

RR: Regional roundup

Plastics Industry Best Practice Programme

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Up until last year the BusinessCare Model was mainly being used by Councils. In 2003 the New Zealand Plastics Industry, through Plastics New Zealand, also became a BusinessCare partner. Plastics New Zealand is a non-profit trade organisation, which represents over 170 plastics manufacturers, raw material suppliers, service providers and recyclers. In 2003 we succeeded in seconding a full time facilitator for the industry with the support of the Sustainable Management Fund and Amcor PET & Closures Australasia, a plastic manufacturing company based in Albany, Auckland.

Jeremy Bardsley has now been seconded from Amcor PET & Closures for the past six months, with his company's generous support, as the Facilitator of what we are calling a Best Practice Programme. Jeremy has completed the Business Care Coordinators' training and at the end of this secondment will return to the plastics industry with an extensive knowledge of cleaner production and sustainable plastics at a much broader level than he would ordinarily have gained. While this means we will need to recruit and train another facilitator for our Best Practice Programme it does give us a fantastic way of directly building capabilities within the industry.

The Best Practice Programme is based on existing models with Regional Working Groups of companies from the plastics industry meeting every second month. We now have these groups operating in Auckland and Christchurch, with an Ashburton and Dunedin based company also taking part. Each company works towards improving their environmental performance by selecting and completing a project. A frequent failure of this kind of programme is the focus on short-term outcomes; so two important aspects have been built in:

1. Environmental Management Systems
2. Industry Monitoring and Benchmarking

This has resulted in a good proportion of the companies undertaking either ISO 14001 or Enviro-Mark as their project. This is something we actively encouraged to ensure a long-term commitment was being made.

We also developed an Industry Key Performance Indicators Survey in Excel format (go to www.plastics.org.nz/page.asp?section=for+members for a copy). All 24 of the companies participating in the programme so far have been required to complete this survey and we have used it to benchmark and report on their progress. This has been a big success. There is nothing like being given a graph showing you are less efficient than your competitors to get some real action! It also provides a source of satisfaction and pride for those that have been working hard on an area. It has also revealed some big

regional differences, water consumption in the South Island being much higher than in Auckland, for example.

From 2005 we will roll this survey out to the whole industry and start publicly reporting on industry benchmarks from 2006. Eventually we will be able to benchmark sectors within the industry e.g.: blow moulding and extrusion. It will also provide us with some tangible data to measure and report on our overall performance as an industry and to conduct international comparisons.

Like most other programmes we underestimated the time it would take to get projects clearly defined by the companies involved, especially as we have a combination of those who are just starting out, with several who have already been extensively involved with Energy Wise, Target Zero and other environmental initiatives and have already made many improvements. This has, however, turned out to be another really positive aspect of the programme with the larger more proactive companies providing a lot of useful advice and support to the others. The two biggest challenges facing us now are demonstrating some real positive improvements and ensuring that we keep the programme interesting enough to keep the companies involved.

Please go to our website www.plastics.org.nz if you want to find out more about other Plastics Sustainability Initiatives.

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Ministry for the Environment – project updates

Waste Line is a news publication from the Ministry for the Environment's Sustainable Industry Group. It provides information about work in the Ministry, directed at the implementation of the New Zealand Waste Strategy. The link to view this and other MfE Waste publications is:

<http://www.mfe.govt.nz/publications/waste>

RR: Recommended reading

The National Environmental Education and Foundation Institute for Corporate Environmental Mentoring: Environmental Mentoring: Benefits, Challenges and Opportunities. This paper examines the benefits of different types of environmental mentoring programmes, including one to one (company), one to many (companies) and networking, to encourage positive environmental outcomes. The full report can be downloaded from:

http://www.greenbiz.com/toolbox/reports_third.cfm?LinKAdVID=19789

☞ *What other topics would you find helpful? Email us at enquiries@businesscare.org.nz, or call Carole Inglis on 09 - 486 6721*

Measuring water use

Water may represent a significant cost to the companies you are working with, both in inputs and outputs. The following gives some pointers on what to look for and how to measure as well as some tips on efficient water use.

