

insidewaste

ISSN 1837-5618



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The Official Publication of the Waste Management Association of Australia

Draft e-waste regulations out

THE DRAFT regulations governing the national collection of e-waste under the *Product Stewardship Act* have been released, including recycling targets and stipulations on the recovery of materials from recycled products.

"The draft regulations set out exactly what is required of importers and manufacturers of televisions and computers under the national scheme, including recycling targets and provision of reasonable access to collection services," said Parliamentary Secretary for Sustainability Don Farrell in a statement.

Key elements of the draft regulations include:

- Recycling targets for televisions and computers, to start at 30% in 2012-13 rising progressively to 80% by 2021-22;
- The minimum reasonable access requirements to establish national coverage of collection services, which will need to be fully met by June 2013;

• The annual threshold at which an importer or manufacturer is covered by the regulations, which is set at 15,000 units for computer products and 5,000 units for televisions and computers.

In addition, the regulations stipulate that 75% of the material recovered from recycling must be sent for processing into useable materials, from 1 July 2014. That time frame is designed to allow for the development of consistent measurement and reporting methodologies around the material recovery target. However, it is subject to a Regulatory Impact Statement before a final decision is made to include it in the regulations.

A 75% target is consistent with material recovery requirements set by the European Union under its Waste Electrical and Electronic Equipment (WEEE) Directive.

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Waste industry wins in WA

THE WA Waste Authority presented four awards at the WA Waste and Recycling Conference held in Perth in September.

In the category of waste reduction and resource recovery initiatives, Sodexo Australia, the local arm of giant French multinational Sodexo, took out the award for a resource recovery program set up in 2007 that now operates in 19 mining villages in WA.

The Shire of Dowerin won the prize for local government waste reduction initiatives, including its 'recycling trailer' mobile collection unit for dry recyclables.

The Waste Wise schools award went to Yuluma Primary for adopting a whole school environmental approach, including programs such as 'Zero Waste' lunch days.

Mindarie Regional Council's Peg Davies was honoured as a waste champion of the state, with honourable mentions given to Chris Byrnes (CARE) and Green Painters.

Inside Image



The winner of last year's Bricolage Design Prize, Tasmanian designer Shauna Mayben, used reclaimed industrial silver, scrap Perspex and magazine cuttings to create this piece. The prize was created in 2008 to divert waste from landfill by encouraging the creation of marketable, durable products from industrial waste materials in particular. This year's entries close on October 31.

ALOA calls for free permits

THE AUSTRALIAN Landfill Owners Association (ALOA) has called on the Federal Government to supply 100% free permits for the waste industry during the transition period to the emissions trading scheme in 2015.

A fact sheet on the ALOA website estimates the total liability placed on the industry will be \$264 million under an average future price of \$35.70 per tonne of CO₂e emissions.

On the basis of these figures, ALOA spokesperson Max Spedding said landfills should receive free permits to allow them to clarify technical issues and install emissions mitigating infrastructure during the transition.

Spedding said both private and local government owned landfill operators were unprepared for this "sudden regulatory change."

"At the moment, local government in Queensland, for instance, doesn't know how many of their landfills are going to be captured under the scheme... The figure is possibly 30 sites to come under the scheme," he said.

"Some of those sites are out in the sticks, in regional centres. Now none of those have got any preparation at all, to [National Greenhouse and Energy

Continued page 3

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Progress made on tyre stewardship

A REPORT and a model scheme for a national tyre stewardship program have been passed to environment ministers, after more than 12 months of deliberations between tyre industry stakeholders.

While the office of Parliamentary Secretary for Sustainability Don Farrell declined to release either the draft scheme or report to *Inside Waste*, he did comment on the scheme in a statement.

"The scheme will help reduce the amount of tyres that are disposed of through landfill, export, stockpiles or are illegally dumped. Under this industry-led scheme all parties in the supply chain – from tyre manufacturers, retailers, collectors, transporters, recyclers through to consumers – will have a part to play in ensuring tyres are disposed of in an environmentally sustainable manner," he said.

The working group that completed the report and model scheme comprised representatives from government agencies, various industry bodies representing up to 90% of tyre importers, all retailers and the majority of recyclers.

The chair of the working group, Gerry Morvell, said "although a market operates to dispose of tyres, most tyres end up as landfill, stockpiles or they are exported as whole tyres which are subsequently processed in environmentally unsound conditions".

When asked about the growing export trade of whole baled tyres, which has forced the closure of



a number of local processors, Morvell said strategies were currently being developed to tackle the problem.

"The rapid growth in the export of whole baled tyres was clearly undermining the gate fee for tyre recyclers in Australia. You couldn't have stability in the [tyre] recycling industry in Australia if the export of whole baled tyres wasn't tackled," he said.

"So we identified that as one of the complementary actions that needed to be addressed in parallel with the development of the scheme."

Other complementary measures identified by the working group include the need for national consistency in licencing for collection, storage and disposal of end of life tyres, and the development and enforcement of appropriate standards for all imported tyres.



In Brief

Special Announcement

WME Media, Australia's leading environmental business publisher, has launched its latest online news venture.

The WME Business Environment Network – BEN – is a customisable daily publication that allows you to choose the topics you want to follow, including the latest on waste and recycling issues.

BEN is an information hub, combining a daily news service covering policy, products and industry issues; expert comment from a panel of bloggers; a suite of practical resources to help environment professionals ensure best practice in their work; and much more.

BEN is also a network, initially with three 'channels' – Waste, Business and Water Sensitive Cities. Where BEN differs from other services is you can select exactly which parts of the network you want to access, in effect building your own electronic news service.

BEN Waste picks up from *Inside Waste Weekly*, which for almost four years has provided Australia's best coverage of the waste and recycling industries.

BEN Waste has also lined up a stable of industry contributors to provide expert comment from a range of perspectives, helping you get deep insights and beyond the news cycle.

If you have a story idea for BEN Waste, we'd love to hear from you. Email Alex Serpo at alex@wme.com.au. We hope you find BEN a useful addition to your professional lives.

– Ross May, Publisher

From page 1

Reporting Scheme] report, to start with, and then to respond."

Spedding said rolling out landfill gas collection systems would also take some time.

"Because of the supply of equipment and expertise, it's not going to happen overnight. It will take 1-3 years to roll out extensive gas collection across Australia," he said.

"There are probably 70-100 sites across Australia that need gas collection installed.

"We understand where we are in the process, we understand that the framework is probably untouchable... but other industries have been given free permits and we believe that a simple transition arrangement here would be to leave the [framework] as is, and to issue free permits."

Spedding also said projecting a future carbon price was a difficult issue for landfill operators.

"The price is \$23 in year one - and we receive waste in year one - but we wouldn't expect waste to have any emissions in year one. But it will have emissions from year two to year 30," he said.

"But as soon we get to 2015, we can buy permits through the auction scheme, and we know exactly what the cost is for all of the liability. We can

then pass that cost to the customer, and the customer will know that is a transparent process."

Genia McCaffery, president of the Australian Local Government Association (ALGA), said the organisation was supportive of the carbon price scheme, despite local governments bearing the majority of the estimated \$264 million liability.

"Our primary test for every policy proposal of the government and or Opposition in this area is 'will it reduce Australia's emissions?'," she said. However, McCaffery qualified this support by identifying a number of technical challenges for councils.

"The first challenge will be in defining who is covered and who is not covered under the scheme," she said, citing ambiguity over the prescribed distance for smaller landfills.

"A second issue for us is that there is no agreed, accurate way of actually measuring the emissions from landfills. This is a technical problem but every efficient pricing mechanism and market needs a robust accounting system."

"Organisations which are covered by the scheme will need to report on their emissions. This might be alright for the big corporations with large resources, but smaller councils that may be captured have very limited skills and capacity to undertake the reporting tasks."



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Profile

Ali Bigg

Ali Bigg is coordinator of Midwaste, a Voluntary Regional Waste Group with eight member councils on the Mid North Coast of NSW. Her primary role is to coordinate, administer and provide practical support for the work of Midwaste and its member councils in attaining more sustainable approaches to waste minimisation and management.

What was your first job in waste and how did you get it? My first role was with Port Macquarie-Hastings Council (PMHC). It encompassed Waste Strategy and Education for the council as well as administration of Midwaste. I had previously been working for Greening Australia regionally, managing a program that was towards the end of its funding cycle.

Favourite part of your job? The variety of challenges it presents and the constant learning curve that comes with being involved in the waste industry.

Least favourite? The fact our members have so little time to contribute to projects, and the inequities of service that are a reality in regional areas.

What's the strangest thing you've ever had to do in the line of duty? Not sure it was in the line of duty exactly, but it certainly raised the profile of the Midwaste group locally – being on the cover of the 2011 Port Macquarie White Pages and Yellow Pages. I was recognised for my work with Midwaste and for founding the event Green Day Out.

Complete this sentence: Zero waste is... something we should always aspire to, and perhaps start using as a slogan to engage consumers and producers rather than operating at the end of the line.

How will your current job change in the next five years? Increasingly we are seeing a focus on dealing with more difficult wastes such as e-waste, batteries, paint, mattresses etc. As a regional group, our focus is also shifting towards facilitating change in the C&I and C&D sector, while maintaining an education focus in the domestic areas.

Did you have a role model or mentor? Bob Bailey was Manager of Waste and Buildings at the council during my initial foray into the waste sector. The knowledge, experience and support he provided was invaluable.

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\$13 million for waste industry

QUEENSLAND Environment Minister Vicky Darling has announced \$13 million for councils for the building and upgrading of waste management infrastructure.

Darling said \$11 million in grants would be handed to councils this financial year for weighbridges, gatehouses, software, ticket printers, landfill surveys and other important equipment and activities. The remaining \$2 million will be provided next year.

The news follows industry reports that landfills across the state were unprepared for Queensland's waste levy, which is scheduled to begin on December 1.

Further, both the Waste Contractors and Recyclers Association Qld (WCRAQ) and the Australian Landfill Owners Association (ALOA) have said the exclusion of municipal solid waste from the levy will create market distortions in the state's south-east corner.

In a submission on the levy, WCRAQ said exclusion of self-haul waste would "result in significant market distortions and failure in the sector that will lead to job losses and small operator business closure". Meanwhile, a senior engineer from Golder Associates said the levy would potentially harm the viability of an AWT plant near Cairns.

"A survey of waste facilities in Queensland recently found many of them had facilities, such as landfill sites, with varying levels of quality," Darling said.

"A key part of the plan is to help local government develop a modern, sophisticated network of facilities



right across the state so we can better control waste.

"Already, \$4.1 million has been allocated to help local governments acquire infrastructure such as weighbridges, gatehouses, fencing and other ancillary equipment necessary to become levy ready."

The acting chief executive of the Local Government Association of Qld, Greg Hoffman, said the first phase of the funding had helped supply and install 60-tonne capacity weighbridge and associated infrastructure to 11 local governments.

He said the phase two funding would be supplied using a formula that would grant funds to local governments within the levy area based on population and land area.

The Department of Environment & Resource Management said the latest round of grants aimed to provide an incentive to invest in infrastructure tools that deliver accurate data collection and better site operations. The grants will be offered in funding amounts for four different sizes of waste facility.

From page 1

John Gertsakis from WSP Environment & Energy, who has spearheaded the television industry push, said the targets were "ambitious but realistic" and the scheme was "going to raise the hurdle for everyone, which is what is needed".

"There is work to do by many services providers and collection partners in terms of making sure that they comply with the environmental performance outcomes and the OH&S outcomes required of the interim standard."

According to the Regulatory Impact Statement for the scheme, TV and computer waste amounted to approximately 106,000 tonnes (16.8 million units) in 2007-08. These volumes are increasing and are expected to grow to 181,000 tonnes (44 million units) by 2027-28.

Approximately 10% of this e-waste

was recycled in 2007-08, some 10,600 tonnes. If 90% of the projected e-waste generated in 2027-28 was recycled, this would equate to 163,000 tonnes, more than 15 times the amount recycled in 2007-08.

The release of the draft regulations comes off the back of a series of papers at the 6th International Workshop on Chemical Bioavailability in the Terrestrial Environment, held earlier this month.

Experts from CRC for Contamination Assessment and Remediation of the Environment (CARE) argued e-waste in landfill is a primary source of persistent organic pollutants and heavy metals, which over time leach into the environment.

"I think a key outcome of the *Product Stewardship Act* is that it's pushing the boundaries with all stakeholders," Gertsakis said.



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Company Profile

SITA Australia

When was the company founded? SITA was created in 1919 to modernise domestic waste collection in Paris. Originally named Societe Industrielles des Transports Automobiles, SITA is now an international brand representing the resource recovery, recycling and waste services business of SUEZ ENVIRONNEMENT. SITA Australia has been an active player here for almost 50 years.

Where do you operate? Australia wide.

What are your key contracts/customers? SITA has over 43,000 commercial and industrial customers. Our major customers include government departments, education and hospital campuses, supermarket, retail and restaurant chains and more than 55 councils.

What sets your business apart? We consider ourselves leaders in resource recovery. Through our various activities, we take material streams that were considered waste and transform them into saleable, marketable products.

Number of employees? SITA has over 2,000 employees and contractors working across more than 100 sites and facilities.

Any new initiatives in the last few years, and plans for the future? SITA has actively built a portfolio of strategic resource recovery assets, now owning and operating six of the 13 composting Advanced Resource Recovery Technology (ARRT) facilities in the country, and Australia's first dedicated PEF (process engineered fuel) facility. In the past year SITA alone has: acquired WSN Environmental Solutions; launched a new national brand and identity; and has been presented with the 2011 Frost & Sullivan Asia Pacific Waste Management of the Year Award for the second time.

Who owns and runs the company? SITA Australia is a SUEZ ENVIRONNEMENT (60%) and Sembcorp Industries (40%) joint venture.

Website: sita.com.au

Contact for further enquiries: Simon Gardner Lee, General Manager, Strategy & Sustainable Development on 0419 561 197 or email simon_lee@sita.com.au

'Enormous' growth from levy

BENEDICT Recycling said the steep increase in the NSW waste levy has driven enormous growth in C&D recycling in the state.

Benedict is the largest recycler of C&D material in NSW, operating the \$35 million Chipping Norton resource recovery facility in south-west Sydney. Group recycling manager Darin Anderson said since the facility opened in 2007 two million tonnes of material had been recycled.

"The industry has seen enormous growth over the last few years with the steep increase in the waste levy," Anderson said.

"We have seen a number of new players to the industry in recent years."

The nature of C&D material makes it attractive for recycling.

"Most recyclers in Sydney charge by the cubic metre for the heavy material and by the tonne for the light material," said Anderson.

"When these guys have a 10 metre bin full of C&D waste, that can weigh as much as 10 tonnes. Now if they take that out to a landfill, they will be charged \$150 a tonne, [so] \$1,500."



The recyclers' volume-based charge offers a significant price advantage over landfill's mass charge.

Anderson also said new Office of Environment and Heritage (OEH) regulations were helping to stimulate the recycling industry.

"The new exemption testing requirements for all materials produced by recyclers is also seen as a step in the right direction by OEH, to ensure that the appropriate material is accepted in the first place," he said.

Benedict also announced the appointment of Michael Franks as facility manager at Chipping Norton after seven years as operations manager with Visy Recycling.

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SITA's new name, new brand

After 10 years SITA Environmental Solutions has launched a new corporate logo and changed its name.

The new logo includes the names of SITA's two parent companies, Suez Environmental and Sembcorp. Along with the new logo, the company has changed its name to SITA Australia.

