Grape power fuels manufacturer
Australian Tartaric Products

After operating for a year, the biomass boiler at Australian Tartaric Products’ Mildura plant has saved it $2 million on its gas bill alone.

A Victorian manufacturer has saved millions of dollars on gas and electricity in the past year alone by powering the factory with grape waste from the wineries of three states.

Australian Tartaric Products (ATP) in Colignan, near Mildura, installed the grape biomass boiler last year at a total cost of about $10 million, including public subsidies.
The company, which supplies tartaric acid, cream of tartar and food-grade spirit to the wine industry, previously ran a gas-powered steam plant but found itself crippled by its energy costs as the gas price rose.

ATP chairman Malcolm Taylor said the company started feasibility studies in 2008 - when biomass boilers were “pretty well unheard of” - and discovered that grape waste was one of the best raw materials possible. The global financial crisis intervened but by 2011, Mr Taylor knew the company “had to make a decision”.

“As the cost of gas went up and up, the cost of production was going up and squeezing the margin considerably,” Mr Taylor said. “All the indications were that it was going to potentially become uneconomic to produce.”

For a comparatively small operation, employing around 45 people in regional Victoria, the energy costs were huge: about $2.5 million for gas and $500,000 for electricity. ATP’s natural tartaric acid was also facing competition from cheaper synthetic alternatives from China.

The cost of the boiler was partly subsidised by public grants: $1.7 million from the federal government and $1.8 million from the Victorian government. It is expected to generate a return on investment after five years and have a productive life of 20 years.

After operating for a year the boiler has so far saved ATP about $2 million on its gas bill alone. It has also delivered additional savings in electricity, since the boiler also provides about 60 per cent of the plant’s electricity. The environmental benefits include the massive reduction in carbon emissions and the fact that 90,000 tonnes of grape waste have been put to good use in the first year alone.

Although ATP would have installed the boiler anyway, Mr Taylor said the government grants encouraged them to install the electricity generator.

The beauty of the system for ATP is that the company already has the grape waste because of its core operations.

Tartaric acid is a necessary ingredient in winemaking. It occurs naturally in grapes, and is extracted from the waste from winemaking - lees, desludge and marc. ATP takes the leftovers from wineries from southern NSW down to the top of the
Barossa Valley in South Australia, turns them into calcium tartrate and then further refines them into tartaric acid in the form of small white crystals. The manufacturing process requires the factory run on steam.

While the lees and desludge are reduced to virtually nothing, there is a substantial amount of spent marc left at the end. The biomass boiler burns this waste to create steam to power the factory.

So ATP, which already makes use of a grape by-product, then burns the by-product of the acid-making to power its operations.

ATP estimates it supplies 70 per cent of the winemaking tartaric acid used in Australia, and close to 100 per cent of the natural variety.

The parent company of ATP is an Italian company, and the boiler was designed and manufactured in Italy by Cannon Bono Sistemi. Two teams of Italian specialists lived in Mildura and supervised local workers in the construction over 12 months.

Clean Energy Council policy director Russell Marsh said the ATP project was a great example of the sort of innovation Australia needs.

“Looking to the future, some of the largest opportunities for bioenergy are in waste-to-energy projects, like the Australian Tartaric Products plant,” Mr Marsh said.

“In 2013, bioenergy generated 2400 gigawatt-hours of electricity, or just over 1 per cent of Australia’s total energy generation.”

Mr Marsh added that many sugar mills are also cutting their operating costs by producing their own energy from sugar cane waste.