Water measurement

Measuring water inputs is straightforward, using flow meter and/or cost records. BUT after use, water is rarely just water: it can contain:

- heat or coolness
- pH: acidity or alkalinity
- chemical residues
- suspended solids
- oils and fats

So, when measuring water and wastewater, you will need to measure not only volume, but also temperature and other relevant constituents.

Sampling liquids

- manual - by scoop, bucket, etc
 - Important to sample in turbulent zone
- automatic - by vacuum pump or mechanical, timed or flow proportional
 - position of sampler important
 - sample velocity important

Measuring flows

- bucket and stopwatch
- velocity in a drain or pipe - need area of drain or pipe
- V-notch weir or partial flume - head difference and flow
- mounted meters
- ultrasonic or 'mag flow'
- get help from the council trade waste team!

Eliminate unnecessary water use

- Sweep where possible rather than hosing using brooms, mops and scrapers to clean floors, pools, or outside areas.
- Pre-clean equipment or surfaces with a broom or vacuum cleaner before hosing down.
- Use non-water based cleaning systems such as vacuums.

Reduce water use

- Educate staff about minimising waste by turning taps and hoses off after use.
- Make it easy for staff to reduce water use by putting shut off valves on hoses so they don't have to walk to the tap.
- Use spray-adjustable nozzles on hoses and taps.
- Use process controls or timers to restrict water flow rates, including:
 - installing photo sensors in spray-rinse chambers
 - repairing or replacing defective photo sensors, process controls or timers
 - performing routine maintenance (clean and readjust).
- Use water flow restrictors on flowing rinses and all water using process.
 - Halve your toilet flushing water by:
 - flush controls so toilets stop flushing when the hand is removed
 - installing dual flush or low-flush toilets
 - reduce toilet flush capacity by installing a 'brick' in the cistern.

- Modify urinals to flush only on demand and replace urinals with low flush toilets in new buildings.
- Use low volume shower roses and taps.

Maintenance

- Regularly inspect for leaks and running water on taps, toilets, showers, all visible pipe work, all valves and plant rooms.
- Set up a system that makes it easy for staff to report leaks promptly
- Repair leaks immediately they are reported.

Efficient water use

- Use a proper ratio of water to cleaning agent and minimise the use of cleaning agents as far as possible.
- Use a proper ratio of water to materials to be diluted or mixed to minimise the use of water and materials as far as possible and provide staff with the right-sized container or calibrated dispensers to ensure this.
- Increase rinsing efficiency while reducing waste by:
 - using counter-flow rinsing
 - using spray rinsing
 - installing fog nozzles
 - using reactive rinsing
 - using agitation to ensure adequate rinsing, rather than more water.
- Maintain and optimise plumbing and other equipment using for directing water flow through the production facility, by improving water spray cabinet sumps and immersion baths to maximise water rinsing capabilities.

Re-use water

- Sequencing your process operations so that wastewater from one process can be used for another.
- Re-use cooling water for other purposes.
- Filter and re-use cleaning or process waters.
- Treat and re-use spent rinse or process water by recovery techniques

Outdoor water use

- Use alternative water sources for irrigation, such as rainwater, recycled wastewater from buildings, cooling water.
- In gardens:
 - use native plants rather than exotics to reduce water and chemical
 - control irrigation using timers, tensiometers (to determine when irrigation is necessary), soil humidity sensors, rainwater sensors to stop or reduce irrigation as appropriate
 - install sub-surface irrigation systems fed from waste or rain water
 - investigate landscaping to prevent weed growth and reduce evaporation
 - irrigate at night or evening to reduce transpiration water loss by evaporation through leaves).

Your comments ...

- ☞ Do you have favourite tips of your own? [Email us](mailto:enquiries@businesscare.org.nz) to pass them on and we will add them to this tip sheet – with full acknowledgement - before we put it on our website