expect the hot water system will reduce electricity costs and in turn help them continue to do what they love – producing sustainable milk.

“We can cope with the hours required to milk the cows when we are paid enough, and can cover the costs to produce.” Veronica said.

The Lion Landcare Grant allowed the Hamiltons to make the infrastructure upgrades needed to make the farm more sustainable and was a welcome industry investment.

Looking to the future, Veronica says they plan to invest in infrastructure that will make them less reliant on the electricity grid when operating milk production and workshop facilities. They also plan to put in carbon stores, improve creek banks and crossings as well as create exclusion zones around waterways to protect the farm's natural resources.

