

Lion Landcare Grants 2015

Project Case Study



Recipient:	Negus Enterprises Pty Ltd
Project Name:	Negus Dairy VSD Vacuum Pump - Saving Energy & Waste Oil
Location:	Tutunup, WA
Funding Amount:	\$10,000
Objective:	Reducing energy consumption on the dairy farm

Negus Enterprises is a dairy business that operates across 465 hectares of land in Tutunup, Western Australia. The farm has a large herd with roughly 1300 cows and usually produces up to 9-10 million litres of milk annually.

The aim of the project was to reduce energy consumption on the dairy farm. Energy is one of the biggest inputs on the farm, and in particular, running the vacuum pumps. Vacuum pumps are an essential part of the milk parlour process, as amongst other tasks, they are needed to create a vacuum and draw milk from udders and facilitate flow to the necessary tanks. Due to the large herd size the vacuum pumps were running at full speed for up to 17 hours per day including washing.

The project involved the installation of a VSD (Variable Speed Drive) vacuum pump. This VSD vacuum pump ensures that energy is only used when the vacuum is required at a given time, rather than being used consistently at full speed. As the dairy operation runs for a substantial time every day this had an immediate positive impact on energy saving.

The VSD vacuum pump reduced energy consumption up to 40% of original power usage. Furthermore, a stronger vacuum improved the efficiency of milking from the cows and helped increase milk flow productivity. The new pump reduced total noise pollution in the farm, allowing for a quieter working environment and less noise around the farm, ultimately increasing quality of life for both humans and cows.

Another positive outcome of the project is that the new VSD pump installed does not require oil to generate the vacuum. Previous machinery at Negus Enterprises required the usage of roughly 4-6L of engine oil per day which ended up being 1460L per year. This oil would then become waste oil after it was produced. Thus through the obsolescence of oil the new VSD vacuum pump has saved at least 1000L of oil and prevented the production of an equivalent amount of waste oil.

This project has not only reduced overall energy costs, but reduced sound pollution and prevented the usage and wastage of over 1000L of oil per year, and in turn reduced the environmental footprint of Negus Enterprises.

Quote:

"The benefits of putting in this new pump certainly show instantly."



LION

– Oscar Negus

“Thanks to the installation of a VSD (Variable Speed Drive) Vacuum pump there has been an immediate energy reduction with an estimation of up to 40% of original power usage saved.”

– Oscar Negus

“The project is important because it will reduce our overall energy costs and have a reduced environmental footprint. We are conscious of our environment in modern dairying. Our dairy runs for a substantial time every day so this will had a huge positive impact.”

– Oscar Negus

Photos:





Oscar Negus with the new VSD vacuum pump.