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Ian Pinney 0409 905 451
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QLD & NT

Daniel McHugh 0407 789 370
daniel@garwoodinternational.com.au

NEW ZEALAND

Reece McCrystal 0413 751 292
reece@garwoodinternational.com.au

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Consultants Pty Ltd

ABN 85 007 693 138

PO Box 510, Broadford

Victoria 3658 Australia

Phone: 1300 EPCGROUP (1300 372 476)

Int'l: +61 3 5784 3438 Fax: +61 3 5784 2210

www.epcgroup.com

Publisher and Managing Editor

Anthony T Schmidt

Phone: 1300 EPCGROUP (1300 372 476)

Mobile: 0414 788 900

Email: ats@epcgroup.com

Business Development Manager

Lawrence Whiter

Mobile: 0418 543 821

Email: lawrencewhiter@bigpond.com

National Advertising Sales Manager

Yuri Mamistvalov

Phone: 1300 EPCGROUP (1300 372 476)

Mobile: 0419 339 865

Email: yuri@epcgroup.com

Advertising Sales - SA

Jodie Gaffney - AmAgo

Mobile: 0439 749 993

Email: jodie@amago.com.au

Advertising Sales - WA

Licia Salomone - OKeefe Media

Mobile: 0412 080 600

Email: licia@okm.com.au

Graphic Design

Annette Epifanidis

Mobile: 0416 087 412

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About the Cover

Adapted for Australian and New Zealand conditions from European best practice for high-risk building materials, ACRS' integrated, 2-stage certification system certifies both the steelmaking at the mill and again the last point at which the steel properties can be changed before delivery and installation in the structure.

► Turn to **Page 12** for the full story.



Make it easy!

Simplicity is the key to recycling success

Dear Readers,

With most Australians now better informed than ever before in terms of the environmental impact of many of their actions, it's clear that most people are also prepared to 'do their bit' to improve the environment and reduce their environmental footprint. One only has to look at the participation rates that are being achieved by recycling services around the country to see that this is indeed the case.

That said, it is also clear that despite the efforts of many manufacturers, industry groups, NGO's, statutory authorities and recyclers, we still have a long way to go in terms of improving our overall recovery and recycling rates and reducing the amount of waste being sent to landfill - especially in terms of packaging waste.

While there is clearly no 'quick fix' solution to this complex challenge, I do believe that one of the key issues still facing the nation's recyclers, relates to the ease with which many packaging products and materials can be recycled.

Notwithstanding the excellent work that has already been done by many councils, waste authorities, industry bodies and private sector companies in developing and implementing the array of innovative recycling and product stewardship programs now in place, it seems for many people, the time and effort involved with recycling some

items has still not come down to a 'tipping point' where recycling is the preferred option.

The success of any recycling operation, or for that matter, any task requiring widespread public participation and co-operation, undoubtedly lies within the speed and ease with which the task can be achieved. Even those who are keen to recycle will generally only do it if it is quick and easy to do.

Today, most people lead busy lives with family and work commitments at a premium. This fact often makes them either unable or unwilling to invest their time in needlessly complex practices of any kind including recycling, even if they agree 'in principle' with recycling and waste minimisation.

The bottom line is: *if it's not easy to do, it won't be done.*

Importantly, this edict not only applies to the recycling and resource recovery systems in place, but also the design of the items to be recycled. This is particularly true when it comes to packaging design and methodology - where there is clearly still much to be done.

For example, when faced with a combination of recyclable and non-recyclable packaging materials (including non-recyclable plastic film around a recyclable cardboard box or packing consisting of a mix of recyclable and/or non-recyclable materials), a large percentage of people will simply place all of the material into one group (even going so far as to stuff

all of the smaller packing materials into the larger box for easy disposal) and then deposit it into one bin.

In situations such as this, it matters little into which bin the rubbish is deposited. The householder is either sending recyclables to the landfill or contaminating the recyclables stream with non-recyclable material.

What's more, even if the person has the foresight to dispose of the outer plastic film packaging separately, they would still be unlikely to dismantle any combination packaging material in order to separate it into the correct processing stream.

