



Industry project for smarter energy use

Case Study: Scott and Michelle Weldon, Steneless Pastoral Co, Vasse, Western Australia

Scott & Michelle Weldon have a dairy at Vasse in Western Australia. Scott & Michelle had recently installed a new 20000l vat to replace an older 10000l vat and wanted to see how the change had impacted their power use. The new vat enables Scott and Michelle to get milk colder quicker, increase production and utilise every second day pick-up times.

A NHP Data Logger was installed which recorded the power use of milk cooling, the vacuum pumps and the hot water system. This monitor sent through power use every 15 seconds to a nearby laptop. This system was used here as the 3G internet connection was unreliable. The data logger recorded data both before and after the new vat was installed.

The energy recording system at Vasse recorded only a 1.2% fall in energy consumption for milk cooling (47.1kWh/day to 46.51kWh/day) after the vat was installed over the recording period. Table 1 shows the daily energy use for the vat compressors over the period before and after the vat was installed on April 4. The larger vat enabled every 2nd day pick up at times but the hot water savings were small (3.5%) given the greater volume of hot water required for the vat wash. Table 2 shows the hot water power use over the recording period.

01 - Vat

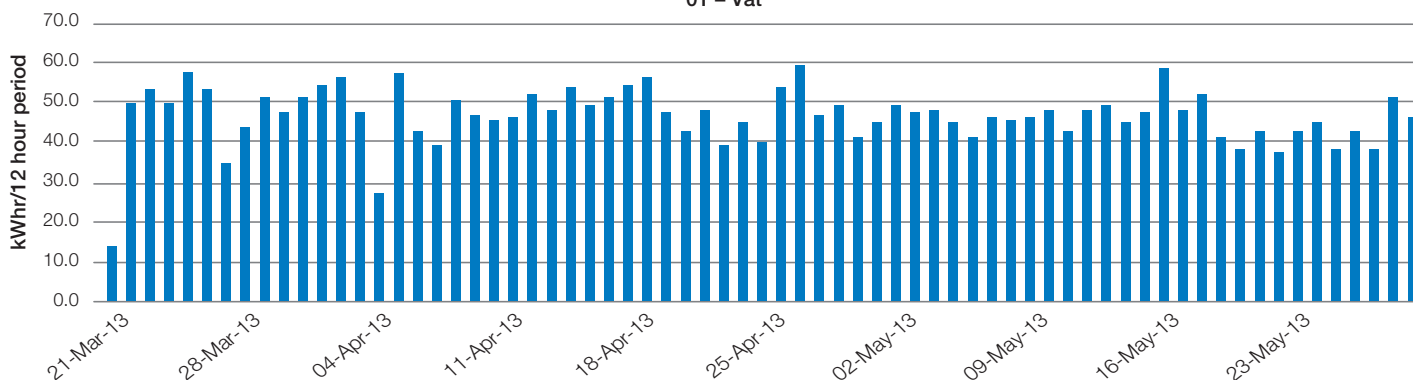


Table 1: Energy use for milking cooling, Vasse

04 – Hot Water

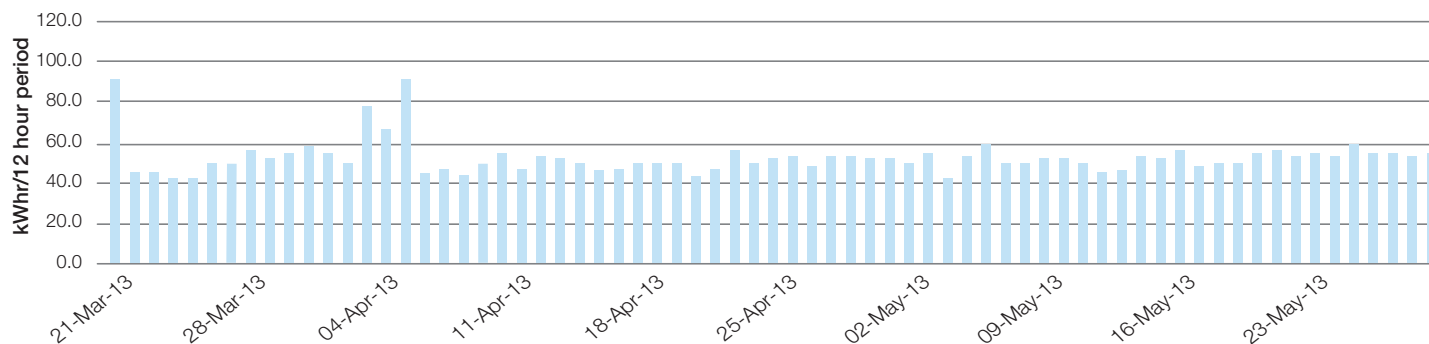


Table 2: Energy use for hot water, Vasse

Comparing the energy use before and after the vat was installed at the dairy showed that the vat is working well with a high co-efficient of performance on the compressors but the savings on hot water were relatively small due to the increased volume required for cleaning. This information gave Michelle and Scott the confidence to look at other areas for energy savings as they are comfortable with how their vat is consuming energy. Michelle and Scott can use this information to focus their effort on future investment into saving energy on farm such as looking at how to improve energy use for heating water.

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Dairy Australia Limited ABN 60 105 227 987
 Level 5, IBM Centre
 60 City Road, Southbank VIC 3006 Australia
 T + 61 3 9694 3777 F + 61 3 9694 3701
 E enquiries@dairyaustralia.com.au
dairyaustralia.com.au

