



Electric vs diesel pumps: Looking to the future of irrigated sugar

With ever-increasing energy prices, growers are looking at ways to reduce their costs and many are considering replacing their electric motors with diesel. But is this the most cost effective solution in the long-term?

The latest research into energy solutions for irrigators conducted by economists at AgEcon found there are four key considerations for those looking at investing in electric or diesel motors: capital costs, maintenance costs, energy costs and the effect of government policies.

This work is funded by SRA in partnership with the Queensland Government Department of Agriculture and Fisheries.

“On the one hand, it may be tempting for growers to look at the current electricity prices and think that switching to a diesel motor makes economic sense. However, when diesel prices begin to creep up or get to prices seen in 2008, the grid is by far the cheaper option,” said economist Janine Powell, partner at AgEcon.

Ms Powell explained there are also several other factors to consider which make the decision to switch a complex one.

“Capital costs account for 5 percent of overall system expenditure; for sites where electricity infrastructure is not already in place, diesel may in fact be the cheaper option,” she said.

Another consideration is the maintenance options on any irrigation system. While electric pumps require far less maintenance than diesel motors, often the servicing is unable to be done by the farmer and local contractors may not be available when you need them. A solid relationship with the local electrician is a plus.

Electric pumps are 50-80 percent more efficient than diesel pumps. However, diesel pumps become more efficient as their size increases i.e. efficiency increases as horse power increases.

The dynamic nature of government policy initiatives around energy makes them a complex consideration for irrigators. There are two key incentives available for renewable energy investment: Renewable Energy Certificates, which either offset the capital cost of the installation; or provide an ongoing income stream and, the solar ‘feed in tariff’ (FIT), which may be another income stream for eligible sites.

One benefit of electric pumps is that solar can be integrated into the system relatively easily and, where these sites are grid connected, there is potential for a FIT.

Economist Jon Welsh, partner at AgEcon, says considering investment in “micro-grids” - systems which integrate a number of different energy sources (eg solar, grid-connected power and/or diesel motors), may be one way for irrigators to future-proof against rising energy costs.

“Remaining grid connected and adding a micro-grid can give options,” said Mr Welsh.

“By installing cost effective solar now, much of the daylight demand can be offset..

“Diesel generators also have a place in offsetting shoulder and peak rates, supplementing the solar in cloudy or inclement weather.”

Mr Welsh added that with the cost of batteries continuing to fall dramatically, energy storage could be added to a micro-grid in 3-5 years when they become more cost effective.

“It is well worth investigating whether current incentives for investing in solar will pay-back at a viable rate for your operation,” he said.

“Integrating solar may provide a level of energy security for your farm and act as a buffer against rising electricity prices and/or diesel price hikes into the future.”

Watch the recording of the Reducing energy costs in irrigated cane webinar <https://www.youtube.com/watch?v=rQw-KxJRVzq> on the SRA YouTube channel.

SRA Annual General Meeting

SRA Members can learn more about the outcomes of the SRA Annual General Meeting (AGM) via the SRA website (www.sugarresearch.com.au/sra-information/investor-information/). This includes the outcomes of resolutions in relation to Constitutional enhancements, the election of new Directors, and the re-election of existing Directors.

SRA to commission targeted investment for the Australian sugarcane industry

Leading scientists, researchers and research institutions are invited to submit their expressions of interest (EOI) to undertake new research activities that will target specific productivity, profitability, and sustainability requirements of Australian sugarcane growers and millers.

Sugar Research Australia (SRA) is seeking EOIs for new commissioned research investment for 2019/2020, with a focus on specific initiatives identified by the SRA Board.

CEO Mr Neil Fisher said SRA is targeting research concepts within three specific areas only:

- Key Focus Area 5 (Milling efficiency and technology).
- Specific activities within Key Focus Area 1 (Optimally adapted varieties, plant breeding and release): **Developing advanced technologies for measuring sugarcane fibre qualities; and Developing and validating High-Throughput Phenomics Platforms (HTPP) and technologies for improving the efficiency of sugarcane clonal selection in the breeding program.**
- Transformational Research concepts for step-change across SRA’s Key Focus Areas. Transformational Research is looking for innovative research, development and adoption that, if successful, would result in substantial step-change to industry practice, profitability or sustainability. New and emerging ‘innovative’ technology is anticipated from this work.

Mr Fisher said that EOIs must align with SRA’s five year Strategic Plan (2017/18 to 2021/22).

More information on this targeted investment is available from the SRA website at www.sugarresearch.com.au/research-investment/research-investment/.

You can also contact the SRA Research Funding Unit on (07) 3331 3333 or fundingunit@sugarresearch.com.au.

“We encourage researchers and institutions with significant expertise in these targeted areas to submit their expressions of interest so that we can deliver profitability, productivity and sustainability outcomes for the Australian sugarcane industry,” Mr Fisher said.

Coastal Farming Systems Roadshow 2018

Growers and industry technical staff are invited to join the Coastal Farming Systems team from the Department of Agriculture and Fisheries (DAF) and guests for a series of meetings being held to discuss the latest research, trial findings and innovative technologies for sugarcane production and what it all means at an on-farm level. See CaneCalendar for further details of the event to be held on 12, 14, 16 November.