

HARDWOOD SAWMILLING

In Brief

An Energy Saver audit helped the family owned company, Machin's Sawmill, identify how to optimise the way equipment in the mill operates to improve energy efficiency and reduce costs, and to evaluate the real benefit of installing solar panels. Implementing the main audit recommendations will save Machin's Sawmill \$45,000 a year on electricity costs, with an average payback period of two and a half years. Some of the opportunities involve minimal cost, and one simple opportunity was implemented immediately, saving \$3,500 per year.

Total Audit Results

- annual energy cost savings potential of \$49,599
- 141 MWh reduction in electricity purchase from grid
- 66 MWh of electricity efficiency savings annually
- 75 MWh of self-generation annually
- 30% reduction of annual site energy consumption
- 64% reduction of annual grid energy consumption
- 156 tonnes of greenhouse gas emissions avoided annually

The Whole Story

Wingham company Machin's Sawmilling commenced operation in 1914, and has had a long history in the local area. The mill relocated to the current site in 1955. The hardwood sawmilling industry has faced numerous challenges over the years, making it more and more difficult to remain competitive. The move from hardwood house construction to almost exclusively pine reduced the market for rough sawn hardwood, and now competition from imports of cheap hardwood floor boards and decking from south east asia has put downward pressure on prices.

Increasing restrictions on availability of local timber has pushed log prices up, squeezing the processing margin. The hardwood sawmilling industry has been in decline in recent years, and many smaller players have closed or been bought out and shut down by large scale operators to take over the licences to purchase timber from state forests.

A discussion with Andrew Clarke from BCW Carbon and Energy led Machin's Sawmilling to the Office of Environment and Heritage (OEH) Energy Saver program.

The desire to reduce energy costs to help remain competitive prompted Machin's Sawmilling to undergo an Energy Saver audit. The findings of the audit have enabled Machin's Sawmill to reduce their costs in ways which would otherwise have gone unnoticed.

Ralph Blenkin, who owns and operates the hardwood timber business, was impressed with the outcome of the audit "I was surprised how simple it was to eliminate a substantial portion of our electricity bill, and I was amazed how much we can save without spending a massive amount of money"



In the sawmilling business, most smaller operators are relatively hands on, and have little time for additional activities. Ralph found that “the audit process was straightforward, and didn’t interfere with our day to day operation”

The Energy Saver audit recommended a number of different methods to reduce cost, ranging from simple electrical alterations to more efficient equipment options and renewable energy generation. The list below is a summary of the type of opportunities that were identified:

- Reducing conveyor speeds
- Linking dust extraction to saw control circuit
- Reducing compressed air leaks
- More efficient air compression
- Connecting equipment to alternative electricity supply to take advantage of the lower of two tariffs on the site.
- Conveyor start and stop automation
- High Bay lighting upgrade
- Replacing motors and v-belts with higher efficiency options when they need replacing

Quotes for implementing electrical changes were provided by Machin’s local electrical contractor, and a cost benefit analysis was provided for each opportunity. The company was able to implement one simple opportunity immediately, saving \$3,500 per year, and has started a priority list to begin implementation of the remainder.

The audit also identified that Machin’s Sawmill electricity tariff structure, together with their ideally positioned roof area, provided a good opportunity for optimum return on solar photovoltaic electricity generation.

An Energy Saver audit provides more than just a list of opportunities. It provides estimated costs and savings, with those selected for more detailed investigation developed into a business case that provides a basis for capital expenditure decisions. Going through the process provides an opportunity for the business to learn more about managing their energy, and how much it really saves. “Not only did the audit provide opportunities to save money, it encouraged us to look at our operation in a different way”