

# Reclaiming Power over Energy

By Mark Peart

**M**embers of the Otago-Southland Forest Products Group (OSFPG) are poised to collectively shave thousands of dollars a year off their energy bills, in many cases just by thinking smarter and more efficiently. And while the wood processing sector down south gets set to reap the benefits of a collective approach to energy management, the benefits could also spread through the industry around the rest of the country.

"Potentially what we can do is use this as a pilot and take the same message out to other regions around New Zealand," says group spokesman Brent Apthorp.

The OSFPG is made up of all major forest owners and wood processing companies in the region, recently complemented by the addition of Blakely Pacific as the one forest owner in the region not already on board. With the region's port authorities and local authority economic development agencies represented around the board table, the OSFPG is proving a potent force in the development of the local forest industries.

The group was set up to look at joint projects for the development of the forest products industry in Otago and Southland, which perhaps weren't being covered by national industry associations, says Apthorp.

He says the energy management initiative arose out of last year's problems with energy spot pricing. Group members began looking collectively at electricity or energy purchases. "But because of the volatility and complexity of the electricity market, industry didn't know a lot about the structure and how they potentially could achieve savings."

With the assistance of the government-funded Energy Efficiency and Conservation Authority (EECA), seven sawmills plus veneer processor Southland Veneers arranged for Christchurch-based energy consultant Kees Brinkman to carry out comprehensive audits of their operations. Although not an OSFPG member, Rayonier NZ's MDF plant at Maitua has also been involved in the project, using Brinkman's services.

Brinkman has compiled draft reports on each of the sites, with Wenita's Rosebank mill at Balclutha, Otago Lumber at Mosgiel, Niagara Sawmilling, Invercargill and Blue Mountain Lumber at Tapanui already mulling over theirs at time of writing. Audits for Craigpine Timber,

Pankhurst Sawmilling, Southland Veneers and Lindsay & Dixon were due to be completed by the end of April. The reports include recommendations for possible efficiencies and invite responses from the individual companies.

Says Brinkman: "The report gives them a energy split so the sawmiller knows where their energy is used. There is a list of energy management opportunities, [broken down into those] with a payback of one year or less, one to three years, and then those that are not feasible or won't get a payback before three years.

"Each site gets an overview of how much it pays for energy and what the specific costs are



## Basic Measures Deliver Sawmill Savings

Wearing his Blue Mountain Lumber hat, general manager Matt Hitchings chuckles down the phone when asked where the sawmill (in Tapanui, West Otago) could benefit most from its recent energy efficiency audit.

Pressed for details, he says, "It's a bit embarrassing really... some of them are [so] basic, like, do you leave your chains running when you go and have lunch or are you best to turn them off when you have lunch but not when you have smoko?"

At the larger end of the scale there are things like "playing with the pitch on the fans in our kilns", an opportunity to make the plant's boiler more efficient, and plugging air leaks.

Wayne Lindsay, site manager at Wenita's Rosebank sawmill in South Otago says they have identified some areas where they will make some significant savings, but "in terms of how much, it's a bit early to say".

"As well as it giving us a better awareness of our energy use, we're in a position where we'll be able to replace our fan motor [which sucks sawdust and planer shavings from the mill into a silo for storage] with a much smaller one. Basically we'll cut consumption in half from that."

That's half of about \$20,000 worth of power a year. "That's probably the biggest single one we can think of.

"The biggest thing the energy audit is doing is making us think about how long things are on, so there is a saving to be made from turning something off. We made significant savings last year before the energy audit, but we got to the point where we had run out of ideas.

"We have our own electrician – he'd gone round looking at things, educating people to turn lights off and things like that, and putting timers on where you couldn't educate them."

Rosebank reduced its energy use by 9% in the previous year, and Lindsay believes it can match that this year.

"Because the motor is about to die anyway, when we replace it, we'll replace it with something much more energy efficient... that's what we got from the audit. The auditor said when you're replacing plant, look at energy efficiency, not capital cost. That's probably the message that we've got. In this case, the savings definitely justify the capital investment. The new motor will cost less than what we would have if we replaced like with like."

for particular energy sources... coal, wood, etc. "We also look at the relationship between production and energy consumption. If the relationship is close, things are quite controlled, if not then they aren't, and we do a more detailed energy split covering components of the processing chain, including a review of tariffs, different charges and proposed energy budgets."