While I understand that the cost of designing, tooling and manufacturing suitable packing can represent a significant impost for manufacturers, good packaging solutions represent the first step in effective recycling.

With that in mind, if we're indeed serious about increasing recycling rates, I believe that more must be done to actively encourage improvements - both in packaging design and purchasing habits.

After all, the best way to maximise our recycling efficiency is to make recycling as easy as possible.



Anthony T Schmidt
Managing Editor

7 October – 11 November 2020

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Director of Sustainable Materials
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Waste Expo Australia's conference goes digital in 2020

Following the cancellation of *Waste Expo Australia 2020* due to the COVID-19 pandemic, the country's largest gathering of waste management and resource recovery professionals will migrate its conference online to help strengthen the sector during these changing times.

The online edition of Waste Expo Australia's conference arrives on the industry's calendar at an important time. Australia's waste management and resource recovery sector is going through a significant transformation as new government strategies and policies are in place and more investments have been made to address the country's waste crisis.

The federal government's recent commitment to \$190 million in funding for new recycling infrastructure provides opportunities for businesses in the waste and recycling industry and is expected to generate 10,000 jobs.

Taking place from 7 October to 11 November 2020, Waste Expo Australia's free-to-attend Virtual Conference provides the perfect platform for navigating opportunities and changes in the sector.

"Waste Expo Australia has become a must-attend event for waste management and resource recovery professionals because of the unparalleled opportunity it provides to bring the industry together and hear from some of the biggest names in the sector for free," Tim Rusbridge, Exhibition Director at Waste Expo Australia, said.

"Although our in-person event this year is cancelled, our 2020 Virtual Conference is guaranteed to have an impressive line-up of speakers and engaging sessions. The program was designed to discuss the major issues facing the industry and help the sector be prepared for the future," he added.

Featuring more than 30 speakers across six weeks, the premium conference will cover high-interest topics, including approaches to transition to a circular economy, innovations from local councils, case studies on developing a waste-to-energy project and initiatives to achieve government's waste targets.

Leading off on day one of the virtual conference, a policy-focused session will look at legislative developments, anticipated reforms and policy approaches that will help evolve Australia's waste sector. This session will be chaired by Pete Shmigel (CEO, Australian Council of Recycling) and include presentations from Mike Richie (Managing Director, MRA Consulting Group), Claire Ferres (CEO, Sustainability Victoria) and Dr Cathy Wilkinson (CEO, Environment Protection Authority Victoria).

Attendees will also have unrivalled access to other industry experts including The Hon Lily D'Ambrosio MP (Victorian Minister for Energy, Environment and Climate Change), Giorgio Baracchi (CEO and Co-Founder, RecycleSmart), Jenny Barnes (Energy Manager VPP, Visy Industries) and Elissa McNamara (Project Director - Advice, Infrastructure Victoria).

Across the 6-week period of Waste Expo Australia's conference, *All-Energy Australia* and *Energy Efficiency Expo* will also host virtual sessions, forming the country's most significant webinar series for the waste, recycling, renewable energy and energy management industries.

Waste Expo Australia's 2020 Virtual Conference will take place from 7 October until 11 November 2020.

To view the conference program and register for free, please visit:

www.wasteexpoaustralia.com.au

Maldives records highest level of micro plastic pollution on the planet

The amount of micro plastic pollution in waters around the Maldives, a global tourist hotspot known for its beautiful coastline, is amongst the highest in the world and has the potential to severely impact marine life in shallow reefs and threaten the livelihoods of island communities.

Microplastics are pieces of plastic waste that measure less than 5 millimetres long, and due to their often microscopic size are considered invisible water pollutants. Small pieces of plastic can break down over time from plastic bottles, textiles and clothing, and remain in the world's oceans.

Marine scientists from Flinders University in Australia recorded the levels of plastic pollution in sand across 22 sites off the coast of Naifaru, the most populous island in Lhaviyani Atoll, to determine how much microplastic is present around the island. Microplastic distribution was found to be ubiquitous in the marine environment, with the results published in *Science of the Total Environment* journal.

