

# PERSEVERANCE PAYS OFF



## Key outcomes

### Prescribed industrial waste (PIW)

Reduction	<b>65%</b>
Net Reduction	<b>2.6 kg per tonne</b>
PIW to landfill per tonne of steel produced	
1999	<b>4.0 kg per tonne</b>
2006	<b>1.4 kg per tonne</b>

### Key initiatives implemented

- Installed a Filter Cake Drying Plant
- Partnering with waste service provider
- Glove and rag recycling
- Establishment of Environmental Committee
- Implementation of ISO 14001

### Further information

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## Reducing prescribed industrial waste to landfill by 65 per cent – continuous improvement provides significant savings.

BlueScope Steel's Western Port plant is located on a 700-hectare site at Hastings. The plant converts steel slab into hot rolled coil, which is then processed into a range of downstream coated, painted and uncoated steel products, including COLORBOND® steel and ZINCALUME® steel. Western Port's Hot Strip Mill has the capacity to process some 1.4 million tonnes of steel slab per annum.

With a formalised commitment to the environment dating back over 30 years, the Western Port site has been steadily applying new practices for waste management to its business. Over the past seven years, BlueScope Steel's Western Port site has more than halved the volume of prescribed industrial waste (PIW) going to landfill.

This significant achievement has resulted in PIW reductions from 4.0 kilos per tonne of steel produced (1999) to 1.4 kilos per tonne in 2006 – a reduction of almost 65 per cent.

This is especially significant given the increasing costs of PIW to landfill. Considering today's disposal costs, this reduction in PIW equates to a disposal cost saving in the order of \$0.75 per tonne of steel produced.

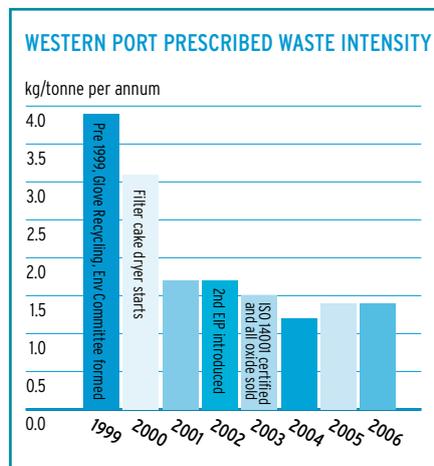
Waste savings of 2.6 kg per tonne of steel produced.

A key contributing factor to this waste reduction was the engagement of staff through the establishment of a site-based environmental committee focusing on avoidance and reuse. This team implemented an ISO 14001 Environmental Management System (EMS) and implemented initiatives such as glove and rag recycling programs. Additional significant waste reductions were achieved by rethinking the management of filter cake (a residue from the treatment of water used in the steel processes).

The site is committed to ensuring a sustainable future by continuously looking at ways to reduce all waste streams, leading to incremental – and where possible a step – change in performance.

BlueScope Steel Western Port President Greg Waters said, 'We are proud of our long-term environmental achievements and are pleased to be entering our third five-year Environment Improvement Plan (EIP) with the EPA. Our reduction in PIW to landfill is just one example of where our rigorous pursuit of improvements has delivered savings to our business, the environment and the broader community'.

The Western Port site has been involved in several EPA and Victorian Government initiatives over the past 10 years. These include participation in voluntary programs and undertaking a process integration study on site to identify further waste, water and energy reduction opportunities. The site has held an accredited EPA licence since 1996.



# 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](http://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](http://www.epa.vic.gov.au/outcomes).