JOINT MEDIA RELEASE

Monday, 24 August 2020

Energy Savers audit shows increased efficiency & major savings for Mackay farm

A cane farm at Seaforth near Mackay could see increased production yields and major energy cost savings, thanks to recommendations of an audit conducted by CANEGROWERS Mackay under the Energy Savers Plus Program Extension.

The audit is one of 180 farm energy audits completed on farms throughout Queensland under the Queensland Farmers’ Federation (QFF) program funded by the Queensland Government.

CANEGROWERS Mackay Area Committee Chairman, Joseph Borg, said the energy audit program had been a great way for growers in the Mackay and Plane Creek regions to identify ways to reduce their farms’ energy consumption and costs at a time when energy and water prices are continuing to rise.

“With the help of CANEGROWERS Mackay’s agricultural economist, John Eden, and electrical engineer, Ron Coomer, the recommendations have been tailored to the needs of each particular cane farming business and have included a mix of more efficient equipment, introduction of solar energy and a tweaking of farm management practices,” said Mr Borg.

“Cash is tight in the industry at present because of low world sugar prices, and the cost of electricity and water, but some recommendations, such as checking that a pump is working efficiently or changing a tariff, are relatively inexpensive and can achieve impressive cost savings,” he said.

“Moreover, in this particular case, through purchasing new and second hand equipment and working to improve yields through more effective use of water and some farm management changes – to increase returns, not just reduce energy costs - the payback period for the total investment can be reduced to under two years.”

QFF Chief Executive Officer, Dr Georgina Davis, said the Energy Savers audits delivered options for farmers to reduce their energy consumption and carbon emissions as well as make important bottom line savings and productivity gains with the assistance of a co-contribution grant.

“More positive results are expected as the program moves to an implementation phase. We encourage participants to consider their farm audit and take up the available rebate to make improvements and realise energy savings.”

Mackay cane farm audit

Harvesting 9500 tonnes of cane a year, the 144 ha Mackay farm is statistically above the zonal average for the region. However, interrogation of the available farm data found that even though yields in this zone have remained consistent over the past 10 years, there has been a slight decrease on this particular farm due to the crop mix being weighted towards older ratoons.
Changes in rainfall distribution across the district in recent years have not helped, and the irrigation infrastructure on the farm has proved unable to meet crop demand at critical times.

The grower had been using a 10 cm (4 inch) winch irrigator driven by two dam pumps which delivers water at a constant high pressure. The audit recommended introducing two variable speed drives (VSDs) on the pumps as well as replacing one of the pumps with a more efficient pump with a higher flow rate to enable the operation of two low pressure booms working in tandem.

For a total investment of around $47,000 to purchase two second hand low pressure booms and install the VSDs, the estimated energy savings are expected to be 30,710 kWh per year at a cost saving of $7,979 per year, paying back the investment in under six years.

In addition, the audit recommended a 30 kW ground-mounted solar system to provide an offset against running the pumps continuously on the grid and to increase savings because of the ability to irrigate during the day. The audit factored in the export of energy to the grid when the farmer is not irrigating, further lowering his energy bill.

This investment of around $21,000 (after Small-scale Technology Certificate rebates) would be paid back within 3.5 years, thanks to energy savings of 60,000 kWh and cost savings of $6,002 per year. The audit also recommended an immediate tariff change from T62 to a combination of T20 and T33, saving a further $1,635 per year.

Due to the restructure of the irrigation infrastructure and improved efficiencies there is now the ability to increase water use from 159 ML to 265 ML. Water Use Efficiency has improved from 7.7 t/ML to 8.8 t/ML. The grower has the added benefit of irrigating the crop up to the sixth ratoon profitably. This compares with the situation prior to the audit, when irrigation returns were negative after the third ratoon.

By following all recommendations of the audit, pumping costs across all systems would be reduced on average from $117.73 per ML to around $37.89 per ML, even with the increase in water use from 1 ML/ha to 2 ML/ha.

Best of all, thanks to the productivity gains, the expected payback period for the total estimated costs of all improvements decreases from 4.7 to 1.6 years, and with a Return on Investment of 64 per cent.

For more information about the Energy Savers Plus Program Extension program or how to improve your on-farm energy efficiency, visit the website: www.qff.org.au/energysavers or contact the energy savers team by email: energysavers@qff.org.au

The Energy Savers Plus Program Extension is delivered by the Queensland Farmers’ Federation with support and funding from the Queensland Government.

Contact: CANEGROWERS Mackay Area Committee Chairman Joseph Borg, 0427 504 118

For technical detail regarding the audit: John Eden, (07) 4944 2600