"We have launched new brands, built new resource recovery facilities, expanded into new markets and recorded double digit growth over the last 10 years," said SITA managing director Eric Gernath at a ceremony to unveil the new look.

"SITA is in the position of being at the vanguard of maturing the old waste management industry into a more sustainable future."

Simon Lee, SITA's general manager for strategy and sustainable development, said the new logo, a change from its previous blue and green, "acknowledges our international experience and has been designed to ensure that it is instantly recognisable".

The re-brand comes after SITA's



SITA's Simon Gardner-Lee.

\$235 million acquisition of WSN Environmental Solutions in February. At the time Lee told *Inside Waste* the acquisition would strengthen SITA's business by bringing in nine residential council collection contracts in the Sydney area.

In addition to the contacts, SITA acquired 550 employees to add to its workforce of 1,000, and more than 100 trucks (mainly for the residential collections) to add to its existing fleet, which is primarily focused on commercial and industrial collection.

Compost buffer paper released

EPA Victoria has released a discussion paper on buffer distances for new compost plants in the southern state, calling for industry submissions. It is the first step in the review of EPA's publication 508, 'Environmental guidelines for composting and other organic recycling facilities', which has not been updated since 1996.

The discussion paper provides operators of commercial composting facilities and regulating bodies with updated buffer distances, rating criteria and tonnage groups for sites that receive more than 100 tonnes of organic feedstock per day.

It applies to facilities that use aerobic biological processes to compost source-segregated organic waste streams, and asks 10 questions in regard to how buffer distance should be determined in regard to composting facilities.

"Compost Victoria has asked for this review to take place, and that started 18 months ago," said Compost Victoria chair Mark Globan, who welcomed the discussion paper.

"We've been pushing the EPA to keep the ball rolling and get something out, because not having something to work with... slows the development of the industry [moving] towards higher technology.

"It's all moving in the right direction, but we need to make sure that it works for all involved, from industry to government and local communities."

The discussion paper was released in the context of a composting industry that is struggling to keep up with demand for organics processing in Victoria. In May *Inside Waste* reported on the lack of treatment options for organics, with around eight facilities closing their doors in recent years.

Globan said there are insufficient processors willing to take on food waste, with the exception of Veolia and NRS in Dandenong, and little prospect of relief.

"At the moment in metropolitan Melbourne it would be near impossible to get a facility built, based on the available land with sufficient buffer distances," he said.

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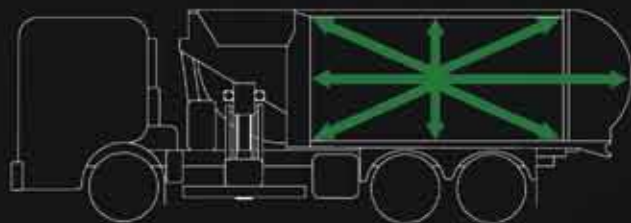
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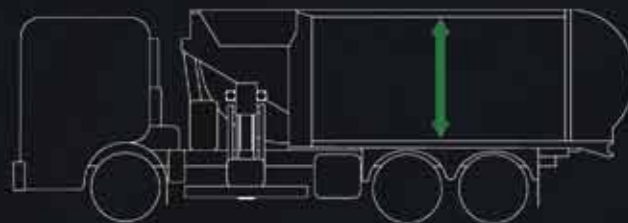
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Awards recognise excellence in landfill and transfer stations

THE WINNERS of the annual Landfill and Transfer Station Excellence Awards were announced at the annual Landfill and Transfer Station Conference held recently in Adelaide.

Established in 2007 and sponsored by the WMAA and Golder Associates, the awards recognise national excellence in waste management for both landfills and transfer stations.

The 2011 finalists were judged by Brian Fox-Lane (Fox-Lane Consulting), Sam Yuen (University of Melbourne), John Cook (John B Cook & Associates) and Ross May (WME Media, publisher of *Inside Waste*).

The landfill award

The landfill award went to the Brisbane Waste Innovations Alliance (BWIA), an alliance between Brisbane City Council (BCC) and Thiess Services that together manage the council's landfill and transfer stations. The award was given to BWIA for the best practice in management of Rochedale Landfill.

This site has been operating since 1993 and has accepted approximately

6.5 million tonnes of waste to date. It has landfill gas collection and an energy generation system rated at 4MW.

The site's performance and efficiency was proven recently when it rapidly and safely moved to 24/7 operations after Queensland's floods, managing in just four weeks approximately the same amount of waste accepted in a year.

The site accommodates the council's Towards Zero Waste Education Centre, upgraded in late 2010, with an educational officer teaching the community about recycling, landfill management, gas capture systems and more. The centre reopened in August 2010 and has seen more than 520 people participate in the education program titled 'Rethink your rubbish'.

The judges commended the site for its dedicated and effective leachate treatment plant, with well-designed and operated stormwater treatment systems. Other commendable features included a minimised work face,



The Resource Recovery and Waste Transfer Station at Bulahdelah.

mobile/litter screens deodorisers, batter mulching to minimise fugitive methane emission and substantial use of solar power.

The transfer station awards

The transfer station award features two categories: the Large Transfer Stations Award (over 2,000 tonnes per month) and the Small Transfer Stations Award (under 2,000 tonnes per month).

The Large Transfer Station Award went to Boroondara Recycling and Waste Centre located in Camberwell, Victoria. The site captures stormwater

via four 45,000 litre tanks and uses the water to wash down floors and waste collection vehicles. It has made the facility almost self-sufficient in terms of water.

The small transfer station category featured three joint winners: Wallan Waste Transfer/Resource Recovery Facility (Victoria), Port Augusta Resource Recovery Centre (SA) and Bulahdelah Resource Recovery and Waste Transfer Station (NSW).

The judges noted each one had commendable features.

The design and operations of the Wallan and Bulahdelah facilities reflected an emphasis on community recycling and waste diversion. Both incorporated environmental initiatives such as water sensitive urban design and the use of solar power.

Features of the Port Augusta facility included a system that carefully manages, separates and processes green waste into a number of products. The site also handles and disposes of asbestos, providing a key service in a remote location.

Compost award winners announced

DESCRIBED by WMAA as the "Oscars for the organic recycling industry", the organisation's Compost Awards were held in August. NSW Environment Minister Robyn Parker attended the event, where she had two key messages for the waste industry.

"What you need to know from the minister is that I understand that you're the good guys - we want to support and encourage whatever you're doing," she said.

"We want to work with you to make sure that we have the right mechanisms in place to encourage you to do the right thing - to keep doing what you're doing - to support innovation.

"The other thing that you need to know from me is that the cowboys out there - the settings are right to make sure they are pulled up. We will try and reduce landfill as much as we can and encourage recycling, without creating an environment where illegal dumping exists. I think waste management is very high on our agenda.

"Every 10,000 tonnes of waste recycled generates 9.2 jobs, so it's a job generator, and landfill is 2.8 jobs - so it's a huge difference. It's a story that I don't think people know and we will have to find ways to tell people."

Three national awards were given



out: The Compost Award went to Brisbane City Council for the 'Rethink your Rubbish' program, which focused on the environmental and domestic benefits of composting and domestic kerbside recycling.

The Most Innovative Recycled Organics Product Design Award was won by SITA Australia for its custom, cheap filter system for removing oversized materials prior to composting.

And the winner of the Leadership in the Recycled Organics Award was Penrith City Council, which was recognised for a closed loop recycling system for domestic organic waste, returning 9,128 tonnes of compost to the city's soils.

The sponsors for the awards were, respectively, Komptech Australia, Lincom, GCM Environmental, along with the Office of Environment & Heritage and SITA.



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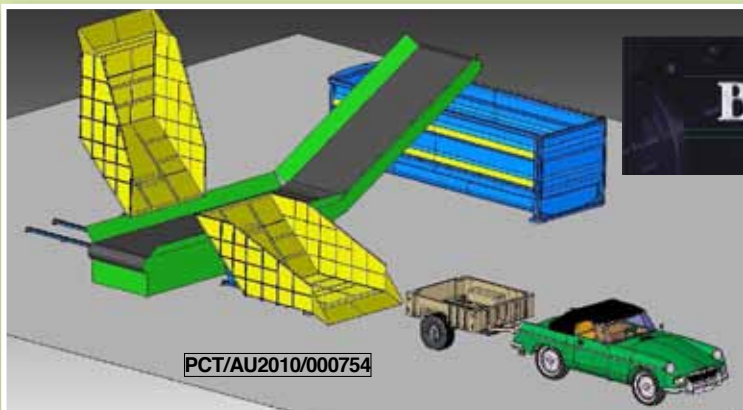
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Waste reforms offer 'best fit' solution for Queensland

A NEW levy on industrial waste, full reinvestment of the funds and enhanced enforcement underpin Queensland's waste reforms, says Tamara O'Shea, general manager of the waste reform division at the Department of Environment and Resource Management.

O'Shea has been a key part of the development of reforms that saw the introduction of the *Waste Reduction and Recycling Bill* to the Queensland parliament in August.

In a column for *Inside Waste's* new online Business Environment Network (BEN), O'Shea wrote: "Queensland's commercial environment brings some challenges in waste reform, including distance to recycling markets and economies of scale.

With 80% of the state's population, and most of its services, located in the south-east corner, it will take time to deliver sustainable and viable local waste management solutions for regional Queensland.

"The reforms will also see Queensland apply stronger enforcement and

compliance efforts, but we also recognise that partnering with industry and improving community engagement will see sustainable outcomes and changes to practices and behaviours.

"The reform program has been aided at all stages by strong stakeholder participation, bringing the views of business, the waste industry, local government and community groups to the process of shaping the reforms, the legislation and the support programs.

"The melding of a broad range of constructive views has helped deliver a 'best fit' solution to suit Queensland's circumstances and needs for the decade ahead.

"The cheap cost of landfill and underdeveloped industry investment has kept Queensland recycling rates low and hampered potential job opportunities in resource recovery.

"Waste management provisions are currently contained in the *Environmental Protection Act* and subordinate legislation. While current legislation effectively deals with the impacts of waste after it has been generated

and when it requires disposal, it does not encourage reducing the amount of waste generated in the first place or improving resource recovery and recycling opportunities.

"Queensland is one the largest generators of waste in Australia – and disposal rates are escalating ahead of population growth and retail spending.

"There is excellent work being done by businesses, waste management companies, local governments and research institutions to avoid and reduce waste and recover resources. But, for the time being, landfill remains the cheapest waste disposal option.

"Through a strong regulatory approach and injection of funds back into the waste and resource recovery sector, the reforms will improve our environmental performance. They will also provide the climate that business has said is crucial for investment in better recovering valuable resources currently being sent to landfill.

"The government has committed the majority of the levy funds to the \$159 million 'Waste Avoidance

and Resource Efficiency' fund to improve waste management and resource recovery across Queensland, and to strengthen enforcement and compliance, particularly in relation to illegal dumping.

"The next call on the funds is a dedicated \$100 million 'Sustainable Futures Fund' for local government. "Finally, remaining levy funds will be allocated to other environmental initiatives.

"The Queensland Government believes the funding balance appropriately reflects the level of investment required to see improved waste management practices across the state.

"Queensland is the only Australian jurisdiction to provide a dedicated local government fund from the levy revenue and is also the only jurisdiction where 100% of the levy funds are directed to waste and environmental initiatives, and not diverted into the consolidated fund."

To read the full version of this story visit: www.ben-waste.com/waste **iw**



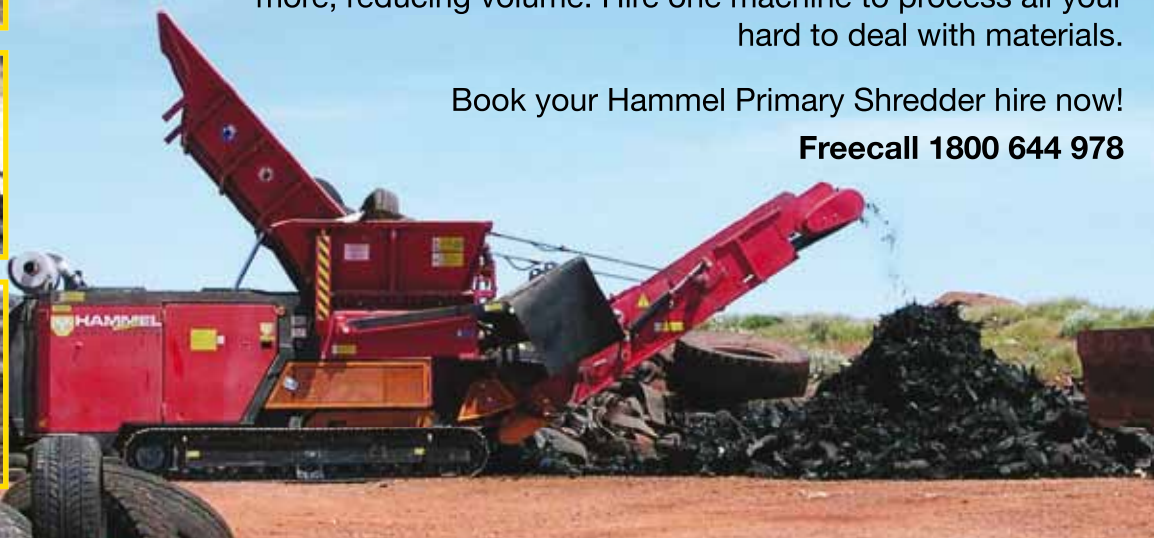
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BEN waste Blogs

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Time to stop looking for a silver bullet

Posted by: Max Spedding (secretary of Australian Landfill Owners Association and chair of WMAA National Landfill Division)

Recycling works when you can sell the product. Having a mountain of glass sitting at Laverton is not great success story for recycling in Melbourne. Having a stockpile of unsold, composted green waste around Australia is also not a good advertisement for waste processing.

I believe in diverting material from landfill where we have resource recovery – which means the material can be sold and is sold – is the way to drive the market. In the past 20 years many people have made the decision that any diversion away from landfill is good. In many cases this is not the case as you get a perverse outcomes, such as creating an above ground stockpile without the controls of a landfill.

There are also a lot of examples of diversion from landfill that have resulted in the creation of landfill cover or, in fact, material that has to be put back into landfill again. That's a very pointless exercise.

Another concern is that levies have also been introduced without a strategy behind them. Personally I'm a supporter of levies being introduced if they have a goal and are reviewed. If you introduce a levy that increases the price of disposal at the landfill by \$20 a tonne and allows all waste that is diverted to resource recovery to receive a levy rebate, then you provide incentives for recycling. This makes a useful difference.

But we've had a number of instances where levies have been introduced virtually as a financial measure rather than as a strategic measure. In NSW the levy is extremely high and going higher, without achieving the desired resource recovery outcomes.



Sustained funding needed for indigenous waste management

Posted by: Anne Prince (director of APC Environmental Management)

If we are serious about closing the 17-year mortality age gap, then waste management needs to be elevated to 'essential service' status alongside water, power and sewerage.

The great divide between white people and the indigenous communities of Australia in terms of waste services and funding is all about giving the latter the bare essentials.

For the past four years, I have had the unique opportunity to work in two of the remotest regions of Australia with indigenous communities, both Aboriginal and Torres Strait Islander. While these two very distinct regions are thousands of kilometres apart and have key social, cultural and environmental differences, there are an alarming number of negative similarities.

Among them are years of neglect, lack of urgency, double standards, lack of funding and, in some cases, misspent funding that had unintended consequences.

