

Cleaner Production Case Study

Cleaner production involves reducing the consumption of raw materials (including water and energy) and reducing the volume and toxicity of waste and other emissions.

Industry:

Construction

Pumperdump Pty Ltd

Pumperdump Pty Ltd provides the construction industry with an economical and environmentally friendly option for dealing with solid and liquid waste generated during concrete pours.

Company characteristics

Pumperdump Pty Ltd was formed in 2002 and is owned and operated by proprietor Richard Amadio. Pumperdump's concrete separator is the first of its kind worldwide. The concrete waste separation unit dramatically reduces the amount of waste concrete the construction industry sends to landfill, and stops concrete wastewater from entering stormwater drains.

Environmental successes

This is one of a series of case studies featuring companies that participated in the Department of Environment and Conservation (NSW) \$5 million 'Profiting from Cleaner Production' – Industry Partnership Program.

NSW companies are discovering that cleaner production not only protects the environment but also reduces operating costs, streamlines processes, boosts profits and improves staff engagement and morale.

Concrete recycling scheme ideal solution for waste

With over ten years experience working in the concreting industry, Richard Amadio is well aware of the environmental problems resulting from concrete pumping operations and wash outs. The concept of collecting both the solid and liquid waste product from concrete pours seems simple enough, but convincing the industry that good environmental management can save time and money was a challenge.

What did they do?

Introduce new technology and a new service

Richard Amadio sought funding from the NSW Government's Industry Partnership Program to help develop a revolutionary concrete waste separation unit (CWSU). After identifying the target market, Richard designed a customised truck that could take the CWSU to and from more than 55 building sites across Sydney over a six-month trial period.

Compact in size (1400 mm x 2100 mm x 300 mm), the CWSU is delivered to the construction site by Pumperdump and placed under the rear of a concrete pump hopper before a pour begins. The unit collects the concrete spilt during the pour, and enables the pump operator to wash concrete waste from the hopper directly into the CWSU. After the pour the CWSU is collected by Pumperdump. Solid waste is taken to a concrete recycling plant and the liquid is recycled back into a batching process or disposed of at an appropriate waste facility.

Changing industry behaviour

A number of construction sites were approached to trial the new technology and service. Initially industry stakeholders were sceptical

about absorbing any additional costs into their existing tight budgets. Managing waste disposal was usually left to the concrete contractor and this often resulted in solid waste being placed into on-site skip bins and liquid waste draining into the ground or stormwater system. Pumperdump's task was to help the industry see that it was worthwhile taking an extra step.

Why did they do it?

Pumperdump could see there would be quantifiable benefits for industry and for the environment. When the clean-up, disposal and labour costs of the traditional method of dealing with concrete waste were added up, and the cost benefits of reducing environmental and OH&S risk were taken into account, it was clear that the CWSU was a cost-effective and efficient service.

What are the environmental gains?

More than 80 concrete and building sites trialed the new waste service. In the six-month trial period the participating sites reported:

- there were no pollution incidents
- labour costs were significantly reduced
- time spent cleaning-up was reduced.

The amount of waste concrete the construction industry sends to landfill has been reduced: 345 tonnes of solid concrete have been recycled to date.

The system helps to prevent concrete wastewater from entering stormwater systems: 19,260 L of contaminated water have been collected and safely disposed of to date.

Pumperdump Pty Ltd has received numerous positive comments from industry stakeholders.

Pumperdump delivers a CWSU to the construction site and places it under the concrete pump hopper. It will collect all the solid and liquid waste generated during the concrete pour.

After the liquid waste has been separated the result is a solid waste product that can be recycled.



Testimonial:

'Pumperdump has really helped us. We're able to maintain a clean, efficient working environment and we can ensure that environmental concerns associated with waste collection are minimised.

Pumperdump provided an efficient concrete recycling service that helped us reduce crane lifting time and provided a complete solution for recycling concrete hopper waste.'

Chris Sofatas, Bovis Lend Lease

What are the costs and savings?

Labour, disposal and clean-up costs are substantially reduced. The companies trialing Pumperdump reported combined annual savings of \$10,000.

Growing demand

During the six-month trial period it was clear the Pumperdump service was gaining industry acceptance.

The company provided eight bins at the beginning of the trial in June 2003 and by October 2003 there was demand for 108 bins—a 1350% increase.

Where to now?

Pumperdump's operations within the construction industry are continually expanding. The company is aiming to encourage construction companies to improve their environmental and economic management in other ways.

More information

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