

## Case studies



### Madowla Park – Barmah

The 4,400 hectare canola farm, Madowla Park, operates an integrated closed-loop farming system, which includes export heifers, beef, seed crops and a biodiesel production facility.

A closed-loop system provides everything that goes into production and uses everything that comes out. Madowla Park grow the crop, process the crop, make the biodiesel and use the biodiesel and by-products.

At full production, Madowla Park produces 1.5–2 million litres of fuel and 3,000–4,000 tonne of canola meal annually. Other by-products, mainly wash water and glycerol, are used to generate power to run the farm and the biodiesel plant.

Madowla Park had a payback period of three to four years.



### West Gippsland Dairy Extension

A family owned and operated dairy farm in west Gippsland invested in developing efficiencies to lower their energy costs.

The farm, which runs 530 cows on 260 hectares has installed a 60 kilowatt solar system to power the dairy, a wood fired boiler to heat the hot water for the dairy and a vat wash.

The excess power is sold back in to the grid.

As a result, energy costs have reduced from approximately \$9,000 to \$3,000 a quarter.



### Murphy Fresh Hydroponics – Mansfield

Murphy Fresh Hydroponics is one of Victoria's largest hydroponic tomato growers producing more than three million kilograms of tomatoes every year in glasshouses.

Murphy Fresh commissioned an approximately \$600,000, six megawatt thermal generator system.

Every year they buy \$450,000 of waste hardwood logs from local sawmills, representing a saving of 50 per cent from burning coal briquettes.

Murphy Fresh had previously considered installing an LPG system and while the capital cost of installing a biomass system was about eight times more expensive than LPG, they save \$1.65 million a year on fuel costs by using biomass over LPG.

The payback period was approximately two years.



### Australian Tartaric Products – Colignan

Australian Tartaric Products have been using waste from local wineries since the 1990s, distilling it to make grape spirit and extracting tartaric acid from the distillery waste which they then sell back to the wine industry.

They are now taking reuse to the next level, powering their operations with steam generated by burning the processed grape waste including waste grape skins and pips. This exciting step is a first for Australia and has almost eliminated the need to use LPG on-farm.

Total energy costs are down more than \$2 million a year. And carbon emissions are down by about 10,000 tonnes of carbon dioxide equivalent a year.