There is a huge cultural divide, which will continue as long as funding, purchasing and contractual decisions are made in capital cities by government personnel with little understanding or appreciation of the unique on-the-ground conditions and the need for tailored solutions for these communities.

Buying side-loading collection trucks for Aboriginal communities when the nearest mechanic and parts are more than 500km away and the road conditions the worst in the country is not practicable.

While in cities we seek to meet ambitious state government landfill diversion targets and to further educate an already highly informed community, indigenous communities nationwide are largely out of sight, geographically dispersed and far from any services.



Composting: getting the balance right

Posted by: Angus Johnston (national project manager for Compost Australia, a division of WMAA)

Businesses involved in composting, let's call them processors, are usually a combination of waste treatment companies and soil amendment manufacturers.

Often this is a difficult balancing act, requiring compromise of either the waste treatment service or the manufactured product in order to resolve the tension between these occasionally conflicting activities. Yet I have observed how many processors have managed this delicate balance.

I would argue that, in most circumstances, processors must first and foremost be manufacturers of quality soil amendments. Processors with a background in producing quality composted products for nursery and garden applications, mushroom production and agricultural generally already have this product focus. They clearly demonstrate the advantages of their approach.

Producers focused on product manufacture:

- Create long-term customers for their products that underpin a sustainable business;
- Reduce or avoid reliance on income from 'disposal' contracts with local or regional governments;
- Achieve premium prices for their products;
- Generate the buying power to secure clean, source-separated raw organic materials;
- Can reduce the cost of organic recycling to the community through their value adding activities;
- Can more easily address and sometimes avoid the attention of environmental regulators.

This is not to say that processors focused on providing waste treatment services are not required or don't have a future. In fact this is currently the more common business model in Australia, with gate fees being the primary source of income for the majority of processors.



**To read the full version
of these blogs visit:
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And the "Oscar" goes to ...

Described by WMAA as the "Oscars for the organic recycling industry" – the WA awards were held in Bentley on 30 May 2011; with the National and NSW Awards held on 26 August 2011 in Parramatta Park. The NSW Minister for the Environment and Heritage, Robyn Parker, attended the NSW event.

"We want to work with you to make sure that we have the right mechanisms in place to encourage you to do the right thing – to keep doing what you're doing – to support innovation," she said.

"The other thing that you need to know from me is that the cowboys out there – by right, will be pulled up. We will try to reduce landfill as much as we can and encourage recycling, without creating an environment where illegal dumping exists. I think waste management is very high on our agenda."

The winners of each award category demonstrate exemplary endeavours in advancing the organics industry. WMAA would like to congratulate all participants and winners.



Kimbriki Eco House & Garden Education Centre

NSW WINNERS

Finalist for the Komptech Australia Leadership in Compost Community Education Award: Kimbriki Environmental Enterprises (Kimbriki Eco House & Garden Education Centre)

Finalist for the Lincom Most Innovative Recycled Organics Product Design for a Specific Application Award: Virginia Brunton (Nutrient Smart Farms)

NSW Finalist & National Winner of the GCM Enviro Leadership in the Recycled Organics Industry Award: Penrith City Council (Household Organic Recycling Collection & Composting Service).



David Cullen & Andy Gulliver
Custom Composts

WA WINNERS

Finalist for the GCM Enviro Leadership in the Recycled Organics Industry Award: Landsave Landscape Supplies

Finalist for the Komptech Australia Leadership in Compost Community Education Award: Western Metropolitan Regional Council (Western Earth Carers Programme)

Finalist for the Lincom Most Innovative Recycled Organics Product Design for a Specific Application Award: Custom Composts (Balance Project)

A special mention goes to Bob Paulin – the winner of the WA Waste Authority Compost WA Lifetime Recognition Award.



Mike Harris
Monduran Citrus

NATIONAL WINNERS

National Winner of the Komptech Australia Leadership in Compost Community Education Award: Brisbane City Council ("Rethink your Rubbish" Community Compost Education Program)

National Winner of the Lincom Most Innovative Recycled Organics Product Design for a Specific Application Award: Wide Bay Compost (Monduran Citrus – Compost Teas Project)

National Winner of the Office of Environment & Heritage, Sustainability Programs Division Most Improved

Contamination Management in Source Separated Organics Award: SITA Environmental Solutions.

When rubbish 'ain't' just rubbish

The National Landfill and Transfer Stations Excellence Awards, established by WMAA in 2007, were presented on Thursday 1 September 2011 at the National Landfill and Transfer Stations Conference Dinner in Adelaide.

Brisbane Waste Innovations Alliance (BWIA) – an alliance between Brisbane City Council (BCC) and Thiess Services – won the **2011 National Landfill Excellence Award**. In 2009, BWIA was the Joint Silver

winner of the National Landfill Awards.



Brisbane Waste Innovations Alliance (BWIA)

Since 1993, the sizeable landfill has built community trust by maintaining communication and quality control. The site accommodates Council's

Towards Zero Waste Education Centre, upgraded in late 2010, with an educational officer teaching the community about recycling, landfill management, gas capture systems and more.

The site's performance and efficiency was proven recently after Queensland's floods – the facility rapidly and safely moved to 24/7 operations to manage approximately the same amount of waste accepted in a year within just four weeks.

There are two categories for the Transfer Stations Award: Large Transfer Stations (>2,000 tonnes/month) and Small Transfer Stations (<2,000 tonnes/month).



Boroondara Recycling and Waste Centre

The winner of the **2011 Large Transfer Stations Excellence Award** is **Boroondara Recycling and Waste Centre** located in Camberwell, Victoria.

The centre provides Council and the community with a modern facility to safely dispose of a variety of materials. The site is covered by an environmental management plan developed with the adjacent community and the Victorian Environmental Protection Authority.

In 2009/10, approximately 66,000 tonnes of materials were delivered to the site. Of these, over 50% were diverted from landfill. The Boroondara Recycling and Waste Centre provides both commercial scale and

community recycling facilities.

In the Large Transfer Stations Category, the judges would also like to commend Whitehorse Recycling and Waste Centre, Whitehorse City Council, for their personnel training and development program.

This year, the judging panel found the selection of a clear winner in the **Small Transfer Stations** category



Wallan Waste Transfer/Resource Recovery Centre

more difficult. The three joint winners – **Wallan Waste Transfer/Resource Recovery Facility** (VIC), **Port Augusta Resource Recovery Centre** (SA) and **Bulahdelah Resource Recovery and Waste Transfer Station** (NSW) –

were found by the judges to be of a similar standard in their operations, but operating in different ways.

The Wallan and Bulahdelah facilities were found to be suited to their respective locations and community needs, with their design and operation reflecting a significant emphasis on community recycling and waste diversion. In addition, the facilities focussed on supporting environmental initiatives such as WSUD and solar power, and took steps to invest more in design and effort into secondary resource recovery.

The judging panel found the Port Augusta site to possess every key feature found in a modern consolidation/ separation and recycling facility associated with remote disposal of residual waste.

Additionally, the Port Augusta facility carefully manages, separates and processes green waste into a number of products. The site also handles and disposes of asbestos, thus providing a key service in a remote location.

Commendations must go to all facilities that did not receive an award – they were all outstanding.

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DISCLAIMER: Articles and papers submitted for the WMAA section of this newsletter an overview of the topic only and are not intended to be a detailed statement of the law. Views are those of the writers and do not necessarily represent the WMAA.

Seeing the vision through – Val Southam

By Richard Collins

THE WASTE Management Association of Australia (WMAA) launched in 1991 with 85 members. A decade on it had 1,000 members but was still struggling along with a part-time national secretariat, a constraint that was hampering membership services and WMAA's broader ambitions.

In 2001 Val Southam was appointed the inaugural CEO with a brief to build WMAA into the nation's peak waste industry body. She has just clocked up 10 years service.

In an introductory column in *Inside Waste's* sister publication *WME*, Southam laid out a few goals, including building WMAA's national voice, developing people and skills, and "striving to be recognised as the 'technical reference' group for all governments, as well as industry stakeholders".

Much of this has gone right. Today there are seven national divisions, a raft of narrower working groups ranging from C&D to biosolids management to industrial ecology, a staff of more than eight in the WMAA office and five compost market industry development officers (MIDOs), which are hosted and funded by state governments.

In 2001 the coffers were almost empty, so the first step was taking over the NSW Waste Boards conference.

"That was our first foray to make some surplus, which started building our reserves. We had \$100,000 in membership income, but with staff and office overheads there was no other money. So we started doing a lot more events to start generating income," Southam recalled.

In 2003 WMAA hosted the International Solid Waste Association's (ISWA) annual conference, which was apparently "the most financially

“It is not so easy to talk about the industry, because the industry goes in different ways.”
– Val Southam



successful ISWA that has been held anywhere in the world". Thanks to the new found financial security, it facilitated expansion of the WMAA event team.

The same year it kicked off what Southam still lists as WMAA's premier achievement under her watch – the Australian Alternative Covers Assessment Program (A-ACAP), which pulled together landfill operators, consultants and universities to research non-engineered caps for landfill closure.

"They have these [research programs] in the US, but this has been important in contextualising it here, with five different projects. We also introduced things that have taken it further than the American study," she said.

"The findings will be a big saving

for regional councils and small landfills [as] this is a more cost-effective way of closing a landfill."

She also points to the Compost Roadmap and new work around a similar project for the C&D sector as seminal. But these industry development roles raise a key question – what is the core role of WMAA?

Charting the waters

Southam's decade has not been without challenges and critics, which she freely acknowledges. Not the least of them is over the very identity of the association – its name, its core mission and its ability to be a broad church serving all sectors of the industry.

"It is not so easy to talk about the industry, because the industry goes in

different ways," she said.

Indeed the emissions trading debate saw the Australian Landfill Owners Association splinter off, frustrations with Queensland's waste regulators saw the formation of the Waste Contractors and Recyclers Association Qld, and the desire of recycled organics producers to disassociate from waste has now lead to formation of the Queensland Recycled Organics Council.

"We have had the debate over the years and talked about changing the name of the association," said Southam, "but whenever you have government waste policies and targets, and agencies calling themselves Zero Waste, it is hard to become something else".

She has also come in for plenty of flak for steadfastly refused to let WMAA enter into almost any public policy debate, partly as there is so little internal agreement on those policies and partly because WMAA is more professional association than industry lobby.

"It is a hybrid model. We are trying to represent the people who work in the industry, in the main, as opposed to the companies. That doesn't mean we don't have program for those businesses, which is where the compost program comes in, it just means clearly defining the boundaries is complex," Southam said.

She argues this approach has given WMAA access to government partnerships and forums it would not otherwise be invited to join, such as the Food Safety Roundtable and Australian Packaging Covenant Council.

Still, the board is about to start a review of WMAA's vision and mission to see if it is still relevant 10 years after it was crafted. The results of this review will be interesting. **iw**

Towards a waste certification scheme

In 2000 only 20% of WMAA memberships were organisations, but since then additional registration types have been added to cover local government, suppliers and small businesses. Today 60% of memberships are organisations. CEO Val Southam now intends to give every individual their own membership record as part of a plan to ramp up a Continuing Professional Development program, including a certification scheme.

"It is yet to be determined whether we need to break that into a certified waste manager or certified landfill expert or whatever... but we will need to put on events through the year to educate them."

In the US, for example, the Solid Waste Association of North America (SWANA) runs a certification scheme covering nine disciplines and offering three levels – manager, technical associate or inspector.

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Role of the modern transfer station

By Alex Serpo

THE *Fourth Annual Landfill and Transfer Station* conference in Adelaide last month was a major success for the Waste Management Association of Australia, with sold out tours and a full house for most sessions as delegate numbers far exceeded expectations.

A diverse range of speakers covered themes such as the perennial drive to increase resource recovery rates and the continued challenge of rapidly changing federal and state regulations.

Golder Associates' Bill Kearsey addressed the rehabilitation of problematic landfill sites, including liner failure, while colleague James Begg outlined some of Queensland's unique challenges, such as dealing

with more than 4,000 mm of rain a year and the little problem of crocodiles inhabiting leachate treatment ponds.

International speakers shared valuable insights. Heijo Scharff of Dutch landfill specialist Afvalzorg talked about the enormous challenge of unregulated landfills and trying to establish multinational standards in parts of Europe.

And Craig Benson, a professor from the University of Wisconsin Madison in the US, drilled down into the optimisation of bioreactor landfills and a novel reuse program for fly ash from coal-fired power generation.

A glitzy dinner at the Stamford Grand hotel saw the Landfill and Transfer Station Awards announced, with notable prizes awarded to the Brisbane Waste Innovations Alliance (BWIA) and the Boroondara Recycling and Waste Centre in Melbourne.

Highlight: NZ's clean up

One of the most topical papers detailed the industry's response to the recent earthquakes in Christchurch, New Zealand. Transfer stations were absolutely pivotal, according to Martin Pinkham from Canterbury Waste Services (CWS).

The 50:50 joint venture between five councils and Transpacific Industries Group NZ serves much of Christchurch, covering a population of approximately 500,000 people and operating the



Transfer stations were pivotal in responding to the recent earthquakes in Christchurch.

Kate Valley landfill.

"Forty seconds of the house shaking is an awful long time – especially with your kids down the hallway screaming," Pinkham told delegates, describing the initial earthquake that occurred on September 4 last year.

With a magnitude of 7.1, the earthquake was the first of many for

the city of Christchurch.

"We've had two major earthquakes – which you're probably aware of – but we've had thousands more. We've had nearly 8000 earthquakes, with nearly 3000 of those at a magnitude of three or greater," Pinkham said.

After the initial earthquake, the major challenge was dealing with food waste

"We had around 20,000 tonnes of food waste to dispose of very quickly"

– Martin Pinkham

Transfer stations: keep it simple

When it comes to transfer station design and management, Veolia's manager for strategy and development, Toby Terlet, said the best results come from getting the basics right.

"People are your best asset – it can be the difference between making your facility profitable or not," he said.

"Your people need to be well educated and informed, because if they get it wrong and [your waste stream gets] contaminated ... it's going to cost you a fair bit of money."

In terms of revenue, Terlet advises managers to target the high value waste streams.

"Targeting everything possible will give you the highest possible recovery but also the highest operating costs," he said. "High volume sites may opt for mechanical means to improve recovery rates."

And in terms of priority waste streams, "there needs to be a real focus on the C&I markets," while a mixed portion C&D stream warrants further attention too. Policy uncertainty is also a key concern for private enterprise, particularly for small landfill operators.

"It's very difficult to get capital approval when we don't know what's going to happen over the next five years with [landfill levies]," he said.

"We've got these increasing landfill levies, and with the carbon tax, how much can these small to medium businesses really handle?"

He urged businesses and the government to work closely together, because when it came to the waste stream, "we're all in the same boat".

from series of distribution centres run by major logistics companies. Many facilities on the south side of the city were either partially or completely destroyed.

"Initially we were asked by the minister in charge to take [the waste] directly to Kate Valley. It was a disaster. We had a river of cooking oil and red wine over 75 km of state highway – so we stopped that after one day, it just didn't work," he said.

"We had around 20,000 tonnes of food waste to dispose of very quickly."

At the same time, many roads had been rendered inaccessible, one transfer station had been damaged and the "the city council's composting facility was significantly damaged and unable to take further waste".

The death toll from the earthquake also posed a challenge as all the waste from buildings where there had been fatalities had to be segregated as evidence. CWS set up a special waste team to take that material to a secure location for the coroner to examine later.

"Transfers stations played a pivotal role in responding to the earthquakes," Pinkham said. "We made a deliberate decision to run the transfer stations six days a week. People were working 15-16 hours a day but we also felt that, for health and safety reasons, people did need a break."

