

Project overview



Development of an energy conservation and cost reduction tool for the Australian red meat industry

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Brief summary

This project involved the development of an energy conservation and cost reduction tool for the Australian red meat industry; www.myenergy.tech. The software tool enables users to receive objective and personalized direction on solutions to reduce heat and power costs.

Objectives

Develop a tool to enable rapid assessment of energy cost reduction options for producers, lot feeders and processors.

Project outcomes

All Energy Pty Ltd has developed a web-based tool to enable producers, lot feeders, and processors to assess the viability of a selection of proven technologies to reduce energy cost and greenhouse gas emissions.

Benefits to industry

The tool has increased the ability of business owners and operators to improve energy management practices by providing access to rapid assessment of options and access to proven technologies to reduce energy consumption or offset fossil fuel use. As an example, sub-100 kW solar PV arrays can provide power for between 4 – 6 cents per kilowatt hour (c/kWh).

The tool reduces the time and cost of concept level feasibility studies from several months and thousands of dollars of effort to less than a minute at no cost.

There is an energy cost saving module on the producer page in the tool for electric farm vehicles (quad bikes and all-terrain vehicles (ATVs)) and solar PV and batteries. Cost benefit analysis reports can be generated containing the cost of a new electric vehicle, amount saved per annum on fuel, and estimated simple payback.

The solar PV module in the tool where a cost benefit analysis report via email of the estimated capital cost of your solar PV system, amount saved per annum on power, and estimated simple payback is calculated online by inputting the farm pumping data of number of pumps, rating, and hours per day each pump is run for and the current power source.

Future research and recommendations

The tool is designed to be continually revisited as a technologies advance and energy markets change. All Energy Pty Ltd will update the capital cost correlations and economic metrics to keep the tool current to users, this effect will be best observed in the solar PV and battery modules.

There exists the opportunity for creating and releasing additional modules on this platform for example; Covered Anaerobic Lagoons (CALs); Paunch /organics palletisation and use as boiler fuel; hydrogen for transport fuel and as a method of valorising wastewater.