BLUESCOPE STEEL
WESTERN PORT

ENERGY TEAM FIND SIGNIFICANT SAVINGS AT WESTERN PORT PLANT

Industry Greenhouse Program Key outcomes

Savings (p.a.)

Reduction in energy costs

Savings of approx. **$800,000**

Volume reductions (p.a.)

Reduction in Greenhouse Gas emissions

42,000 tonnes of CO_2-e
(Equivalent to taking 9,767 cars off the road)

Return on investment

Recovery of implementation costs **1.2 years**

Estimated outcomes Environmental Improvement Plan (2006—2011)

Savings (p.a.)

Reduction in energy costs

Savings of approx. **$600,000**

Volume reductions (p.a.)

Reduction in Greenhouse Gas emissions

20,000 tonnes of CO_2-e (in 2011)
(Equivalent to taking 186 cars off the road)

Return on investment

Recovery of implementation costs (2006–2011) **1 year**

Further information

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BlueScope Steel employees identify more than 100 energy saving ideas for evaluation by the Energy Team.

From steel slabs shipped from Port Kembla NSW, BlueScope Steel's Western Port plant produces cold rolled, metallic coated and pre-painted steel coils that eventually find their way into a multitude of products – cars, appliances, houses, and rainwater tanks are just some examples.

As one of Victoria's largest manufacturing operations and a significant user of energy, BlueScope Steel Western Port is aware of its need to help reduce its energy use and its greenhouse gas emissions.

In 2003 the team at Western Port audited energy use for each of its processes, as required by EPA. But instead of just contracting out the audit and action plan development, the Western Port team decided on a smarter approach. It put together a small Energy Team made up of its Principal Environmental Engineer, a combustion engineer with a passion for systems improvement, and an energy efficiency consultant to work intensively on the audit and the action plan. At half a dozen brainstorming workshops with Western Port employees from different areas of the plant the Energy Team posed just one question: 'If this afternoon you were told that energy was indefinitely restricted by 10 per cent tomorrow how would you run your process?'

More than 100 energy saving ideas were generated for the Energy Team to assess.

After estimating the costs, timelines and potential to reduce greenhouse gas emissions, 16 actions, estimated to save more than 36,000 tonnes of greenhouse gas emissions per year, were included in BlueScope Steel Western Port's 2003–2006 Energy Improvement Plan (EIP), with some other worthy ideas included for further investigation.

Saving **62,000** tonnes of CO_2-e by 2011

Equivalent to taking **14,418** cars off the road

The reduction in greenhouse gas emissions and energy costs has exceeded expectations – Western Port's greenhouse gas emissions decreased by 42,000 tonnes in the period of the Energy Improvement Plan, delivering not only environmental benefits, but impressive financial benefits as well.

With 11 more energy saving actions in its 2006–2011 Environmental Improvement Plan, BlueScope Steel Western Port is anticipating greenhouse gas emissions will be reduced by a further 20,000 tonnes per year at the completion of the EIP.

'At Western Port we continue to proactively seek opportunities to improve energy efficiency in order to reduce the greenhouse intensity of the steel products we produce. We are committed to helping to reduce greenhouse gas emissions.'

Barbara Bridger, Acting President, BlueScope Steel - Western Port

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EREP - BUILDING ON THE SUCCESS OF THE INDUSTRY GREENHOUSE PROGRAM

Industry Greenhouse Program highlights

Realising the business benefits of energy efficiency.

EPA Victoria's Industry Greenhouse Program is the first regulatory greenhouse and energy efficiency program for industry, and one of the first in the world.

Large energy using and greenhouse gas emitting sites have been required to undertake an energy audit and implement any actions with a payback period of three years or less.

The projected final outcome for the program at the end of 2007 includes:

- Reduction in GHG emissions of 1.23 Mt CO_2-e per annum, an average of 3.0% reduction in the annual GHG emissions for these sites (from a 2003 baseline)
- Annual savings of $38.2 million in energy costs for Victorian Industry with implementation costs of just $64.6 million.
- Average payback on implementation of just 20 months.
- A total of 1377 actions were completed under the program to the end of 2006, and this is expected to increase to 2436 actions by the end of 2007.

With growing pressure on all our environmental resources, it is increasingly important that companies use energy and water as efficiency as possible and minimise waste production and disposal.

Building on the success of the Industry Greenhouse Program, EPA Victoria is currently developing a new program, Environment and Resource Efficiency Plans (EREP) program.

Under the program, Victoria's largest industrial and commercial users of energy and water will be required to assess energy, water and waste flows and implement identified cost effective actions.

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 daylight 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) systems. Consider optimising thermostat settings depending on the 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.

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).

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.

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