The enormous volume of food waste had to be mixed with ordinary municipal waste and some demolition waste to ensure stability in the landfill.

"The waste board system that we set up back in 2005 was designed to handle around 1,000-1,200 tonnes [of waste] a day. With double shifting – we were bringing some teams from out of town... we ran that whole waste transfer system at over 2,000 tonnes a day."

Good long-term planning was critical to the disaster response.

"One thing we did when we created the Kate Valley site is set it up to be self-sufficient in everything – including fuel – for 3-4 weeks. There was a time when there was a shortage of fuel in the city and we were able to operate continuously during that time." **iw**



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Four years in the Qatar desert



View of main plant buildings as seen from the minaret of the onsite mosque.



Windrow turner in the aerobic hall – compost plant.

By Jim Straker

This article is based on a presentation delivered at a recent Waste Management Association of Australia event in Queensland.

IN OCTOBER 2006, the Government of Qatar signed a contract with Keppel Seghers Engineering Singapore (KSES) to design, build and transfer (DBT) an integrated waste management system for domestic solid waste, plus operate the main facility for 20 years.

Around the same time Australian engineering contractor SMEC was appointed to provide post-contract management and quantity surveying services for the KSES contract. SMEC mobilised for the works in early November 2006, which required a team of 20 staff.

Thus began my involvement with this \$550 million project, as the senior resident engineer for SMEC based in Qatar, which was to last for four years.

Times were difficult and challenging, as most of the people involved on- and off-site had never been involved in waste management or in the design and construction of this type of facility. It was intense work as it involved six days per week activity, with at least 10 hours per day and 50 km each way to drive.

Details of the works

The capacity of the system was initially for 1,500 tonnes per day (tpd), increasing to 2,300 tpd by year 20 of the contract. Within the contract there was a priced option for an additional incinerator line to be constructed when required by Qatar. As the quantity

of domestic waste was greater than allowed for in the tender, the option was exercised during the first year of the DBT phase. Currently all solid wastes are landfilled.

The DBT phase involved: the provision of three new transfer stations, ranging in capacity from 300 tpd to 900 tpd; installation of a weighbridge at an existing transfer station; and construction of the domestic solid waste management centre (DSWMC) to receive the materials from the transfer stations.

The DSWMC comprised numerous construction elements, including weighbridges, waste bunker, drum screens, recycling equipment, incinerator, steam turbine/generator, anaerobic and aerobic compost process, gas engine driven electricity generation, lined landfill and a water

lift 20 tonnes at 80 m and >100 tonnes at 15 m radius. The chimney shroud was installed in 19 days of pouring.

Each of the modules – incinerator, landfill and compost area – covered about 300 x 300 m. There were three main laydown areas of similar dimensions. An on-site concrete batching plant was provided for most of the site construction.

The incinerator was a Seghers water-cooled moving grate type, with three lines, each with a capacity of 450 tpd. The gases were treated with urea, lime and activated carbon to meet discharge standards. Bottom ash from the process was screened and the ferrous and non-ferrous metals removed. The fly ash was mixed with cement before being placed in the lined landfill.

In the recycling area, light plastic was removed by a wind sifter, ferrous

“ I do not know of any similar sitings of all such facilities on the one location in the world – Jim Straker. ”

pumping and treatment plant.

The site was basically flat and had about 4 metres variation from the lowest points to the highest points within the 2 x 1.5 km site. The water table – salty from seawater influence – was about 12 m below the general ground surface.

Two of the initial high points in the construction were the use of a Favco type tower crane from *Men from Marrs*, plus the slip forming of the incinerator chimney (78 m), lift shaft and chemical silo surrounds.

The crane had a tower height of 42 m, boom of 82 m, and capacity to

and non-ferrous materials were magnetically removed and the plastic fraction was separated using an NIR (Near Infra Red) method.

Each of the compost fermenter units contained three process lines. From here it went through a screw press before being transferred to the aerobic hall. A windrow turning machine managed the process there and in the maturation area.

Two separated input streams were being treated – green and food waste in one line and the <45 mm fraction from the incoming domestic waste in the other lines.

Power, roads and weather

The steam turbine had a capacity to generate about 42 MW and the gas engines a further 8 MW. The plant required about 25 MW for operation, so at full capacity it would have about 25 MW available to export to the Qatar electricity grid.

Incoming and outgoing electricity was at 66 kilovolts (kV). This was broken down to 11 kV at the transformer station, which was also the voltage output from the steam turbine driven generator. Distribution on the site was at 6.6 kV, which was the voltage from the gas driven generators.

The site roads were installed using polypropylene fibre reinforced concrete, some poured normally but most through a paving machine.

The weather ranged from a few days of rain (total annual rainfall is 80 mm), fog, smog and dust storms to very hot days (>50°C) and even cold days where a heater was needed.

One of the low points of the project was when the site office burnt down. Fortunately we had a reasonable backup system for most documents and were back in action within two days, having lost about three weeks of material. It was a great day when the first waste delivery arrived on-site in December 2010.

For me, it was a unique opportunity to have been involved in a project of this complexity and magnitude on the main site. I do not know of any similar sitings of all such facilities on the one location in the world. This was real construction, not just planning for things as happens under so many consultancy projects.

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Taking a 'closed loop' approach to C&D waste

RECYCLING is taking on a whole new look at the Harris Scarfe redevelopment project in the heart of Adelaide, where a holistic approach has seen a dramatic reduction in the carbon footprint of the project.

Demolition concrete and heavy materials from the 5-storey, 1920s building have been removed and taken to ResourceCo's Wingfield facility, where it has been crushed and recycled and then returned to the site in the form of base material and as aggregate in concrete. This 'closing the loop' in regards to waste management also diverts material from landfill.

ResourceCo is responsible for processing more than one million tonnes of waste each year, including C&D waste and C&I waste, producing a variety of recycling construction aggregates and alternative fuels as feed for cement manufacturing and power generation.

"There's a lot of talk about carbon reduction these days, and this project

is an example of what many businesses are already doing to reduce their carbon footprint," said ResourceCo managing director Simon Brown.

"ResourceCo offers a full-circle solution to businesses, taking care of all their needs from removal, recycling

“It's great that recycled materials from this site are being returned for re-use” – Mark Polec.

and supplying construction materials.”

The \$150 million redevelopment began in April, with some of the demolition and removal work on the Rundle Mall site carried out after hours to avoid major disruption to city traffic and shoppers. ResourceCo employed additional staff and equipment to allow for streamlined night time working conditions.



The \$150 million Harris Scarfe redevelopment site.

"It's great that recycled materials from this site are being returned for re-use," said Mark Polec from the construction services firm McMahon Services.

He noted "ResourceCo is supplying 3,500 cubic metres of concrete to this project", including all the concrete

for the 665 piles required for the new 19-storey building.

Brown said ResourceCo "works closely with the client, in this case McMahon Services, offering tailored solutions. The Harris Scarfe project is a good example of that old adage, 'everything old is new again.'" **iw**



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Stamping a footprint on high-rise recycling

By Paula Wallace

ACHIEVING better co-mingled recycling rates from multi-storey dwellings is a challenge for councils and waste contractors. One Australian company with experience in waste compaction has come up with what it believes is a sure fire way to boost recycling in high-rises.

Eddy Saidi from Elephant's Foot Waste Compactors said, "the E-Diverter provides high-rise residential users with the choice to either dispose of their recycled product or waste by selecting the outcome on the chute door on their building level".

An easy-to-use LED display indicates the two disposal choices and once the chute is closed, the recycling or waste item is diverted to the correct bin in the building's waste room. The recyclables and (reduced) waste are then picked up by the council or designated collection contractor.

"Inclusion of a recycling diversion

for waste chutes will save building owners money in the long-term and show real foresight and consideration towards a more sustainable future for all," Saidi said.

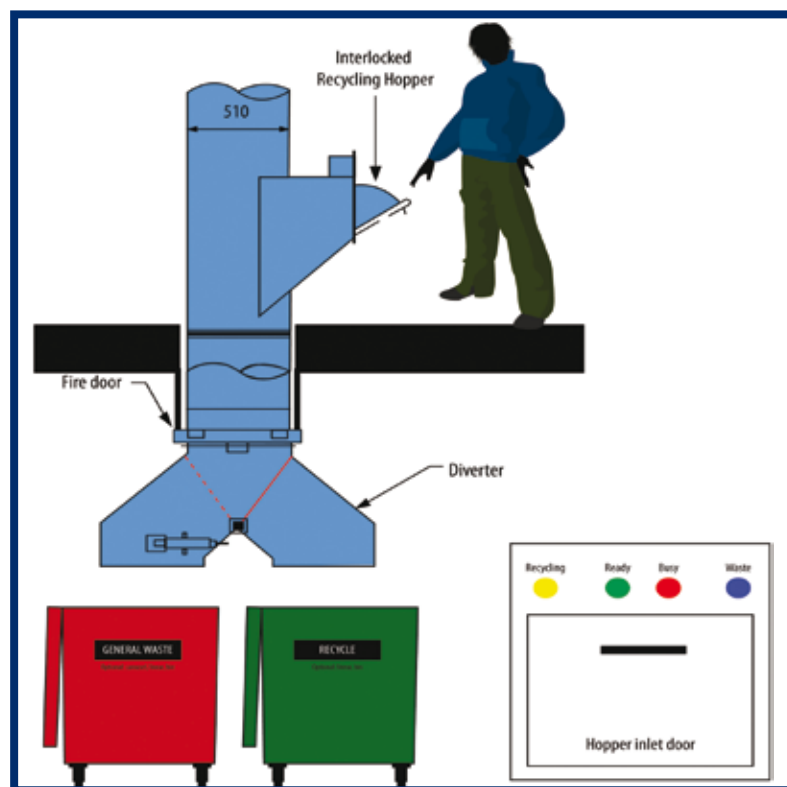
The E-Diverter is fitted to either the typical galvanized steel chutes or an environmentally friendly plastic option. It operates on standard 240 volt power, which is connected to the chute door on each residential building level.

"Currently, the majority of multi-storey dwellings use a single waste chute to dispose of their waste. Residents wanting to recycle need to place recyclables in bins provided in the recycling room on each level," Saidi told *Inside Waste*.

"This practice does not encourage easy recycling and therefore many people don't recycle."

He believes the E-Diverter will be embraced by architects and developers as it can assist in achieving Green Star ratings for building design and

Continued next page



Schematic of the Recycling E-Diverter system

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Kerbside recycling – where to from here?

By Mike Ritchie

NATIONALLY, waste to landfill is growing at between 4.5% and 7% per annum. We need to double our recycling rates over the next nine years to still be sending 22 million tonnes (MT) per year to landfill in 2020. If we don't accelerate recycling we will be landfilling closer to 40 MT by the end of the decade.

On recent estimates the recycling rate for commercial waste will need to treble from 8 MT to more than 23 MT, while domestic putrescible diversion will need to grow from less than 1 MT to something in the order of 9 MT by 2020.

But what of kerbside recycling? Is there any room for innovation in the kerbside recycling space? We have been performing well for 15 years; more than 90% of Australian households now have access to kerbside recycling schemes and we have one of the highest per capita domestic recycling rates in the world.

Australia currently recycles about 8 MT a year through kerbside recycling. But it may surprise you to know that we landfill an estimated 2-3 MT of recyclables from our households. That is recyclable plastic, steel, aluminium, glass and newsprint.

According to NSW figures, that means on average the residual garbage bin has about 23% of recyclables in it (by weight).

If you do the maths, 23% by weight of the garbage bin is approximately 33% by weight of recyclables, all of which is being lost to landfill. (The percentage is higher because of the different specific gravities).

There are only two possible reasons for this. Either there is a level of ignorance and ambivalence to recycling among the population or there are capacity constraints in the recycling

bins. The second cause is both more interesting to consider and more immediately remedied.

Preventing "leakage"

A recent review of three councils in Sydney showed as many as 40% of households were filling their recycling bins to capacity each fortnight, and thus were at risk of "leaking" recyclable material into the general rubbish bin.

In terms of what can be done about it, there are four options:

1. Do nothing and accept the loss (the current default position);
2. Provide an extra bin and service it at the same time as the first;
3. Service recycling bins weekly rather than fortnightly; and
4. Provide a bigger recycling bin.

My company, MRA, has modelled these options from a cost, greenhouse gas and recovery perspective.



The problem with Option 1 is we are losing a lot of recoverable materials with high embodied energy and the council is paying to landfill them (at a higher cost than it is currently paying to recycle them).

The biggest problem with Option 2 is the costs of servicing the extra bin. Collectors generally charge for an additional lift as if it was a new household. I have not yet found a



council that has a lower service fee for the lift of the second bin.

I think the reason is such double services are not yet common and are usually added after the collection contract is let. So there are few economies of scale for the collectors.

“ More than 90% of Australian households now have access to kerbside recycling schemes and we have one of the highest per capita domestic recycling rates in the world. – Mike Ritchie

It is possible collectors would offer a lower cost for the second lift if councils quantified the number of double lifts at the time of tender.

Option 3 results in a virtual doubling of the real collection costs of the service since the truck is now running up and down every street on a weekly basis, whether required by the residents or not.

Finally, Option 4 is to increase the

size of the recycling bin from 240 litres to, say, 360 litres. The cost of the new bin is a one-off \$100 (approximately) and the costs of collection are the same, a single lift charged at the same lift rate.

A number of councils have ventured into larger recycling bins and the feedback has been good, with most councils observing growth in recovery of recyclables of 15-30% with no additional costs of collection (apart from the bin itself).

There is an argument that councils should give away the larger bin to households that need it. The savings in landfill gate fees (in Sydney \$180/t and around \$70-140/t in other capital cities) compared to MRF separation (\$0-40/t) soon pays for the capital cost of the bin, assuming collection costs do remain the same.

So instead of losing 33% of our recyclables to landfill via the garbage bin, there are real and cost effective options for councils. First and foremost is to offer larger recycling bins to those households who need them.

Mike Ritchie is director of MRA Consulting, a waste, recycling and carbon advisory firm. Contact him at mikeritchieassoc@bigpond.com.au

iw

From previous page

encourages residents to work together for a better environmental outcome.

Elephant's Foot is currently installing its first E-Diverter systems in Australia and is working with a number of councils, town planners, architects and construction companies to produce waste management planning for individual construction projects.

Saidi believes allowing residents to separate their waste at the source is

the key to improving contamination levels in recycling streams, and points to other countries where such systems have been in operation for years.

"Many overseas building managers go one step further in providing multiple chute diversions and also balers for cardboard, cans and other volume material. Some European systems are based around a user pays system, again actively encouraging break down of waste streams and recycling material,"

he said, adding Elephant's Foot is investigating the introduction of such services in 2012.

"Interest in the E-Diverter is growing rapidly, particularly in the Sydney and Melbourne markets where councils have quickly identified the system benefits and are recommending the inclusion of the E-Diverter or twin chutes at a building development level."

While the E-Diverter can only be used on new building developments at

present, the company is planning to undertake research and development on a retrofit option for existing buildings.

"Obviously building owners and residents themselves must be committed financially to such a project. However, the outcomes of ease of recycling for residents, the reduction in waste costs for building management and the overall benefit to our environment should produce a number of retrofit projects in the future," he said. **iw**

Landfill no longer an option for City of Sydney

By Paula Wallace

DISCUSSING its new approach to waste management at an industry event on September 20, the City of Sydney confirmed it is now sending all 40,000 tonnes of municipal solid waste (MSW) collected by the city to SITA's advanced resource recovery facility at Kemps Creek in western Sydney.

