

# Irrigators Energy Savers Program

targets significant energy savings for a Queensland horticulture farm

PROPOSED SOLUTION 

Potential energy savings 

## Key facts

### Farm / Industry

Horticulture

### Product

Vegetables

### Location

Gatton

### Irrigation

Drip and micro irrigation

### Pumps

Centrifugal

### Solution

**Proposed:**  
Replace pump and motor

## Farm profile

The farm is located in Gatton and comprises a number of lots used to grow different vegetables throughout the year. The irrigation method is a solid set ring main with sprinklers and is supplied by two pumps.

Irrigation continues year round with the irrigation time dependent on the season and type of vegetables being cultivated.

### Current irrigation

The irrigation system comprises:

- Two centrifugal pumps (55kW and 15kW) supply water from the main on-site dam to the irrigation ring main. The main dam is at the highest point on site.
- Several bore pumps are used on site but these were not assessed as part of the audit.

### Action

An energy audit of the pumping systems evaluated:

- replacing the pumps and motors.

### Results

Of the energy saving opportunities evaluated, one initiative was identified with potential savings of 20% and a payback period of 7.2 years (approx).

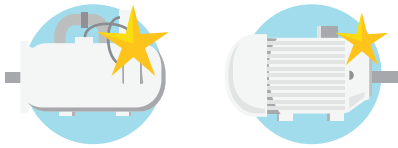
The energy audit report included a recommendation to replace the 55kW pump with a more energy efficient pump and motor.

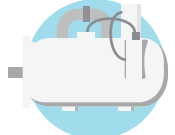


The Irrigators Energy Savers Program is funded by the Queensland Department of Agriculture and Fisheries



# Recommendations

The energy audit recommendations are summarised below:

Solution	 Pump and motor replacement
Est. energy savings (kWh/annum)	8,350
Est. operating cost saving	\$2,088
Est. cost to implement	\$15,000
Payback period (years)	7.2
Est. demand reduction (kW)	11
Est. energy savings	20%

Forecast savings in pump operating costs	 Existing system	 Upgraded system	 Reduction in operating costs
Annual pump operating cost	\$66,026	\$63,938	-
Cost to implement	-	\$15,000	-
Operating costs for first 8 years	\$528,208	\$526,504	\$1,704
Annual pump operating cost for years 9 to 10	\$66,026	\$63,938	\$2,088
<b>Total pumping costs for 10 years</b>	\$660,260	\$654,380	\$5,880

## Farmer feedback

The farmer is investigating pricing to implement the audit findings and achieve the energy savings identified in the audit report.