CASE STUDY | MANUFACTURING SLINKSKINS

SLINKSKINS LTD
HAZLETT & SONS GROUP
NEW ZEALAND

WOOD ENERGY SOUTH

Driving costs out of the business was key to a Southland tannery's decision to invest in wood burning technology to power its processes.
The Slinkskins tannery is easily the biggest industry in the rural Southland town of Thornbury, situated inland between Invercargill and Riverton.
A family owned and run business for more than forty years, Slinkskins processes animal skins into high quality leather for export to the world's leading fashion houses.
But that requires heat, thermal energy to power processes such as skin wash-downs, drying and dying. Those energy needs had for many years been met by two steam boilers fired by liquid petroleum gas (LPG) trucked in in bulk.

Market changes

The price of LPG, however, was rising while at the same time Slinkskins faced new business challenges that required managing director Jonny Hazlett and his team to adapt.
New Zealand's dairy industry was, until a more recent slump in prices, booming. That opportunity lured many sheep farmers to convert to dairy, with an unfortunate side effect for the tannery.
The volume of conversions meant Slinkskins main raw material, lamb skins, were in increasingly short supply. Fortunately, the company also processes lightweight calf skins and plans to do more of that in the future.
Either way efficiency across the business was vital.
"We had to become more efficient in what we were doing," Hazlett said. "Our previous energy source, LPG, was costing far too much."

Energy equations

The business had to research how to best meet its future energy needs.
The Slinkskins team were put in touch with wood energy experts Spark Energy by one its existing clients in Dunedin.
Spark Energy markets and installs high-efficiency wood boilers and supplies fuel-grade wood chips to commercial heat users throughout New Zealand.
Detailed analysis was undertaken of historical energy use to project the return on investment for modern wood boiler technology.
The projected savings were highly favourable and an innovative design would allow the existing LPG installation to be retained for peak load support and to generate steam. The project stacked up

The solution

Spark Energy designed and built the new burner system and 540kW boiler and worked closely with the team at Slinkskins to integrate it within the current operation.
A large 12,000 litre buffer tank was specified to minimise the use of the peak load boilers during the morning's peak use of hot water.
Managing the system was made easier with a smart controls package to give close control over how the new wood-fired heat source would interact with the existing LPG-powered steam boilers. Even better, the system could be monitored and controlled remotely, over the internet.
Finally, a massive fuel hopper with a working capacity of just under 100 square metres is serviced with a Fliegl wood chip delivery system.
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A bankable outcome

The new system was commissioned in July 2014 and, on top of its efficiency and operational benefits, it is saving the company several thousand dollars a year.
Indeed, the burner is so efficient only 0.2 percent of the fuel ends up as ash.
Slinkskins now burns locally sourced, renewable fuel, delivering jobs and activity into the local economy and supporting a government-backed drive to create a regional wood energy hub in Southland.
"The project was made easy by Spark," Hazlett said. "It's achieving the savings predicted."

KEY FEATURES

A 540kW KOB Pyrot base load, wood chip boiler
12,000 litre buffer tank
Wood fuel handling agitator system with 100 square metre hopper
LPG peak load boilers were retained and integrated into the new system
Fuel-grade wood chips are supplied by Spark Energy

KEY BENEFITS

Much lower fuel costs help the business operate more efficiently and adapt to changing market conditions.
Ease of management through smart controllers and across the internet.
Existing LPG investment retained to boost peak-load capacity and generate steam for the tanning process. Renewable, locally sourced fuel supports regional business. Very low ash residues.

SECTOR APPLICABILITY

Any primary industry process that requires local thermal heat generation.

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