Flinders University Honours student and lead researcher Toby Patti says micro plastics are highly concentrated in waters around Naifaru.

"The concentration of microplastics found on Naifaru in the Maldives (55 -1127.5 microplastics/kg) was greater than those previously found on a highly populated site at Tamil Nadu, India (3 - 611 microplastics/kg), and was a similar concentration to that found on inhabited and uninhabited islands elsewhere in the Maldives (197 -822 particles/kg)."

The high levels of harmful plastics were likely both transported by ocean currents from neighbouring countries in the Indian Ocean like India as well as from Maldivian land reclamation



policies, poor sewerage & wastewater systems adding to an unsustainable environmental situation.

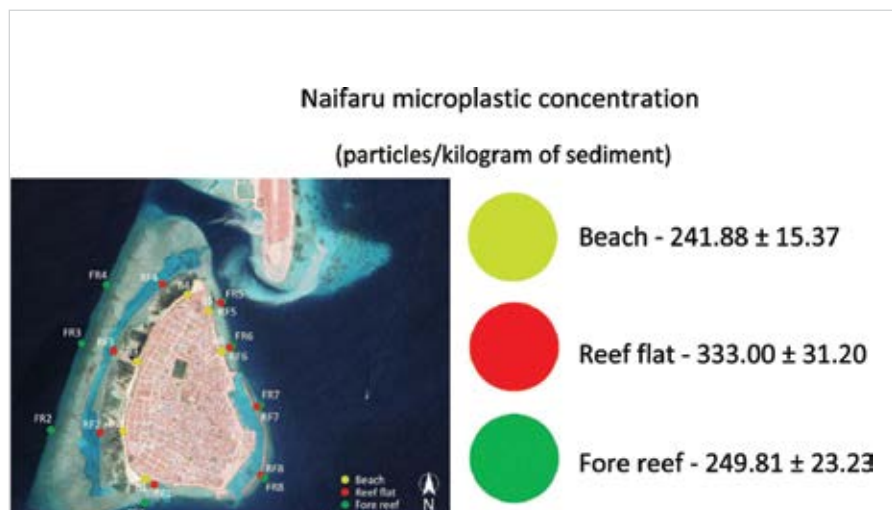
Professor Karen Burke Da Silva says notorious 'rubbish islands' used as landfill sites are also contributing to the high concentration of microplastic found around the island.

"Current waste management practices in the Maldives cannot keep up with population growth and the pace of development. The small island nation encounters several challenges regarding waste management systems and has seen a 58% increase of waste generated per capita on local islands in the last decade," says Professor Burke Da Silva.

"Without a significant increase in waste reduction and rapid improvements in waste management, small island communities will continue to generate high

levels of microplastic pollution in marine environments, with potential to negatively impact the health of the ecosystem, marine organisms, and local island communities."

The researchers are now looking at the stomach content of coral reef fish to see if they have bellies full of microplastics in a follow up study.



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Daniel McHugh 0407 789 370
daniel@garwoodinternational.com.au

NEW ZEALAND

Reece McCrystal 0413 751 292
reece@garwoodinternational.com.au

New Guinea named world's most plant-rich island

Nearly 100 researchers have completed a comprehensive study of plant life on the island of New Guinea, finding more than 13,634 species and earning it the title of most the botanically-diverse island in the world.

The finding comes as logging, mining, and agriculture increasingly threaten the island's forests, which are vital to the world's carbon sequestration needs.

Led by Dr Rodrigo Cámara-Leret from the University of Zurich, the study involved 99 researchers from across the globe, including Dr Bruce Webber from Australia's national science agency, CSIRO, and was published this week in *Nature*.

New Guinea is the world's second largest island after Greenland, and is part of both

Papua New Guinea to the east and Indonesia to the west.

The study found that the island had 19 per cent more species than Madagascar and 22 per cent more species than Borneo across its varied climate, which includes lowland mangroves rising to tropical alpine grasslands and a glacier on the 5030m mountain, Puncak Jaya.