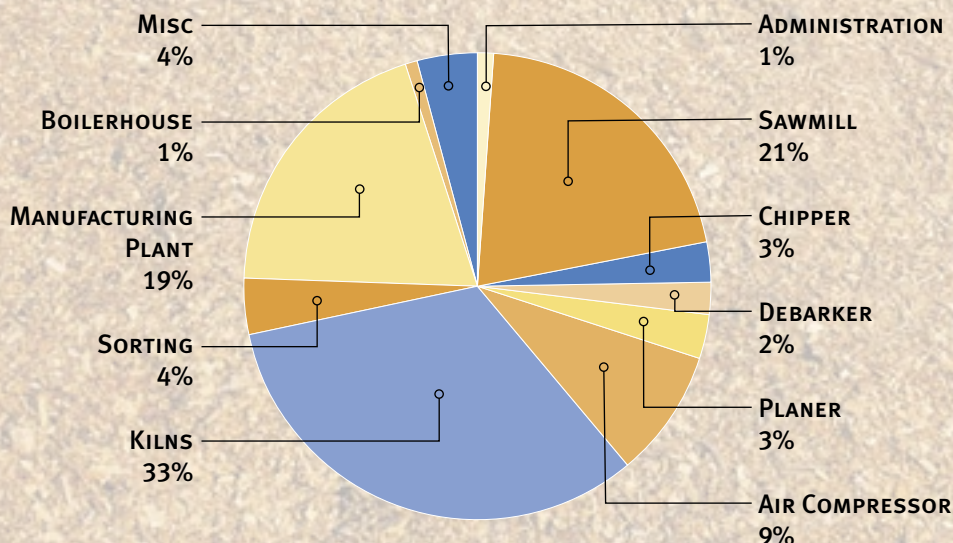
EECA says energy audits are a crucial part of the energy management process as they determine how efficiently energy is being used, identify energy and cost-saving opportunities and highlight potential improvements in comfort and productivity. Options for improvements are costed so businesses can weigh the cost of improvements against future energy cost reductions, and prioritise them in terms of cost and benefit.

South Island account manager Alastair Hines says EECA's Emprove programme has different levels of funding available according to energy spend.

"Ongoing funding is available under the energy audits grants scheme, which has been available for some time. Under this scheme the amount you can apply for is calculated in tiers, based on the cost of an audit. For the first \$10,000, someone can apply for up to 50% of the cost of an audit and so on, on a sliding scale. Savings in energy costs from the recommendations plants implement have to equal at least 70% of the savings achievable from implementing all 'highly cost-effective' energy savings opportunities. These are savings with a simple payback of less than 12 months involving usage and demand."



## Typical Sawmill Electricity Consumption Summary



Sites can choose which opportunities to implement but they have to be verified. The audits have to be a whole or part of a facility, not just of a particular process or technology.

Another scheme announced by the Government late last year is a fund to reduce electricity use at major sites, defined as those using more than 10 gigawatt-hours (GWh) a year. This finances electricity audits and investigations into electricity savings opportunities.

Hines said the fund, which is nearly halfway through its two-year life span, has \$1.6 million available to assist companies carrying out electricity-only audits. It's bigger than the energy audit scheme – and more flexible. Apart from the fact that the focus is on electricity alone, the maximum funding per site is \$50,000, including funding of up to 75% of the audit. There is no requirement to implement an auditor's recommendations, but there is a requirement to produce an "action plan".

Hines said 10GWh a year is equivalent to an annual electricity spend of \$1 million. "The key is if we can save 5% on a site like Rayonier, that's a significant saving. We'd have to find a whole lot of wee sites and throw quite a bit at them to get that same number."

A company with several plants totalling up to 10GWh usage can access the fund for large users. "Because there are different owners in the OSFPG, we're still working through that and we're going to make something happen for them.

"Through our experience we can prove that most businesses can save typically between five and 30% on their 'easy' costs. Once companies have actually seen what they're capable of doing, you don't actually need incentives any more, they're away racing."

Hines said EECA is working through "a couple of challenges" associated with the funding of the audits for the OSFPG but is adamant none would miss out on funding of some sort.

OSFPG chairman Matt Hitchings says the initiative wasn't done through desperation, but rather a desire to "do the smart thing for our business". He says while a purchasing collective is an option down the track, individual plants are focusing on how best to be energy efficient. "There are certainly short-term, quick, opportunities that we've identified but then that leads on to long-term individual benefits and also long-term joint benefits as well. ➤