

EFFICIENCY INNOVATION SUPPORTS A BRIGHT FUTURE



Key outcomes

Savings

Disposal fees, labour & production costs

Savings of approx. **\$4,000 p.a.**

Volume reductions

Trade waste volume

Savings of approx. **75,000 L p.a.**

Water use

Savings of approx. **75,000 L p.a.**
(90% reduction)

Labour time

Savings of **100 hours p.a.**

Cost and payback

Cost of labour & equipment **Approx. \$1000**

Payback period **Approx. 3 months**

Other benefits

- OHS benefits
- Improved quality of wastewater
- Ability to use wastewater within the process

Further information

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Home built recycling solution provides over \$4000 in savings each year.

Hank Bos Glass is a small Frankston company that cuts and shapes glass. The business employs 12 people, and has been in operation since 1965.

Director Will Kirkham is an innovative thinker who likes to explore opportunities to run his business operations more efficiently. His sensitive approach to resource use has resulted in Hank Bos Glass adopting a recycling system that accommodates the reuse of all offcuts, metal, paper, cardboard and glass. The business also uses recycled metal for all racks and trolleys on site.

More recently Will was inspired to design and build his own wastewater recycling system when he viewed a larger working model during a government industry tour.

Hank Bos Glass' home-built system acts as a filtration plant by separating the glass waste from the water. As a result, approximately 90 per cent of water used per unit of glass produced has been saved.

The separator water now goes through the new water recycling unit where glass fines are separated and the clean water is returned to the glass wash equipment. The glass-cutting machines no longer have to be cleaned out every week to remove the glass dust and the company has completely eliminated its polluted, used water that previously went down the sewer.

The system also saves labour costs, as there is no longer a requirement to discharge the wastewater and, with the higher quality water from the recycler being used for cleaning, there is no longer the need to wipe over the glass after washing. This saves approximately \$4000 per year.

Will sums up the benefits this way: 'Our machines stay cleaner, we've made savings in disposal fees, labour costs, production costs and we've done our bit for the environment.'

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The future looks bright

Hank Bos Glass is looking to move into larger premises in the coming year to allow for operational expansion. The business plan for expansion includes implementing similar water and trade waste reduction initiatives at the new site.



SAVE WATER, SAVE ENERGY, REDUCE WASTE AND SAVE MONEY! — HINTS AND TIPS

Save Water

Understanding where water is used and lost in your business provides opportunities to quickly save water.

- Can existing processes use less water? Vacuuming, sweeping and high-pressure trigger nozzle hoses can be just as effective as cleaning with water.
- Review tank & system cleaning processes to identify opportunities to automate or amend to minimise water required for cleaning.
- Minimise water use in cooling processes by recycling cooling water, using fogging nozzles instead of running mains water, and shutting off flow when not in use.
- Identify opportunities to reuse or recycle your rinse, waste and greywater – the final flush may be able to be used as the first rinse.
- Establish a regular preventative maintenance program for water pipes to ensure blockages are removed, and leaks and overflows are minimised.
- Reduce water pressure where possible to minimise volume of water lost to leakage.
- Install rainwater tanks for irrigation use.
- Use non-potable water for appropriate end-uses in place of potable water (for example, dust suppression, on-site toilet flushing).
- Replace existing fixtures with more water efficient fixtures (for example toilets, taps and equipment).

Save Energy

Energy source and use has significant impact on profitability, productivity and greenhouse gas emissions.

- Install variable speed drives (VSDs) on pumps and other equipment.
- Optimise your boiler performance with regular maintenance and tuning and consider insulation, fixing steam leaks and installing economisers.
- Optimise your compressed air systems through insulation, fixing air leaks and optimising operating pressures.
- Review your plant lighting including efficiency of lighting, motion and day sensors and removing unnecessary lighting.
- Ensure your hot water system is insulated and running at an optimal temperature.
- Explore heat recovery options in industrial processes such as collecting condensate for use as feedwater for your boiler or using waste heat for space heating.
- Assess your heating, ventilation and air conditioning (HVAC) by adjusting your thermostat dependent on the weather (26 °C in summer and 18 °C in winter). Ensure systems are switched off out of operating hours.
- Regularly review plant equipment as upgrading equipment can often improve productivity and deliver energy savings.

Reduce Waste

Reducing waste can save your business money as well as saving valuable resources and helping the environment.

- Choose products with less packaging and purchase raw materials in bulk to minimise packaging.
- Plan ahead and avoid waste by matching raw material quantities to batch sizes.
- Educate and involve all staff in waste minimisation projects with rewards for new and creative approaches.
- Regularly review causes of 'off-spec' product and adjust systems and processes to minimise these occurrences.
- Establish 'take back' loops with suppliers such as packaging waste, product, which is faulty, or at the end of its useful life.
- Minimise product residue in packaging by removing more raw materials.
- Avoid product spillage through installing conveyor and gutter guards.
- Evaluate product design and manufacturing processes to find ways to avoid producing prescribed industrial waste.
- Investigate whether your waste could be used as a resource elsewhere and find opportunities for reuse.
- Share recycling resources with other businesses in your community to reduce cost. For ideas, see www.wasteexchange.net.au.

Leadership and Life Cycle

Learning how to manage your product or service life cycle more effectively can uncover a wealth of business, environmental and social benefits.

- Life Cycle Management supports evaluation of design and business decisions with the goal of reducing impact over the entire life of a product.
- Encourage innovation and work with colleagues and business partners to discover new ideas and solutions for improving sustainability.
- Actively seek information to better understand and address life cycle issues as they impact your specific business operations.
- Encourage staff from all levels to get involved by establishing an environmental committee.
- Beginning at product design, assess the life cycle impact of your product or service, looking at all activities that go into making, selling, using, transporting and disposing of a product or service.
- Train employees in specific Life Cycle Management skills.
- Investigate the use of life cycle tools such as Life Cycle Assessment and Ecological Footprint.
- Explore outcome-focused partnerships with your suppliers and customers to enable product and service delivery with the least possible environmental impact.

These are just a few of the opportunities available to improve profitability, productivity and your business environment. For other helpful weblinks and information on what other businesses are doing to improve their resource efficiency and sustainability visit www.epa.vic.gov.au/outcomes