By stopping putrescible waste going directly to landfill, the city has in one fell swoop ensured it will this year meet the State Government's target of 66% diversion from landfill of municipal waste, well before the 2014 deadline. However, given the advanced waste treatment facility won't recover everything or convert it into compost, at least some of the material will eventually go to landfill.

The thing that makes the City of Sydney's Interim Waste Strategy different from other waste strategies is its integrative approach, which links waste management with plans

related to energy, liveability and transportation, expanding the focus "outside of the bin".

It forms part of the Sustainable Sydney 2030 vision, which derives its goals from achieving less than a 2°C increase in temperature over the next 20 years. Defined by that are a range of initiatives designed to reduce the city's greenhouse emissions by 70% by 2030 (based on 2006 levels).

"The big elephant in the room is that 80% of the emissions are from coal-fired power stations and so really if we're going to be serious about achieving our targets we can't just look at energy efficiency and waste reduction...we need to be looking at how do we green our supply of energy, our supply of water and how do we manage our waste into the future," said the city's director of sustainability, Chris Derksema.

This is where the idea of "transformational change" comes in. The city has outlined how this would



PHOTO CREDIT: ... Courtesy of Envac.

Inside a collection station by Envac, a Swedish producer of automated vacuum waste collection systems.

occur through green infrastructure including trigeneration, renewable energy, waste treatment and automated waste collection.

As part of its renewable energy plan the city is looking at what wastes are

available in the Sydney basin that could be converted into synthetic gas and run in cogeneration plants. To that end it is working on an Advanced Waste Treatment Master Plan, which it hopes to finish by February next year.

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Inlets in a street in Barcelona, Spain.

Mark MacKenzie, the city's waste strategy manager, said "there's a level in the waste hierarchy that's available to operators overseas that is largely underplayed in this country and it's where the city feels that its only real expectations for managing down greenhouse gas emissions loads for the city can be really be worked on – and that is to open up the field of energy recovery from waste".

“There's a level in the waste hierarchy that's available to operators overseas that is largely underplayed in this country – Mark MacKenzie

The waste generated in the local government area is around 52% commercial and industrial (C&I) waste; 29% construction and demolition (C&D) waste; and 19% municipal solid waste (MSW).

Like any major city there are also issues related to high density living, with up to 75% of residents housed in multi-unit dwellings (and increasing). This does not provide sufficient capacity to migrate organic waste into separate collection at any great scale, it is currently an opt-in system.

Preliminary studies for the AWT masterplan have eliminated combustion technologies.

"They have indicated for us advanced gasification techniques that are in place overseas and are being relied on in Asian and European and even in

American countries," MacKenzie said.

Currently at the second of three stages, the plan is considering options for plasma technology, pyrolysis and high and low temperature gasification.

"We will also need a resilience and openness to a feedstock that may be coming from commercial sources because we intend to have a gasification that is not only capable of accepting our residential waste but is open to certain types of commercial waste," said MacKenzie, adding that the process has to be a net energy exporter.

Activating the waste strategy

The six focus areas of the waste strategy are: produce less, maximise resource recovery, green infrastructure integration, reduce greenhouse emissions, solutions for problem wastes and clean streets. It is aiming to "activate" all levels of the waste hierarchy and MacKenzie stressed this is not paying "lip service" to waste avoidance and re-use, which he has seen before.

"The city is going to take a new step and start to manage and plan for waste in terms of its commercial and industrial sector, in terms of construction and demolition, so [that includes] dealing with the workers of the city and dealing with visitors to the city.

"We will undertake to find ways that we can produce a very, very detailed study of what kinds of commercial waste, what composition we can expect so that when we do our final planning for this we know with much greater precision... That's going to be critical."

Of the six focus areas of the waste plan, the one that has attracted the most public attention is an automated waste system the city will master plan by March next year and is currently under tender.

"If we're going to be digging up the streets to install the insulated hot water pipe... or recycled water pipes, this provides an opportunity to look at these kinds of technologies in terms of evacuated waste," said Derksema.

MacKenzie is excited about what he sees as a step change in waste management: "We have choices before us where we can either continue with the same process and look for another hole every time or we can start to deal with our waste in a sustainable way."

The Interim Waste Strategy will be open for public consultation from October 5 to November 30, and the City of Sydney aims to produce its final waste strategy in May 2012. **iw**

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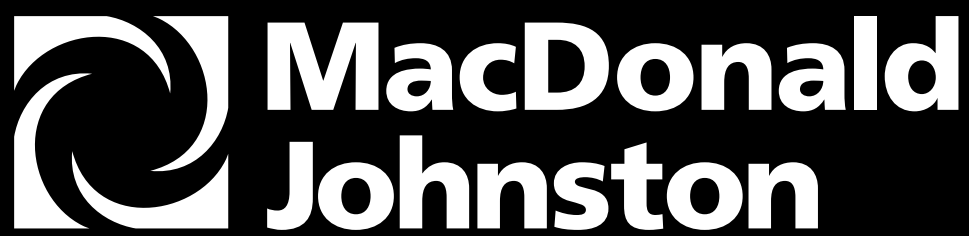
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Guidance manual on phytocaps released

SEVERAL years in development, the guidelines for using phytocaps as final cover for landfills have been released at a conference in South Australia. Produced by the Waste Management Association of Australia (WMAA) as part of the A-ACAP research program, the guidelines are designed to pave the way for landfill operators to consider replacing conventional compacted clay caps with vegetated soil caps, which the research found can achieve better environmental and financial results.

The research principally comprises A-ACAP and a trial at Hanson's Wollert landfill in Victoria. These programs have included the collection and analysis of empirical data from field-scale research facilities at landfill sites in five different environments across five states, including comparative data on the hydraulic performance of phytocaps and compacted clay caps. A-ACAP has also drawn upon the findings and methods of the US Alternative Covers Assessment Program (ACAP) and other research from the US and elsewhere.

Since November, the A-ACAP team has consulted with regulators and industry to develop the guidelines, most notably adding information on risk assessment of phytocaps and indicative costs.

"Some US research suggests that there are significant benefits from phytocaps over clay covers and a large proportion of the cost savings derive from a wider range of material being suitable for capping, rather than having to import clay from a remote source," said Paul Lightbody from Tonkin Consulting.

"For larger landfills it has a lot more to do with the availability of materials," agreed Max Spedding, spokesperson for the Australian Landfill Owners Association (ALOA).

"For smaller landfills, which are probably too small for gas collection... where you want to put in a low maintenance cap, the phytocap is particularly good because it's high oxidation and it's low maintenance, because it regenerates."

Lightbody said data from the trials

"has provided comfort that some of the claims from overseas were repeatable in Australian conditions".

"I think the regulators have embraced it as an option," he said, citing the approval of the full-scale implementation at Wollert and another site in Port Lincoln, South Australia.

The guidelines offer landfill owners and operators an insight into the issues involved in the design and operation of phytocaps, which are mostly site specific. Actual savings are inevitably site specific too, with the guidelines noting comparisons with alternatives need to be made on a like for like basis. They do, however, provide a rough estimate for the costs of development, design and approvals – \$175,000.

On the operational level, the guidelines provide a breakdown of the typical cost items and some indicative costings for a phytocover system for a 2.5 hectare area. Based on recent Australian experience, it estimates a construction cost of around \$640,000 or \$25.73 per square metre.

While little quantitative data is available in regard to the ability of phytocaps to reduce emissions of methane to the atmosphere, research is currently being conducted into this aspect and there is significant interest from industry.

This is partly because a primary market for phytocaps may be landfill sites that do not produce enough landfill gas to make active gas extraction an economical proposition. Such landfills might include old sites that no longer produce economic quantities of gas; small landfill sites; and sites that do not accept putrescible waste.

However, because any greenhouse gas mitigation resulting from the establishment of a phytocap would be due to oxidation rather than combustion, it would not be eligible for carbon farming credits.

"But from the point of view of protecting the environment and not having unnecessary release of methane on small sites, phytocaps will do all those things," said Spedding. **iw**



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Recycled organics – not compost – for SEQ

By Paula Wallace

DENNIS Baker, the former chair of Compost Queensland, is the inaugural president of the new Queensland Recycled Organics Council (QROC) and he's not partial to the word compost to describe its members' products.

"We don't use the word compost because it's the wrong connotation, we use the phrase recycled organics and operate under that banner," he told *Inside Waste*.

The group split from the Waste Management Association of Australia (WMAA) a few months ago, following a similar path to the Waste Contractors and Recyclers Association, Queensland a few years before.

QROC aims to develop and sustain markets for recycled organic products in south-east Queensland (SEQ) and northern NSW.

There are about three million tonnes of recycled organics processed in SEQ each year. However, the figure could rise dramatically with the introduction of the Queensland Waste Strategy, which encourages the diversion of organics from landfill, and plans by Brisbane City Council (BCC) to double its green waste collection to 150,000 tonnes over the next two years.

"The move didn't happen just because we felt like something different," Baker explained. "It happened, I believe, because the industry didn't see that WMAA was doing the job that [members] really wanted done."

"Most of the people I talk to within our organisation want this industry to gain the right sort of recognition – that it's a recycled organic product in its own right, that's useful and that people have confidence in."

He described the organisation's support base as representing the "lion's share" of the local recycled organics industry, with some suggesting up to 90% of the Compost Qld membership has moved over to QROC.

Making the claim at an industry conference this year, BCC waste minimisation manager Harry Copeland said QROC has also attracted support from a "a large number of affiliates who previously did not want to be associated with waste".

The council has been working with the recycled organics industry since 2008 after it offered a "hand up" and to work with Compost Qld to facilitate an industry development program.

"We have to move away from the tip



mulch mentality if we are expecting to attract long term markets in agriculture or horticulture," said Copeland.

"While we need to manage budget, best price does not necessarily mean best value. In reality we only get what we pay for, so it is in our best interest to get it right."

He said QROC is already conducting a gap analysis to put the finishing touches to a new Code of Practice, while a competency-based training program is also being developed.

"This move will go a long way to show credibility in developing quality organic products and improving opportunities to attract food retail, agriculture and horticulture markets."

“Most of the people I talk to within our organisation want this industry to gain the right sort of recognition” – Dennis Baker.

The business plan for the organisation addresses issues of producing quality products based on end user requirements and sourcing quality material at the start, which may require councils to segregate materials appropriate to product processing.

Inside the business plan

QROC is made up of a number of portfolios Baker describes as the "engine room" of the organisation and that are designed to engage members on various issues critical to industry development, including technical, marketing and development,

education and sponsorship.

Baker said QROC is "truly representative" of industry in Queensland and northern NSW. "We've got regional places for regional representation within the organisational structure. Three are already filled and there are two pending"

Their first field day is on October 14, a key event designed to educate and further development markets for green waste organics. Baker said a similar "non-official" event held recently attracted strong interest, including from NSW.

"What we've done up here has not been done down there, the product

but it appears that our investment in industry facilitation has paid off," said Copeland. "I am not so bold to take all the credit for this new direction, but I think that our display of confidence in their potential has nudged them in the right direction."

He said QROC is now courting new and previously unattainable markets and providing SEQ with some certainty to process potential volumes of organic material into quality end products.

Tapping new markets

While it remains difficult to engage the landscaping industry to date, Baker said the old attitude that recycled organics are only designed to dispose of liquid wastes is changing.

For example, recycled organics products are ideal for sporting ovals and will allow them to keep grounds in operation and achieve a quality playing surface. The market is potentially enormous, said Baker.

"It's only a ripple on a tsunami that will happen in the next few years."

Other markets that are expanding include mine rehabilitation and coal seam gas projects, which are looking to exploit recycled organic products in the whole lifecycle of their operations.

"This isn't a wish list, this is happening now," said Baker. "This is highly interesting to local councils who have a waste strategy coming in which will divert organics from the waste stream. Finding uses for organics is of primary importance to them and to DERM."

[iw](#)

CLIENT SOLUTION CASE STUDIES

SteriHealth Ltd

SteriHealth replaces five software systems with an integrated ERP and waste management solution

SOLUTION SNAPSHOT

SteriHealth is the largest provider of medical waste services in Australia, leading a sector worth around \$150 million annually. The company's services include medical waste disposal, sharps disposal management, healthcare onsite waste stream management and pharmaceutical waste disposal. Clients comprise hospitals, medical and dental surgeries, pharmacies, laboratories and veterinary clinics.

In line with its objective of growing the business organically and through acquisitions, new markets, services and products, SteriHealth has made a large investment in sites, plant, equipment and business systems in every state.



THE BUSINESS CHALLENGE

When SteriHealth acquired Daniels Sharpsmart Australia and Biocorp (now SteriHealth Laboratory Products), the company was utilising four standalone systems for finance and operations, plus operational software for tracking waste and sharps. These disparate systems were seriously impacting on the company's operations and efficiency, with four systems recording client details, all out of synch with each other.

As Stuart French, SteriHealth Business Systems Manager says:

"It was a nightmare. Financials and invoices were being handled by two different systems, data migration was time-consuming, and in some cases data was being rekeyed two or three times causing discrepancies and incorrect reporting."

THE SOLUTION

SteriHealth needed to implement an integrated solution which would:

- Improve the efficiency and effectiveness of business processes
- Reduce data and processing errors
- Deliver better information systems, procedures and reporting

- Provide opportunities for growth into new products and services
- Enhance customer service
- Ensure regulatory compliance

The company invited responses from 11 Australian and overseas suppliers of ERP (enterprise resource planning) and waste management software. After detailed evaluations, it selected Fenwick Software Pty Ltd and Microsoft Dynamics NAV with enwis).

enwis), Europe's leading waste management industry software, is built on NAV, has Microsoft certification and is fully supported by Fenwick Software, the sole distributor for enwis) in Australia.

"A key feature of enwis) is its ability to record and utilise contracts," says Fenwick Software Director, Andrew Ferguson. "This was particularly important for SteriHealth, with its 13,000 clients.

"Multiple contracts can be held with clients for multiple services, with the key benefit of using the initial contract as a template for orders, thus avoiding errors and costly re-keying of data.

OUTCOMES

Significant improvements delivered by the NAV/enwis) solution include:

- Systems integration
- Full visibility of everyone's work
- A central repository for all information
- Standardised and improved processes
- Productivity gains
- Improved customer service
- Regulatory compliance
- Scalability for growth

David Pietsch, the external Project Director who was appointed by SteriHealth to examine its previous systems and assist with the new implementation, says NAV/enwis) has given the company a much greater ability to implement complex but flexible business rules across the different states.

Acquisition of other businesses in the future will also be simplified by NAV/enwis), according to David.

"When you have the enabling technology, it allows you to absorb other businesses much more quickly, rather than facing a disparate set of non-communicating legacy systems."

Alex Fraser

Alex Fraser's IT overhaul improves customer service and primes it for future growth

ABOUT ALEX FRASER

Alex Fraser Group is Australia's leading construction and demolition materials recycler with six major recycling centres in Victoria and Queensland.

Recognised internationally for its technical expertise and as a pioneer in recycling, the company has the capacity to produce in excess of 3 million tonnes of recycled product every year, and has recycled 20 million tonnes of concrete since 1985.

THE BUSINESS CHALLENGE

In the mid 80's, Alex Fraser embarked on the most significant sustainability initiatives ever seen in Australia with its demolition recycling. Through significant growth, its business demands quickly superseded its infrastructure, forcing it to add various disparate applications as and when needed in Melbourne and Brisbane. This resulted in multiple technologies and information silos and it became increasingly difficult to have standardised procedures, operate efficiently, or make management decisions.

