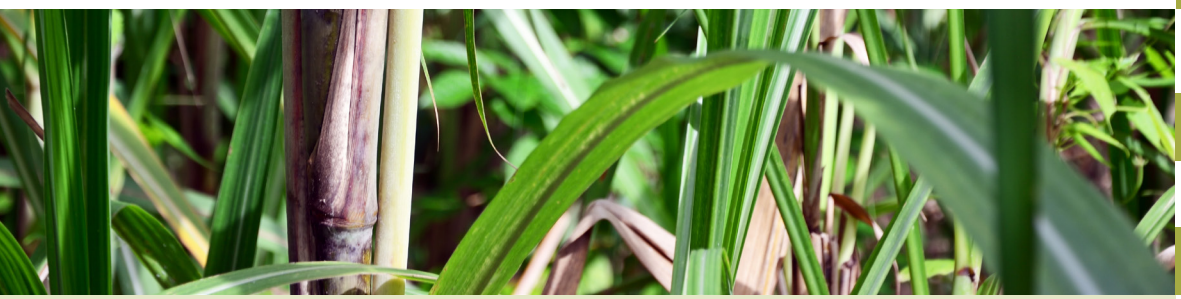
Energy Savers Plus Program

targets significant energy savings for

Queensland Cane Farms

POTENTIAL SOLUTION

AVERAGE ENERGY SAVINGS 50%



Key facts

Farm / Industry

Sugarcane

Product

Sugar Cane

Location

Queensland

Case study focus

Industry and Technology

Solution

Install solar systems, pumping and irrigation upgrades and new LED lighting

Summary

The Energy Savers program aims to assist farmers to reduce energy costs by supporting the accelerated adoption of improvements in on-farm energy use. This case study summarises the outcomes from audits conducted on 52 Queensland Sugarcane farms taking part in the Energy Savers Plus Extension Program.

Collectively the total energy consumption consumed from the measured areas on the 52 farms was 5,131,314 kWh at an annual cost of $1,384,169 resulting in emissions of 4,156 tonnes of CO_2-*e*.

Opportunities

The main opportunities identified on Cane farms include:

- **Pumping and Irrigation**- Savings from Variable Speed Drive installation, pump replacements and maintenance and changes to irrigation design and automation.
- **Lighting and General**- Replacement and retrofitting of lights with LEDs along with infrastructure and general changes.
- **Solar Systems**- Ranging in size from 5-100kW systems.

Table 1. Technology Recommendations and Savings in the Cane Industry.

Recommendation	Total	Energy Savings (kWh)	Cost Savings ($)	Capital Cost ($)	Average Payback (Years)	Emission Reduction (CO^2-e)
Pumping and Irrigation Upgrades	126	1,694,152	797,126	3,304,497	5.2	1,372
Lighting and General	33	267,287	134,945	420,123	4.2	217
Solar Systems	27	605,131	158,546	583,142	3.8	490
Total Cane	186	2,566,570	1,090,617	4,307,762	4.4	2,079
Total Recommendations (All Sectors)	665	7,459,015	2,817,342	12,784,670	6.85	6,042

The Energy Savers Plus Program Extension is funded by the Queensland Department of Energy and Public Works.

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Table 1 highlights that total energy savings of 2,566,570kWh were identified in the audits.

Cost savings of $1,090,617 and an estimated 2,079 tonnes of CO_2-*e* could be removed per annum. At a capital cost of $4,307,762 the average payback was 4.4 years.

Additional value adding from the energy audits showed how an increase in water delivery, and in some cases energy consumption, shows a potential increase in production and profit with a reduction in energy consumed per unit of output.

Table 2. Pre and Post Audit Metrics.

Metric	Pre-Audits	Post-Audits	Reduction (%)
Energy Consumption (kWh)	5,131,314	2,564,744	50
Energy Costs ($)	1,384,169	293,552	78
Emissions (CO_2-*e*)	4,156	2,077	50

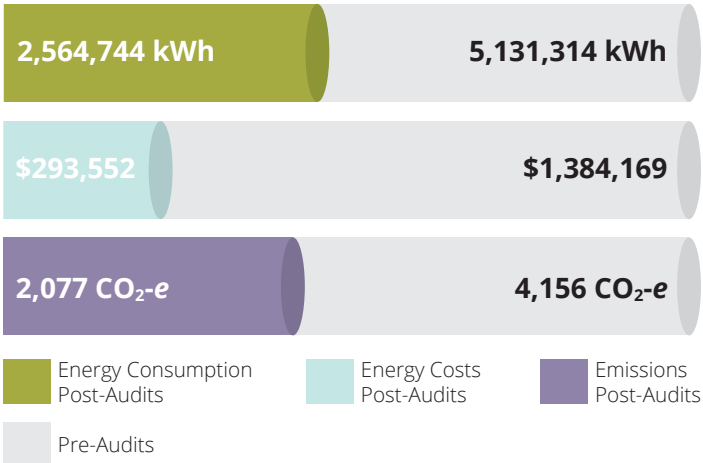
As installation of the recommendations is made within the industry, measurement and verification will be undertaken, and case studies will be updated to include the actual energy savings.

