

Laminex finds innovative solution to \$700,000 annual industrial waste bill

SUSTAINABILITY COVENANT CASE STUDY

Since 2006, Ai Group has provided funding assistance for 34 sustainability and environmental projects involving 62 participating organisations. More than \$1 million was invested in grants in the past three years.

A new Sustainability Covenant with EPA Victoria was launched in March 2009, with funding of \$3 million over the next three years.

Key outcomes

GRANT: \$80,000

CURRENT ANNUAL WATER AND WASTE COSTS

WATER CONSUMPTION: \$6,880

DISPOSAL OF LIQUID WASTE: \$500,000 - \$650,000

DISPOSAL OF SOLID WASTE: \$120,000 - \$130,000

WASTE WATER TREATMENT PLANT

CAPITAL COST: \$578,342

ANNUAL OPERATING COSTS: \$25,000

PAYBACK: 1.78 YEARS

REDUCTION IN WATER CONSUMPTION: APPROX 70%

REDUCTION IN LIQUID WASTE DISPOSAL: APPROX 95%

REDUCTION IN SOLID WASTE DISPOSAL: APPROX 80%

An innovative study has developed a four-step process to remove chemical contaminants from waste water at the Laminex plant in Victoria that should allow the company to eventually recycle around 800 KL of water per year which currently goes to prescribed industrial waste (PIW).

The \$80,000 study, funded by the Australian Industry Group (Ai Group), has developed recommendations for a treatment plant that could progressively remove chemicals including organic nitrogen, ammonia, formaldehyde and salts through the processes of solids flocculation, microbiological treatment, ultrafiltration and reverse osmosis.

Reduced demand for building products in the current economic climate along with a capital cost of nearly \$600,000 have meant that the project will not proceed in its initial intended form. The company continues to look for other inventive solutions for its waste disposal, according to Peter Burton,



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Further information

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Production Manager – Paper Treating with Laminex.

“Over time, state government legislation has increased the costs of waste disposal, putting pressure on industry to reduce waste, recycle it or find another use for it,” Mr Burton said.

“Seven years ago our waste disposal cost around \$200,000 a year. It’s now around \$650,000 to \$700,000,” he said.

Solid PIW is responsible for up to \$130,000 of this cost, and liquid PIW for up to \$650,000.

Laminex’s waste is generated when laminates are produced from several layers of resin-impregnated paper and overlay papers which are then applied to particle board and MDF for use in the furniture industry.

Different types of Laminex products require separate resins, and manufacturing changes on a weekly cycle mean that the resin from each process is flushed into two effluent pits during resin changeover and cleanup.

Waste water is transported off site for disposal, while solid waste is removed during periodic cleaning of the pits.

Previous chemical studies had found solutions for removing most contaminants apart from formaldehyde, but the Ai Group-funded study identified a means of doing this during the four-step process.

Mr Burton said he was not aware of any similar process being developed in Australia or overseas.

“The first three steps in this process would get rid of all the chemicals in the water, leaving a bit of salt in it. If we wanted to send it to trade waste, we would have to use the fourth step and get all the salt out of it.

“However we could have recycled the water with salt in it, so it would actually be easier to recycle than go to trade waste. Recycling the water was our original goal with these studies.”

If the water was recycled, a small quantity of solid matter would remain. This dry sludge would be put back into the effluent pit, and removed with other solid waste.