Because of the limitations imposed by the existing IT infrastructure, many business processes were manual, duplicated and prone to error. With the lack of synergy between the Queensland and Victorian operations, software could not be optimised and no upgrade and ongoing development paths were possible.

With a new recycling plant worth over \$45 million opening at Laverton in November 2009, and an additional plant expected to open in Clayton, plus further and plans to expand its Epping operation, Alex Fraser was not equipped to handle the growing demand.

THE BUSINESS SOLUTION

After a stringent review process, Alex Fraser selected Fenwick Software to implement a single, integrated ERP solution tailored specifically to support its complex waste management business. Leveraging Fenwick's 30 years of IT implementation expertise,

together with the market leading enwis) waste management and recycling industry solution, Alex Fraser chose to consolidate its business processes and improve its supporting technology in a single project.

"Fenwick Software was the only organisation that offered a fully integrated ERP solution that could meet our specific recycling and waste management business requirements," said Craig Bishop, Manager Information Technology Services Manager, Alex Fraser Group.

To commence the project, Fenwick Software, in collaboration with Alex Fraser, conducted business discovery workshops to clearly establish the status and needs of each business function, including accounts, payroll, purchasing, and the weighbridge operations that incorporated quoting and invoicing.

"Fenwick Software provided excellent project management and support throughout the project," said Craig.

Enhancements included customised eDocuments that allows quotes and invoicing to be automatically e-mailed to its clients; integration with payroll; and real-time integration to the remote weighbridge operators.

Data was standardised and integrated into a single SQL server and mapped to support the business processes. With a user-friendly interface, data became fully visible across the



organisation in a meaningful format, allowing slicing and dicing as well as the production of complex reports at the click of a button.

"The solution provided by Fenwick Software is easy to use and implement, allowing for quick rollout to new sites," said Peter Robertson, Group Finance and Administration Manager, Alex Fraser Group.

THE SUCCESS

Three months on, and Alex Fraser is starting to realise the benefits of the new system in line with expectations.

Customer service has improved, with weighbridge ticket errors being reduced by more than 75%.

Instead of knowledge being held by a select group of individuals, information is now available for all team members to access for improved performance levels and greater staff support at peak times.

"Fenwick Software's ERP solution has impacted many facets of our business, from improved customer service to reduced operational costs," said Peter. Going forward, Alex Fraser will look to Fenwick Software to assist in optimising the solution and for further enhancements.

Big statement in a small package

By Paula Wallace

THE GREENING of compactor trucks has presented a quandary for manufacturers in recent years, with the cab chassis possessing most of the environmentally friendly potential but still needing the grunt required to carry a heavy load.

Some of those questions have been answered with the launch of Australia's first 'green' truck in the UrBin (or Universal Rear Loading Binlifter) Hino Hybrid Rear Loader, which was showcased recently at the Melbourne Cricket Ground in front of an industry crowd.

The vehicle is the result of collaboration between Hino Australia, which provided the cab chassis, and MacDonald Johnston. It was designed specifically to collect refuse in built-up urban areas, particularly in parks and gardens where truck noise and emissions may be an issue.

MacDonald Johnston managing director David Waldron said the UrBin Hino Hybrid Rear Loader was an ideal way to satisfy the needs of inner-city councils and private contractors who are concerned with reducing their environmental footprint.

"Many rear loaders operate day-to-day within park and garden areas where noise and CO₂ pollution can be a major issue," he said.

"Rear loaders operating in these environments spend much of the day stationary or moving very slowly, which is where the hybrid system becomes most beneficial."

Hino Australia president Steve Lotter described how the Hino 300 Series diesel-electric hybrid chassis proves beneficial for the waste industry: "At low speeds, such as in parks and gardens, the Hino chassis' diesel engine is assisted by the on-board electric engine, meaning it consumes less fuel than a similar conventional rear loader."

"Combined with a significant reduction in nitrous oxide and carbon

dioxide emissions, the UrBin Hino Hybrid Rear Loader lessens overall operating costs, and ultimately the impact on the environment."

It can be configured to handle several types of common waste receptacles, covering conventional waste, green waste and recyclable goods. It can also be built to suit the specific needs of customers, depending upon requirements.

Committed to hybrid

In terms of developing hybrid technology, Hino has been active in the area for several years, launching its first hybrid in 2007 and its third generation series due out in October, with eight models ranging from 5 to 8 tonnes.

"It probably represents about 2% of sales, we're selling an average of 40 per year," said Lotter, adding most of the interest to date has been from local government.

"There's certainly strong interest and that interest will turn into stronger commitment as environmental concerns ramp up, as they will."

He said Hino's take on the hybrid is simple: "If while you're driving you



What makes this hybrid environmentally friendly?

- The UrBin Hino Hybrid Rear loader is developed around Hino's 714 model 300 Series diesel-electric hybrid truck chassis.
- Combined with a significant reduction in nitrous oxide (NOx) and CO₂ emissions, it lessens overall operating costs and environmental impact.
- At urban speeds the truck's diesel engine is assisted by the on-board electric engine, meaning it consumes less fuel than a similar conventional truck.
- It can be configured to handle several types of common waste receptacles, covering conventional waste, green waste and recyclable goods.
- The body and tailgate is manufactured from Hardox 450 high tensile steel, which is strong, light and hard wearing.
- The low body height suits areas with overhead hazards, such as low hanging trees.
- Full length tailgate seal contains any liquid in the body.
- A new generation load-sensing hydraulic system that lifts bins at low rpm, meaning lower fuel use and noise levels.
- All functions are controlled electronically for more efficient and reliable functionality, with a CAN bus control system.
- It can be configured to suit up to 660L capacity bins.
- There is easy access to grease points and wear pads for fast and easy maintenance.

can generate free power stored in the battery and use it at various times in the cycle...why wouldn't you do it? We think fundamentally it's a no-brainer."

With batteries becoming smaller and lighter, he said the UrBin Hino Hybrid will enhance the technology's visibility in the market.

While there are clearly fuel efficiencies, it's not that easy to produce hard figures on cost savings as the operating conditions for trucks in the field differ so widely.

"You can achieve a 20% fuel saving," said Lotter, "but some customers are saying it's as high as 40%. A lot depends on the driver as well."

With a standard 36 kilowatt hybrid electric engine the UrBin Hino Hybrid's

Continued page 36



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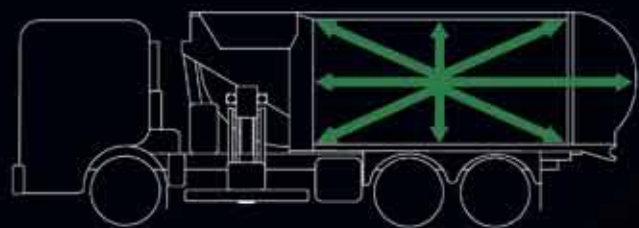
The all new 'Raptor SL Series III' side loader body has the "Largest Payload Capability", "Lowest Body Profile" and "Longest Bin Lifter Reach" capability in Superior Pak design history.

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Largest Capacity - The new body profile delivers a larger cubic capacity on the same size wheel base.

Longest Reach - The new bin lifter and reach beam design offers the capability to improve collection rates in tight streets and Cul-de-sacs. A whopping 664 mm of extra reach over the previous design and a total reach of 3485 mm.

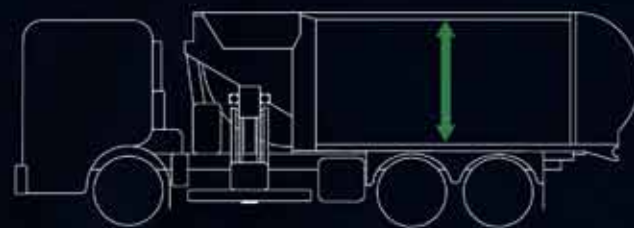
Lowest Profile - The new lower profile body incorporates a huge 243 mm reduction in body height, ideal for those areas with lush, low level foliage.



Largest Capacity



Longest Reach



Lowest Profile

NEW GENERATION SIDELOADER
RAPTOR SL SERIES III

**TOTALLY
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From page 34

efficiency kicks in during acceleration, where the vehicle uses more battery power than engine power.

"You're looking at an upfront 10-20% premium on the truck and payback is based on how many kilometres you are doing," said Lotter. "The optimal payback is about three years. We think the new generation will have less payback period, [because] as volumes are increasing the premium is coming down."

"Politics aside, clearly you would think a carbon tax will add a cost in operational environments and that would obviously help the take up of hybrid technology."

But even without that incentive he has noted companies are increasingly seeing fossil fuels as a finite resource when it comes to purchasing decisions, a trend which will continue "with or without government intervention".

Lotter confirmed the Toyota group is investigating other power sources, particularly in response to the operating demands of trucks, and believes the hybrid chassis will expand beyond 8 tonnes in the future.

"The thing about hybrid is that it



“Our package is now able to run at 300-400 rpm less with the hybrid engine and that creates fuel efficiencies” – David Waldron

will work with whatever the technology is... it's a complementary system rather than an either/or situation."

Bringing in the body

Described by Waldron as "a great step forward for our industry", the UrBin Hino Hybrid Rear Loader is now being launched through an active demonstration program

around Australia.

MacDonald Johnston hopes the cab chassis of the future will be able to handle bigger payloads, providing real environmental benefits at a price customers can afford.

About three years ago the company began to look at the impact of waste vehicles, not just the payload and durability aspects, and looked beyond

"the shell of the body and got more into the brains of the machine".

"What people see is the body but there's a hell of a lot of work being done to the hydraulics and electricals to improve the energy efficiency of the machine," Waldron told *Inside Waste*.

"Our package is now able to run at 300-400 rpm less with the hybrid engine and that creates fuel efficiencies."

While the hybrid technology is slightly more expensive, lower operating costs provide a fast payback period, relative to the environment in which it operates.

"We build a truck for life," said Waldron, "for 7-10 years, not five years. If you have a vehicle that is well supported with spare parts, service and real value at the end, that's more our philosophy, the best whole-of-life".

As for the future, Waldron said, "if the trucks can handle it (bigger loads) the bodies will marry up quite well and [we] could look at using more electrical components to do the lifting, like electric actuators, which is already happening in Europe... They are a lot quieter and don't use diesel to operate the pumps". **iw**

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To remain at the forefront of aluminium trailer technology for the waste industry, Lusty EMS has invested heavily in the things that matter most: its manufacturing techniques, design and engineering skills, its people and the very latest materials. But all along, its greatest investment has been in listening to its customers.

The Forefront of Customer Satisfaction

Lusty EMS takes a genuine interest in the waste industry: we listen, we learn, we create and we deliver equipment and solutions that help waste transport businesses improve their efficiency. We do this with good old Aussie know how – we call it teamwork.

The Forefront of Quality and Performance

Key to Lusty EMS' success, and customers' peace of mind, is the stringent quality control, craftsmanship and attention to detail we put into everything we do, which is clearly supported by the fact that so much of our on-going business comes from repeat customers. Every trailer is carefully hand crafted to each customer's specification, to fulfill the precise requirement of their transport task.

The Lusty EMS Moving Floor trailer offers waste transport operators the performance and reliability bulk haulage demands.

Extra features such as ABS with EBS (electronically controlled braking and stability system) offer improved safety and performance, especially when full loads raise the centre of gravity.

Other features available include a rounded front wall to assist in equal distribution of the weight over the prime mover, as well as long life, galvanised steel rear frames on the compactor units.

From the ground up, and for over 10 years, Lusty EMS has built some of the finest quality and toughest Australian made Moving Floor, Aluminium and steel semi trailers around.

The Forefront of Product Design

Lusty EMS Moving Floor trailers are available in both Heavy and Medium Duty construction.

The Heavy Duty is a full aluminium construction utilising full aluminium sheets and a full chassis for the Waste and Construction Industry whereas the Medium Duty is a plank construction utilizing extruded planks, rear barn doors and a monocoque chassis construction designed for cartage of landscaping and lighter bulk materials.

Whatever your need, Lusty EMS can assist, by bringing together a wealth of knowledge and vast understanding of trailer technology to work with you to create the transport solution you are looking for.

The Forefront of Payload Advantage

Each Lusty EMS trailer is built to the highest possible standards of craftsmanship, using the very best materials, market leading engineering and fabrication techniques, which allow Lusty EMS to deliver a trailer to its customers that has an unequalled pedigree of quality, durability and excellent resale value.

Ever conscious of the need to deliver payload advantage to its transport customers, Lusty EMS reduces every gram of excess weight to deliver lower tare that gives its customers a clear competitive advantage.

Further information on the Lusty EMS Moving Floor trailer and other aluminium and steel road transport equipment can be viewed at www.lustyems.com.au.

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Lifting standards in the mobile market

By Paula Wallace

AFTER entering the mobile sector of the waste industry two years ago, Wastech Engineering MD Neil Bone thinks there might just be a future in it. The company has recently completed the "Mark 2" version of its front lift truck, known as the EVO31.

With simpler hydraulics and electrical components for enhanced reliability, easier fault finding and maintenance, and more durable construction material, the vehicle is already in demand. Three of these new units have come off the production line; two destined for Tasmania and one for Melbourne.

The first generation of the EVO31 was designed in response to the global financial crisis. According to Bone, "we needed to diversify, so in the middle of the GFC we designed and launched it within six months".

“We are 1.2 tonnes lighter than our opposition... that's an extra 1.2 tonnes of legal carrying capacity for every load”
– Neil Bone

With 14 units in currently in the field, Wastech Engineering has since been able to work with end users, mechanics and maintenance staff to refine the design and operation of the EVO31.

"Customer feedback has helped us to evolve existing time tested designs into a reliable, maintenance-friendly truck that will go the distance," said Bone.

The key to the simplified hydraulics was in a single valve design and reduced pipe work and hoses.

"Single valve design reduces hoses and fittings to reduce potential oil leaks. All valves are mounted within the body to reduce the chance of drips and spills onto roadways. All exposed external hoses have spray guard sleeves fitted," said Bone.

An upgraded touch screen control and solid state ECU has allowed drivers and mechanics to obtain greater feedback and fault monitoring information. Customisable fault or hazard warnings have options of

visual and/or audible warnings, which are logged in a maintenance file.

"All pressures, speeds and functions are adjusted from the touch screen without the need of a laptop or electrician to drive it," added Bone.

One of the greatest innovations for the EVO31 has been in producing a lighter body, greater durability and wear resistance, resulting in longer working life. In addition, highly accurate body dimensions from the single piece side walls, roof and floor design are able to reduce blade clearance and waste bypass.

"Certainly with the Hardox [steel plate] product there has been a dramatic change in wear and working life of front lifts and trailers as well, its wear characteristics are so good," he told Inside Waste.

"The Hardox floor should last the life of the vehicle... It's nearly four times the strength and wear capacity of standard mild steels."

While Hardox has been around for several years from SSAB, Bone said it has taken time for machine shops to learn how to work with it. "It has a unique memory and it's incredibly strong; you have to be careful how you form it as it can buckle and warp without notice".

With a 95% content of high tensile steels from the Hardox, Domex and Weldox range, the body, blade and arm construction of the EVO31 combine light tare weight with durability.

"We are 1.2 tonnes lighter than our opposition," said Bone. "That's an extra 1.2 tonnes of legal carrying capacity for every load".

Moving into rear lift

Wastech Engineering has also moved into the rear loader market in the last 12 months, becoming the exclusive sales and service agent for Garwood in the Victorian market.