Energy Audits for your Business

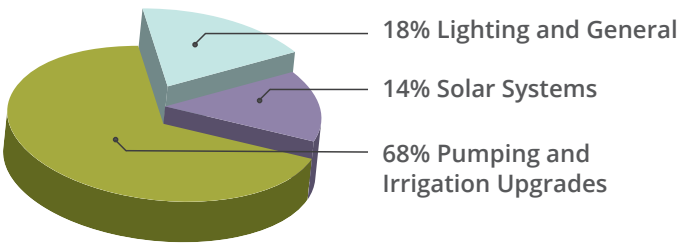
An energy audit is a great way for a business to identify the most effective way to cut costs, reduce emissions and boost productivity.

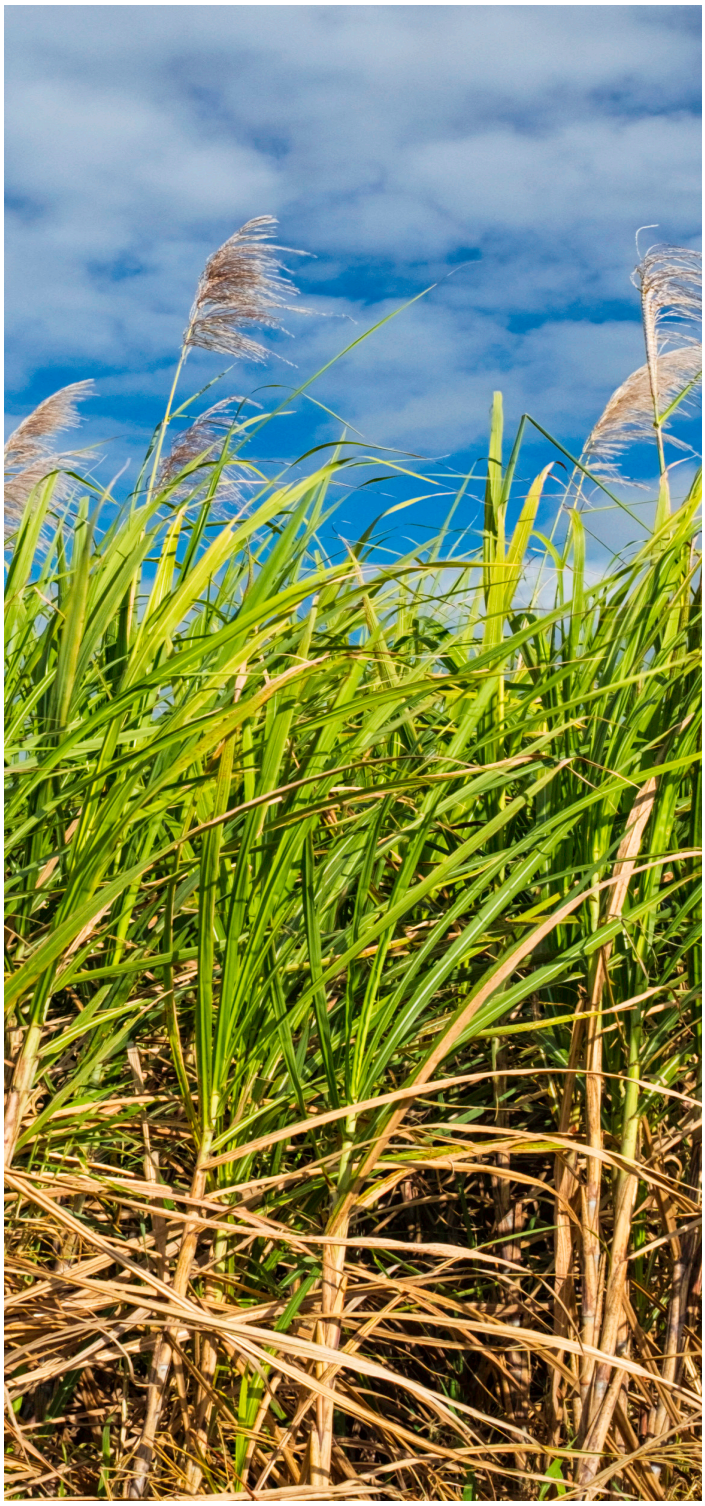
See other case studies including sector case studies and technology case studies at the website: www.qff.org.au/newsroom/case-studies/

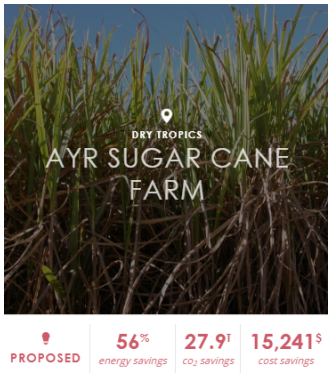
Graph 1: Energy Savings Pre vs Post Audits

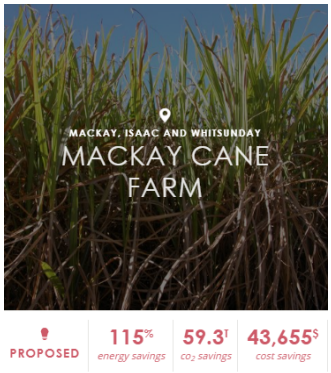


Graph 2: Energy Saving Opportunities in Cane









Case studies | To see how other agriculture businesses are saving energy and costs, go to **www.qff.org.au/energysavers**