Dr Webber said this was the first attempt to critically catalogue the entire vascular plant diversity of New Guinea.

"This is the most mega-diverse island, from a floristic perspective, with 68 per cent of plants only found in the region, which is unmatched in tropical Asia," Dr Webber said.

"In an area so varied, it is likely there are many more plants on New Guinea that are undescribed and unknown to western science."

However, Dr Webber said the island's floral diversity was increasingly under threat from logging, mining and conversion of forests for subsistence agriculture.



"This is the most concerning part of the work for me," Dr Webber said.

"It's likely that we're losing plants before we even know they exist."

Dr Cámara-Leret said because nearly 70 per cent of the flora was endemic, it was important to document and understand the region.

"New Guinea's flora is also globally important because, along with the Amazon and the Congo, it is one of the last three tropical wilderness areas with around 70-75 per cent of its original forest cover intact. Therefore, it has a major role in carbon dioxide sequestration," Dr Cámara-Leret said.

The research paper is available for download from: <https://www.nature.com/articles/s41586-020-2549-5>



Bucher Municipal strengthens its leading market position in Australia with the acquisition of Richards Coach Works

Bucher Municipal, a division of Bucher Industries, is acquiring the Richards Coach Works business located in Sunshine West, Victoria. With this strategic acquisition, Bucher Municipal complements its extensive customer service network in the Oceania region.

Richards Coach Works was established in 1948 and is the oldest surviving motor truck body builder and truck repairer in Victoria.

Richards Coach Works (formerly known as Stan Richards Truck Body Builders) have been servicing the Victorian transport and logistics industry for over 70 years. Since 2011, the business has been owned and managed by Ross and Martin Smith who have shifted the focus of the business to refurbishing and repairing refuse compactor equipment.

The Richards Coach Works facility is centrally located in Sunshine West, Victoria, including 10 workshop bays, a 15m blast booth and a 15m Spray 'N' Bake paint facility. Richards Coach Works employs 17 people and is widely recognised within the industry for providing a full range of services including smash repairs, hydraulic component and full body refurbishments.

Bucher Municipal holds a leading market position for municipal equipment in Oceania and provides extensive parts and service support through its national Customer Service Centres. Bucher Municipal will integrate the entire operational business of Richards Coach Works into its business in Australia.

Bucher Municipal is a leading supplier of vehicles and equipment for cleaning and clearing operations on public and private roads and other traffic areas. Its machinery range encompasses sweepers and sewer cleaning, winter maintenance and refuse collection vehicles and equipment. The product portfolio is supplemented by digital services. The division has production facilities in Switzerland, Germany, Great Britain, Italy, Denmark, Latvia, Russia, Australia, China and South Korea.

For more information, please visit: www.buchermunicipal.com.au

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A fully-grown *Acropora* sp. coral, which has been grown in a nursery and is now thriving at the reef of San Andres, Colombia. Image courtesy: *Corales de Paz*

Collaboration key to rebuilding coral reefs

The most successful and cost-effective ways to restore coral reefs have been identified by an international group of scientists, after analysing restoration projects in Latin America.

The University of Queensland's Dr Elisa Bayraktarov led the team that investigated 12 coral reef restoration case studies in five countries.

"Coral reefs worldwide are degrading due to climate change, overfishing, pollution, coastal development, coral bleaching and diseases," Dr Bayraktarov said.

"Coral reef restoration – or rebuilding what we have lost – may become critical, especially for coral species that are threatened with extinction.

"Much of this work is led by environmental non-government organisations (ENGOS), tourism operators, community groups, national resource management groups and governments who rarely publish their great depth of knowledge.

"So we decided to bridge the gap between academia, ENGOS and other groups that restore coral reefs."

The researchers analysed the motivations and techniques used for each project, providing estimates on total annual project cost per unit area of reef restored, project duration and the spatial extent of interventions.

The team found the most successful projects had high coral survival rates or an increase in coral cover, but that they also offered socioeconomic benefits for their surrounding communities.

"Projects that train local fishermen or recreational divers to participate in restoration, or engage with dive operators or hotels to support the maintenance of the coral nurseries, were much more effective and long-lived," Dr Bayraktarov said.