While the market dynamics are quite different for rear loaders compared to front lift trucks, Bone said with the decision of one rear loader supplier to discontinue one of its product range, there may be an opportunity for customers to try something new.

Apparently one of the benefits of Garwood's range, which has attracted some interest in the Melbourne market, is its ability to custom build specialist rear loaders to suit all applications including low profile bodies for accessing carparks with low head heights.



The introduction of Hardox has brought a dramatic change in wear and working life of front lifts



Less welds create a smooth uninterrupted appearance of the EVO31.



The new EVO31 has a lighter body, greater durability and wear resistance.

"More customers are asking us to look at other mobile applications and products, which we're doing but we're yet undecided on what direction we are going," said Bone, adding

the company's front lift and transfer trailer are more than holding their own in the market and a number of projects are currently "on the radar". Stay tuned. **iw**



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'Hardox in My Body' moves into waste

ACCORDING to service company Citywide, its new 60 cubic metre Hardox ejection trailer from Wastech Engineering is taking on the task of shifting Melbourne's waste effortlessly and shows no sign of slowing down.

Wastech recently became involved in the Hardox in My Body program after the manufacturer identified the benefits of the hardened steel plate.

To help customers identify the highest performance in wear plate, the manufacturers of truck bodies can obtain a Hardox In My Body license from SSAB, allowing them to put a sign on their products.

"We did some calculations on the weight savings offered by Hardox and very quickly decided to look further into the product as the savings were substantial," said Wastech MD Neil Bone.

"And the benefits aren't only in the payloads. In very arduous conditions, we can now provide customers with a high tensile product that can withstand

high packing forces associated with the waste industry."

Citywide is a long-standing Wastech customer and purchased its first Hardox trailer from the firm in late 2009. This purpose-built trailer was designed for Citywide's Dynon Rd Transfer Station, which services the Melbourne CBD and surrounding suburbs.

Since being put to work in December 2009 the 10.5 tonne ejection trailer has been used to transport around 25 tonne payloads from the transfer station to Citywide's landfill in the western suburbs.

Citywide's divisional manager for environmental services, Chris Ryan agreed the higher tensile rating of Hardox compared to other products meant lighter tare weight steel sheet, in turn meaning greater payloads.



To date, the new trailer has been performing very well and we expect it will last us up to 10 years" – Chris Ryan.



"Because of the type of product we transfer, the walls and floor of our trailers need to be ultra-strong to prevent any denting, gauging or

tearing," he said.

"To date, the new trailer has been performing very well and we expect it will last us up to 10 years. Whilst some of the other trailers may last between 8-10 years, they need to be re-sheeted throughout the course of their life. We are expecting far less maintenance in this respect with the Hardox trailer." **iw**



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Superior payload should turn a few heads

By Paula Wallace

DOES it have the biggest payload in the industry? Superior Pak's Garry Whineray isn't making that claim, but he did tell *Inside Waste* the new Raptor SL Series III Sideloader has the biggest payload in the company's history of product innovation in this country.

Add to that the longest reach and the lowest profile and you have a pretty good idea of where the company was going with its new sideloader.

"The new body has taken the leading attributes of the widely accepted RAPTOR Pendulum Packer and exploited all available potentials to provide a body with these features," said Whineray, the company's national sales manager for mobile equipment.

"The market called for a reduction in overall vehicle height so that overhead hazards would be further minimised and this has been delivered."

Apparently the market also called for additional reach and bin lifter capability to improve collection rates in tight suburban streets and cul-de-sacs, and Superior Pak has delivered with a new bin lifter design.

"The operator now has more opportunity to remain in the driver seat, instead of having to get out of the vehicle to reposition a bin which was otherwise out of reach," said Whineray.

This has obvious occupational health and safety benefits, but could also help extend the company's reach into the local government sector.

"Our focus and penetration in the municipal market is the strongest it's ever been" explained Whineray, "We have experienced significant growth in this market over the past 12 months and with our new design we expect this will improve even more".

Councils have numerous requirements in terms of their operating environments and Superior Pak expects the ability to operate efficiently in smaller spaces will give the Raptor sideloader a definite advantage.

One benefit that is a little harder to quantify is the whole-of-life cost of



“In a market where innovations are measured in millimetres rather than metres, this newly engineered body has knocked a massive 243 mm off its height.”

the vehicle, which Whineray said will be even better with improved design and less moving parts.

"This is not always documented and can be hard to prove, but it's a focus in our face-to-face meetings with clients that our vehicles are less expensive to run because they are more efficient at what they do," he said.

The science behind the claims

An interesting development is that

the Raptor sideloader has managed to incorporate a reduction in the overall body height and at the same time achieves an increase in overall body volume capacity.

In a market where innovations are measured in millimetres rather than metres, this newly engineered Raptor body has knocked a massive 243 mm off its height.

Whineray explained how this was achieved by extending the side profile.

"Our trademark flared guard on the side of the body has been reduced in size down the entire length of the body. That reduction has allowed us to take the side profile to the full extent of the legal requirement," he said.

"That couple of extra inches has allowed us to get a lower profile and slightly larger cubic capacity than previous designs."

The new 33m³ SL-R body offers an additional 2m³ capacity over the previous NPR model, while maintaining the body height of the industry accepted Raptor 'Recycles' NPR models.

The new Raptor SL Series III design has maximised all body volume potentials to now provide 24m³ of waste collection capacity, with less body height and yet on the same cab chassis wheelbase as the previous 23m³ model vehicle.

The selection of body profile has typically been based on the waste stream application; that is, high profile for recycles and low profile for general refuse. But this hard and fast rule no longer applies, said Whineray.

"The customer has a number of choices that can be made based on either cab chassis wheelbase, body volume or the actual application."

Another new feature of the Series III body is the Series 6000 lifter, which has an improved maximum reach of 3,485mm (that's 664 mm greater than the Series 5000 model).

The lifter is designed to lift 80, 120, 140, 240 and 360 litre bins, with a 100kg maximum lift at a cycle time of approximately six seconds.

A major feature of the Superior Pak bin lifter assembly is the ability to cleanly pick up bins without them having to be centred with the grab assembly or even the vehicle to be stationary.

"The sweeping style of the grab arms and less than one second – that's fully open to fully closed – grab speed make snatch and grab 'on the go' collection possible," said Whineray, adding that it is designed in a way that is particularly efficient and inexpensive to maintain. **iw**

Clean machines slashing vehicle emissions

By Paula Wallace

THE CITY of Sydney is investing in cleaner, greener vehicles to drive down greenhouse emissions and is on track to reduce CO₂ emissions from its vehicles by 20% by 2014.

The council's manager of strategy and assets, Chris Binns, said so far 84 vehicles – including garbage trucks, road sweepers, footway cleaners and steam cleaning trucks – have been fitted with environmentally friendly exhaust systems and filters so they produce far fewer emissions.

Improvements to the city's vehicle fleet will include a requirement that all new trucks bought by the city meet tough Euro 5 diesel engine standards in order to reduce fuel consumption and emissions. It will also use sustainable biofuels, which combine diesel with recycled cooking oil, animal fat and canola, to help power its diesel trucks – this move alone could slash CO₂ truck emissions by up to 18%.

Binns told Inside Waste the city

had established a comprehensive fleet management strategy for 2008-2010 and a further 2011-2013 strategy for its waste vehicles, which include 8m³ and 15m³ rear loading compactors, road sweepers, footway sweepers, various 2-5 tonne open wagons, mobile steam plants, Ford Ranger diesel utes and VW Caddy diesel vans.

The strategy sees garbage compactors and sweepers replaced after four to six years of service. All data on vehicle costs, fuel and emissions is captured and reported monthly.

The city is also downloading and analysing engine management data to assess engine performance and driver behaviours, as well as conducting an eco-driver training program for medium and high emission vehicle drivers.

"We have already introduced 20 diesel-electric hybrid trucks to our fleet and will continue to replace with hybrids. Another 10 are due in 2011/12," Binns confirmed.

"We have just completed an 18 month program to retrofit 84 pre-2006



One of the City of Sydney's hybrid trucks.

diesel trucks with catalytic converters and particulate filters to their exhaust systems to bring them up to Euro 4 emission standards. Although not reducing CO₂, the retrofits gain up to 60% reduction in particulate emissions and NO_x gases."

In 2006 the city started used sustainable biodiesel in its diesel fleet, but stopped it two years later.

"In 2008 our biofuel suppliers changed to unsustainable imported Malaysian palm oil as the bio-oil

source and the city ceased using it," said Binns.

Earlier this year the city tendered for new sustainable biofuel suppliers and awarded a contract to Manildra to supply up to 600,000 litres of sustainable bio-diesel per year.

"The B20 and B50 biodiesel supplies are sourced from recycled cooking oil, tallow and canola," said Binns. "Costs are competitive with normal diesel and vehicle performance is uncompromised."

iw

mobile refuse equipment



Garwood International are designers and manufacturers of refuse (waste) compactors (mobile and stationary) for the waste industry.

Garwood utilises simplified design techniques to obtain a highly efficient and low maintenance compactor, with special attention paid to environmentally friendly operation.

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Extreme weight loss in new trailer

By Paula Wallace

BULK Transport Equipment has a lot on its plate at the moment representing HYVA with its range of Hooklift and Skiplift equipment as well as custom building a large range of equipment. While it's not about to get into the compactor truck market, the company's Alan Griffiths said it has been working on more than one innovative design for compaction trailers and a few other projects that are still under wraps.

"We're talking to a customer at the moment about a high volume green waste compactor," he told Inside Waste. "We've come up with a concept where the trailer will be loaded from the top and the green waste will be compacted by the ejector blade, the load transported to its destination and then ejected from the body using the traditional blade system".

With a capacity of around 80m³, Griffiths modestly describes it as a "fairly good piece of equipment", especially as there is no practical method of transporting unchipped green waste at the moment.

He noted one trend that has emerged in the last year is a number of hook truck operators who are opting to put bin transfer trailers behind the trucks so they can cart two bins at once.

"They're looking for efficiency improvements," said Griffiths. "Transfer stations and landfill sites are moving further out of town and it makes sense to double your productivity rather than run a single hook truck".

He said that some council tenders have starting calling for the use of performance-based standards (PBS) that allow operators to run higher masses, by using a certified combination, in some cases increasing masses by up to 10%.

"PBS is something that the waste industry will gain significant benefit from if regulators look favourably upon the concepts put forward by body builders, not with frontlifts, but with truck and trailer combinations which are now common in other segments of the market," said Griffiths.

In an effort to increase the payload of its ejection trailers, BTE has put serious time into developing its recently released GENESIS trailer for the waste industry, which Griffiths said will "optimise your payload and put money in your pocket".

Using its considerable industry experience and in-house design skills,

BTE has come up with a state-of-the-art, lightweight design. It makes use of the complete range of high strength steel materials to provide weight savings over traditional vertical rib ejection trailers, while at the same time offering improved structural integrity.

With an estimated tare weight of 10.5 tonnes and a capacity of 65m³, the GENESIS even looks better than its more conventional counterparts.

"This design shaves a mighty 3.5 tonnes from the tare weight of the traditional heavy duty ejection trailers," said Griffiths.

“ This design shaves a mighty 3.5 tonnes from the tare weight of the traditional heavy duty ejection trailer”
- Alan Griffiths

"We are now using this body design to incorporate the same weight savings on our live floor range of trailers."

The principal design utilises a slightly conical body, which is considerably stronger than a traditional design with flat sides and external ribs, which allows it to gain approximately 5m³ as a result of eliminating the vertical ribs.

"The design of this body also addresses some OH&S issues, with many of the old ejection trailers allowing access into the front during its operation, putting operators at risk as well as allowing the ingress of rain into



The body design of the new GENESIS addresses some OH&S issues with many of the old ejection trailers.



The new style of rear ejection waste trailer, BTE's GENESIS.

the load, causing potential spillage from the rear of the trailer whilst it is driving along the road," said Griffiths.

The use of high strength steel in heavy duty trucks and trailers has been around for a long time in heavy applications but is now common place

in all BTE equipment.

"We've been able to remove weight from our chassis designed by reducing material thicknesses up to 30% in some applications," he said, which can increase payload for not that much more of an investment. **iw**

Get a load of this

No it's not for a charitable cause, but this eye-catching heavy duty semi-trailer was custom-made by Bulk Transport Equipment on behalf of its customer VicMix, which it uses to cart sand, gravel and concrete waste.

"We have a few customers around the country using similar equipment which can be built to suit your application and still provide increased wear resistance and/or reduced tare weight and in some cases we can achieve both of these objectives," he said, "It's just a good looking trailer that grabs attention wherever it goes".



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Aussie suppliers trailer blazing

WITH the need to optimise payloads and to transport materials longer distances between the sources of waste and the disposal points, a number of suppliers in the Australian market have set the bar high, coming up with increasingly sophisticated designs and transport solutions.

For example, this trend has seen a number of hook truck operators opting to put trailers behind the trucks so they can cart two bins at once, and incorporating load cells or weighing systems.

The use of lightweight, high-strength steel has well and truly cemented its place in the construction of heavy duty trailers, in most cases offering significantly lower tare weight while offering superior structural integrity. And floors made of high-strength steel, claiming up to four times the strength of their predecessors, present an attractive proposition with their ability to last the life of the truck.

The waste industry is also starting to take greater advantage of other technologies out there, such as air bag suspension, which allows the operator to carry more weight, better braking systems and safety features. With these specifications, waste trailers will also be in a better position to qualify for the performance-based standards some council tenders are beginning to call for.

Wastech Engineering

Ejection/floor system: Positive eject, blade system
Time to eject load: 2.5 minutes
Common volume: 60m³
Construction material: Hardox 450
Weight: 10,500kg (subject to optional equipment)
Base Price: \$170,000-\$200,000 + GST (subject to optional equipment)
Build time: 12 to 14 weeks (subject to prior order commitments)
Production capacity: 15 + Trailers p.a.
More: Wastech Engineering on free call 1800 465 465 or via www.wastech.com.au



LM Bryne

Ejection/floor system: 90% Keith, 10% Cargo
Time to eject load: 6 minutes
Common volume: 90-120 cubic meters
Construction material: fully aluminium
Weight: 7400 tonne
Base price: Not supplied
Build time: 8-10 weeks
Production capacity: 150 trailers p.a.
More: Byrne Trailers on (02) 69237300 or via www.byrnetrailers.com.au



Bulk Transport Equipment

Ejection/floor system: BTE Hardox ejection blade
Time to eject load: 4 minutes
Common volume: 70m³
Construction material: Hardox body
Weight: 10,000kg
Base price: \$130,000 (subject to specification)
Build time: 12 weeks
Production capacity: 20 trailers p.a.
More: Bulk Transport Equipment on 0431087618 or via www.bte.net.au



BTS Azmeb Global Trailers

Ejection system: HVST - High Volume Side Tipper
Time to eject: 1-2 mins each trailer
Common volume: Single trailer 85m³, B-Double 120m³
Construction material: Either steel or lightweight aluminium
Weight: Tare single 11,500kg, B-Double 22,000kg
Base price: Approx \$172,000 per trailer + GST
Build time: 12 weeks
Production capacity: 120 p.a.
More: Azmeb Global Trailers on (07) 4155 4565 or info@azmeb.com.au or via www.azmeb.com



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Vawdrey Australia

Ejection/floor system:
Predominantly Hallco
Time to eject load:
7-10mins (subject to product)
Common volume: 97m³
Construction material:
Aluminium body with steel sub-frame
Weight: 9,000-10,000kg
Base price: \$140,000
Build time: 8 weeks
Production capacity: 30 trailers p.a.
More: Vawdrey Australia on (03) 9797 3700 or via www.vawdrey.com.au



Lusty EMS

Ejection/floor system:
Keith or Cargo
Time to eject load: 8-10 mins
Common volume: 90m³
Construction material:
Aluminium
Weight: Ranging from 8,400kg for medium duty to 10,000kg for heavy duty
Base Price: \$135,000 (medium duty) to \$165,000 for heavy duty
Build time: 8-10 weeks
Production capacity:
35-40 p.a.
More: Rick Child, national sales manager, on (07) 3375 0034 or via www.lustyems.com.au



Barker Trailers

Ejection/floor system:
Cargo CF3LP-2 (high impact, leak proof)
Time to eject load: 8-12 mins
Common volume: 90m³
Construction material:
Varies
Weight: Approx 10,800kg
Base price: Approx \$148,000 incl GST
Build time: 8-10 weeks
Production capacity:
50-75 refuse trailers p.a.
More: Barker Trailers on (03) 5427 9999 or via www.barkertrailers.com.au



Allroads Motor Body Builders

Ejection/floor system:
Tipping body
Time to eject load: 15 minutes
Common volume: 66 m³
Construction material: Hardox steel
Weight: 9,500kg
Base price: \$72,000
Build time: 12 weeks
Production capacity (annual): 25-30
Contact details: Allroads Motor Body Builders on (08) 9844 3883.



