



## Industry project for smarter energy use

### Case Study: Revisit of NSW farm assessments

As part of the national energy assessment program *Smarter energy use on Australian dairy farms*, a number of farmers in NSW were revisited that had had an energy assessment in the past to assess the changes in their energy use, check if they had taken on assessment recommendations and to investigate if there were any savings as a result of investment in energy efficient technology.

A key energy efficiency financial investment that was reviewed in great detail was those farms that had installed a variable speed drive (VSD) to their vacuum pump.

There are many benefits to VSDs. They reduce energy use of pumps (up to 70% in some circumstances), they lead to less wear and tear on the machinery, there is noise reduction during milking and a controlled vacuum can lead to better udder health of the animal.

An analysis of the energy savings made since a VSD was installed was done on 6 farms. The table below highlights the key savings of kWhr/year for the farms.

With savings between 40%-62% on kWhr/year since a VSD was installed this equates to a financial saving for the 6 farms assessed of between \$1080 and \$3108 based on an average price of \$0.22 kWhr. This does not include the reduction in costs associated with machinery wear and tear or take into account benefits from improved udder health.

Energy assessor, Nick Bullock from NBA Consulting said “the revisit assessments have been a great way to see if the farm was making a real saving from their investment. With the 6 farms we assessed, the installation of the VSD have greatly improved their energy use but we would strongly advise farmers to have an energy assessment and do their homework on the equipment and their system first before going to the lengths of installing any new equipment.”

Table 1: Energy use before and after installing a VSD.

Farm	Before		After			
	Type	kWhr/yr	Type	kWhr/yr	Saving kWhr/yr	% Savings
1	Lobe	16754	Lobe	6307	10447	62%
2	Vane	19623	Lobe	8278	11345	58%
3	Water ring	8532	RSU Vane direct drive	3414	5118	60%
4	Vane	27923	Vane	13797	14126	51%
5	Vane	11634	Lobe	6826	4808	41%
6	Vane	12286	RSU Vane direct drive	7374	4912	40%

#### Acknowledgements

This activity received funding from the Department of Industry as part of the Energy Efficiency Information Grants Program. Dairy Australia gratefully acknowledges the contributions made by many people in producing this factsheet. Dairy Australia also acknowledges the co-funder who made this factsheet possible, the Department of Industry.

Published by Dairy Australia Limited.

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