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The truck of the future

WHEN you think about the waste truck of the future you think bigger payload, sure, but increasingly there also seems to be this idea of being leaner and greener.

While waste truck designs have until now relied primarily on the cab chassis to deliver a lower environmental impact, the latest thinking is that a truck which uses lower rpm when compacting also uses less fuel, and because the pumps don't have to work as hard, they make less noise. Why not take it a step further, as they have in Europe, and move to electric actuators that pick up energy from the driveline of the truck?

Furthermore, designing a truck that is more efficient also means there are ultimately less trucks on the road, because they can have higher payload capacity. Through sleeker body designs using lightweight, hard-wearing high tensile steel, some manufacturers are claiming amazing weight reductions and longer life.

While putting less vehicles on the road may not seem like a great outcome for truck manufacturers, there are long-term benefits to be had in consolidating share of a market that is being driven towards sustainability. The City of Sydney is a fan of the diesel-electric hybrid truck, having added 20 to its fleet already and another 10 due this year.

The city has also, over the last 18 months, retrofitted 84 pre-2006 diesel trucks with catalytic converters and particulate filters to their exhaust systems. It is targeting Euro 5 emission standards for any new trucks entering the fleet and will now replace any waste compactors and sweeps after 4-6 years of service.

As of this year, MacDonald Johnston and Hino Australia have won the title of the first to come up with a truly green waste compaction vehicle, a compact, purpose-built unit designed to capture the waste stream in built up urban areas.

Ideal in an environment where the vehicle is often stationary or moving slowly, the UrBin Hino Hybrid Rear loader includes a load-sensing hydraulic system that lifts bins at low rpm. Perhaps this humble little lifter is a sign of what's to come.

Superior Pak

Front Lift

Pegasus Front Loader

Model types: Half Pack/Full Eject and Half Pack/Tipping versions
Configuration: Industrial Waste and Recyclables collection on popular 6x4 and 8x4 applications. (25 & 31m³ capacity).
Capacity: 31m³ – featured 8x4
Payload: Maximum potential payload varies between approx. 8,800kg and 11,200kg depending on the mass of the selected cab chassis and, customer options
Length: Approx 10,250mm and 10,500mm dependant on the customers selected cab chassis
Construction: High Tensile Steel. Body sides, floor, roof & tailgate Bisalloy 80. Optional 'Creusabro 8000' floor popular
Weight: Approx 5,620kgs – 6,800kgs
Max load on lift arms: 2,000kg factory set bin lift capacity – Arm SWL 2,700kg



MacDonald Johnston

Front Lift

FORCE Front Loader

Model types: FORCE 285 & FORCE 335
Configuration: Available on 6x4 or 8x4 Chassis
Capacity: 33.5m³ featured (28.5m³ capacity also available)
Payload: 11,000kg
Length: 10,482mm
Construction: Body 4mm Hardox 450, floor 5mm Hardox 450
Weight: Approximately 7,400kg
Max load on arms: 2,500kg (3,600kg option also available)
Lift cycle time: 18 seconds total (up & down)
Compaction system: Dual 4 stage telescopic pack arms, half pack – full eject
More: Phone (03) 9271 6400 or visit www.macdonaldjohnston.com.au



Lifter cycle time: Approx 20 second cycle time – 10 sec up, 10 sec down
 Compaction system: Twin telescopic 'Scissor action' pack rams
 Base cost: From \$184,600 + GST
 More: Contact Superior Pak on 1800 013 232 or via www.superiorpak.com.au

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D&V Hooklift – Hyva Hookloader



Hyva Skiploader and hookloader equipment with a wide range of options. (this pic - fitted with integrated load cells and full remote control operation)



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Hyva Skiploader

The dedicated team at BTE works closely with its customers to ensure the initial design criteria is established and met.

BTE is an authorised distributor of the Hyva range of Hook and Skiploader equipment which is manufactured in the Netherlands. To compliment this range of product, BTE produces bin transfer trailers, tipping skeletal, live floor and rear ejection trailers and a range of heavy duty tippers.

With over 50 years of collective experience, BTE has developed a range of heavy duty products which have set the industry benchmark and continue to provide improved efficiency for its customers.

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Wastech Engineering
Front Lift

Configuration: 8 x 4
Chassis:
Capacity: 31m³
Payload: 11,200 kg (on Volvo FM9)
Length: 10,640mm overall
Construction: Body – 3mm Hardox 450, Floor & Runners Hardox 500
Weight: 6,200kg
Max Load on Lift Arms: 2,700 kgs
Lifter Cycle Time: 12 seconds
Compaction System: Dual four stage telescopic pack rams, half pack – full eject
Base cost: \$188,000 + GST
More: Wastech Engineering on 1800 465 465 or via www.wastech.com.au


EVO31
Garwood International
Rear Lift

Model types: Bantam 4-6m³, Compact 8-9m³, Powapact 10-16m³, Maxipact 18-23m³
Application: General, domestic, clean up, hard, recycled, paper, parks and gardens, commercial waste collections
Capacity: 8m³ – featured. Also available from 4-23m³ in standard form or hard garbage.
Payload: 4,500kg in 8m³, featured
Length: 7 m overall, including cab
Construction: High tensile steels used, Bisalloy and Hardox
Weight: 3,800kg
Lifter cycle time: 8-10 seconds (raised and lowered)
Hopper size: 1.28m³
Compaction pressure: Approx. 550kg per cm³ (dependent on waste type)
Base cost: From \$90,000 + GST
More: Garwood International (02) 9756 3756 or www.garwoodinternational.com.au


Compact rear loader
Wastemaster
Front Lift

Configuration: 6x4
Capacity: 25m³
Payload: 9460kg
Length: 9490mm overall
Construction: Wall & floor 5mm Hardox 450; roof 4mm Hardox 450
Weight: Approx 6,520kg
Max load on arms: Approx 2,500kg
Lifter cycle time: 18 seconds
Compaction system: 4 stage telescopic pack rams, full pack – full eject
Base cost: From \$165,000 + GST
More: Wastemaster on (08) 9493 0722 or via www.wastemaster.com.au


Frontlift FL25
Superior Pak
Rear Lift

Model types: Available in 4.5-15m³ (4x2) and 15, 19, 21 & 25m³ (6x4)
Application: Domestic, commercial and recycled waste collection
Capacity: 19m³ – featured
Payload: Maximum potential payload approx. 10,300kg dependent on the mass of the customers selected cab chassis and customer nominated options
Length: Approx. 7,200mm (not including lifter assy)
Construction: High Tensile Steel. Body sides & roof Optim 600, floor Bisalloy 80, Hopper floor Creusabro 8000
Weight: Approx. 4,500kg
Lifter cycle time: Approx. 8-12 seconds dependant on style of lifter selected
Hopper size: Approx. 3m³
Compaction pressure: Approx. 600kg/m³ subject to waste stream type
Base cost: From \$126,200 + GST
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UrBin Rear Loader
MacDonald Johnston
Rear Lift

Application: Hard waste, domestic, commercial and recycle waste collection
Capacity: 20m³ featured (6, 8, 11, 14 & 24m³ capacity also available)
Payload: Approximately 10,000kg

Length: 6,715mm including full width lifter assembly
Construction: Body 3.2mm Hardox 450 material

Weight: Approximately 5,298kg
Lift cycle time: 6 seconds for full width lifter style
Hopper size: 2.2m³

Compaction pressure: Approximately 500kg/m³ subject to waste stream
More: Phone (03) 9271 6400 or visit www.macdonaldjohnston.com.au


Raptor Side Loader
Superior Pak
Side Lift

Configuration: General Refuse and Recyclables collection on 6x4 & 4x2 applications. Available in 17, 18, 24, 25, 28, 30 & 33 m³
Capacity: (including door): 24m³ – featured 6x4
Payload: Maximum potential payload varies between approx. 10,000kg and 11,600kg dependent on selected options

Length: (including hopper: Approx. 7m

Construction: High Tensile Steel. Body sides, roof & tailgate Gr600, body floor Bisalloy 80, hopper floor Creusabro 8000

Weight: Approx. 4,950kgs

Height fully raised: Approx. 6,200mm

Lifter cycle time: Approx. 6 second cycle time – 2.8 seconds up, 2.8 seconds down

Hopper volume: 1.75 m³, approx. 7 x 240 litre MGBs

Hopper clearance rate: 2.16m³-2.7m³/min


Garwood side loader
Garwood International
Side Lift

Configuration: For general waste and recyclables. Available in 6, 8, 10, 12, 15, 18, 19, 21, 23, 28 & 30m³ capacity.

Capacity: (including door): 23m³

Payload: Approx. 11,000kg

Length (including hopper): 6,979mm

Construction: Hardened steels, Bisalloy and Hardox

Weight: Approx. 4,700kg

Height fully raised: 3,570mm on ejector tip model, 6,300mm on tipper model

Lifter cycle time: Approx. 6 seconds

Hopper volume: 1.5m³ approx. 6 x 240 litre bins

Hopper clearance rate: 3.25m³ per minute

Base cost: \$125,000 + GST

More: Garwood International (02) 9756 3756 or www.garwoodinternational.com.au


SPORT Gen V
MacDonald Johnston
Side Lift

Configuration: Available on 4x2, 6x2 or 6x4 chassis

Capacity: 35m³ featured (14, 18, 22, 25 & 29m³ also available)

Payload: Approximately 9,500kg

Length: 7,973mm

Construction: Body 3.2mm Hardox 450 material, Hopper Bowl 8mm Creusabro 8000 material

Weight: Approximately 5,596kg

Height fully raised: Approximately 6,400mm

Lifter cycle time: 6-10 seconds full cycle

Hopper volume: 1.3m³

Hopper clearance rate: 2.75m³/min

More: Phone (03) 9271 6400 or visit www.macdonaldjohnston.com.au



Base cost: From \$140,850 + GST

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Diary

October

17-19

The Waste Fleet conference, Michigan USA

www.wastefleetconference.com/

20

C&I Priority Materials Breakfast Seminar – Wood, Food Waste, Paper, Cardboard & Plastic, WMAA NSW C&I Working Group, Parramatta NSW

www.wmaa.asn.au/director/events/nsw_act.cfm

20

2011 Women of Waste Professional Development Seminar, NSW Young Professionals Working Group, Parramatta NSW

www.wmaa.asn.au/director/events/nsw_act.cfm

November

9-10

Paper Recycling Conference Europe 2011, Barcelona Spain

www.paperrecyclingeurope.com

10-11

Australasian Waste & Recycling Expo and Conference, Sydney NSW

www.awre.com.au/

2012

September

17-19

The World Solid Waste Congress 2012 - Florence, Italy

www.iswa2012.org

Got an event you would like listed in our diary? Email it to: editor@insidewaste.com.au or fax it to: (02) 9817 4366.

Dirty deeds done dirt cheap

WHILE *Wasted Space* was struggling to wrangle the remote control over the weekend, with a trigger finger in paralysis from attempting to change channels quickly at a critical time in two different sporting codes, there was a flash of an idea. Could there be an opportunity to establish a pirate analogue network that provides television channels that do not require the start up time of a fluorescent tube? And, if there was such an opportunity perhaps there may be a viable market for all the out dated analogue TV beasts now finding various fates around this wide, brown land.

Please don't misunderstand me dear readers, *Wasted Space* fully embraces the forward march of technology but let's not rush into things. Like our nation's leaders who, in their wisdom, have chosen not to bound decisively into the realms of product stewardship, even with overwhelmingly clear, positively good evidence of its benefits.

And let us not privilege one type of product over another when it comes to ramblings over stewardship. With the ability to pack scores of shipping containers with televisions each week it does make the stoush over collecting drink containers look less important, or does it?

While some overly enthusiastic polities may have gone headlong into crazy commitments about creating container deposits, they are now being shown the foolishness of their ways. There must be a good argument against this kind of activity for the 'Big Beverage Company' to be forced into a position where it had to explain things very clearly to some members of Western Australia's parliament; put in some hours at the Packaging Stewardship Council; and contest the laws made up in the Top End. Yes it's hot up there, yes they drink a lot of cola and maybe even enjoy a shandy in the evenings, but surely we don't have to go to extremes.

There have been some very sensible suggestions about installing a few more bins about the place and putting up a few signs, particularly out in the bush where recycling has taken a bit longer to catch on.

Wasted Space can vouch first hand for the terrible blight of scavenging that has made its way into the South Australian social fabric over the last 30 years. It was on a recent visit to the festival state that I had a bottle virtually whipped away from under my very nose at a prestigious street-side café.

What the South Australian experience can teach us is simply what lengths members of the public may go to in order secure that 10 cent refund. A bus tour around Adelaide and surrounds should be enough to convince anyone how the state manages to maintain an 85% recycling rate of beverage containers, producing streets devoid of a stray soda cans – a sight that's truly frightening to the eye.

The 'Big Beverage Company' is certainly carrying a heavy load at the moment. But as it has soberly pointed out, there has been no successful uptake of a container deposit scheme in 25 years, so I guess it can be proud of its record despite the wild conspiracy theorists who bray about undue influence. Hopefully it has conserved some energy for the biggest fight of all, but thanks to its common sense contribution to the national process we will now undertake another impact study. After 10 years of debate, what's another 12 months after all?



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Next issue:
DECEMBER 2011
Product profile



SHREDDERS & GRANULATORS

As the cost of landfilling increases, driving greater resource recovery, there are new markets opening up for recycled products and the equipment to drive it. Inside Waste delivers the latest in products available to the waste and resource recovery industries, including the full range of shredders and granulators. With much of the recycling effort in Australia to date having been driven by kerbside recycling the next phase will see a focus on commercial and industrial waste streams. This edition will focus on these

'next generation' in equipment for the recycling sector which maintain a focus on quality and reliability but also bring in a certain degree of innovation.

For a full list of all-new features coming up in Inside Waste in 2012, phone or email Inside Waste today.

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insidewaste.com.au 4,565 (Apr2010–Mar2011)

Published by Waste Management and Environment Media Pty Ltd
Phone: (02) 9817 6400 Fax: (02) 9817 4366
Email: editor@insidewaste.com.au
Web: www.insidewaste.com.au
Editor: Paula Wallace
Advertising: Mark Stanley, email: advertising@insidewaste.com.au