"We also found that coral reef restoration efforts in Latin American countries and territories were cheaper than previously thought – with the median cost of a project around AUD\$130,000 to restore one hectare of coral reef.

"The projects also had run for much longer than assumed, with some active for up to 17 years.

"And best of all, an analysis of all the

studied projects revealed a high likelihood of overall project success of 70 per cent."

Co-author Dr Phanor Montoya-Maya, director and founder of the Colombian-based organisation *Corales de Paz*, said he was excited about the project's collaborative nature.

"Twenty-five Latin-American coral reef restoration scientists and practitioners from 17 institutions in five countries worked on this research," he said.

"We wanted to showcase the efforts of Spanish-speaking countries that depend on their local coral reefs to the global coral reef restoration community.

"And to share the diversity of objectives, techniques, tools used, and methods to measure success in Latin America to encourage others to carry out similar work.

"We're providing critical project information – such as total annual project cost per unit area of reef restored, spatial extent of restored site and duration – on how to best save our degraded reefs.

"Collaboration and communication is helping make their futures brighter," Dr Montoya-Maya added.

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Bucher Municipal strengthens its leading market position in Oceania with the acquisition of Spoutvac

Bucher Municipal, a division of Bucher Industries, is acquiring the leading local manufacturer of sewer cleaning equipment and accessories in Australia. With this acquisition, Bucher Municipal complements its product range for the Oceanian market.

With over 30 years in the industry, Spoutvac is the largest purpose-built manufacturer of industrial sewer and drain cleaning trucks and hydro excavation units as well as distributor of equipment and accessories in Australia. Spoutvac has maintained a solid growth path in the development and manufacture of their products giving them world-wide recognition.

Spoutvac is also known for some of their great existing commercial partners such as Kroll, RSP, PTC and Minicam, and Bucher Municipal is proud to announce that those existing partnerships will continue into the future.

Bucher Municipal has committed to purchasing the existing Spoutvac land and

grow the manufacturing facilities in Bendigo East, building upon their philosophy of investing into Australian manufacturing.

Bucher Municipal is market leader for sweepers, refuse collection vehicles and static compaction equipment in Oceania. With the acquisition of Spoutvac, the division expects to grow the business in this region by complementing its existing product range. It will thus be able to better serve customers by offering them the full product portfolio through one of its 6 national Customer Service Centres.

The division will integrate the entire operational business of Spoutvac into its organisation in Australia and offer employment to all the existing 35 employees. With the current management team remaining in place and the business location staying in Bendigo, continuity is ensured for customers, suppliers and employees.

Bucher Municipal is a leading supplier of vehicles and equipment for cleaning and

clearing operations on public and private roads and other traffic areas. Its machinery range encompasses sweepers and sewer cleaning, winter maintenance and refuse collection vehicles and equipment. The product portfolio is supplemented by digital services. The division has production facilities in Switzerland, Germany, Great Britain, Italy, Denmark, Latvia, Russia, Australia, China and South Korea.

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Notwithstanding the potential issues that can result from using non-conforming construction steels - including structural failure and the serious health and safety ramifications - in these days of widespread litigation and strict 'chain of responsibility' legislation, using materials that don't conform with all of the relevant Standards and Codes can spell disaster for engineers, specifiers, suppliers, builders and contractors in more ways than one.



Importantly, when it comes to conformity of construction steels, it's not only about the steel manufacturer. Philip Sanders, CEO, Australasian Certification Authority for Reinforcing and Structural Steels ("ACRS"), explained: "When designers and procurement officers specify steel to particular standards, steel suppliers, builders, and building surveyors not only need to actively confirm that the steel they receive and sign-off for is the right steel - they also need to confirm that this conforming steel was cut, bent, and welded so it is still compliant when it is delivered and installed on the project."

"In short, even the best steel in the world can easily be ruined by inappropriate processing or fabrication - and if the steel was the wrong steel in the first place, the best steel processing, or fabrication won't make it right... and that's why ACRS 2-Stage steel certification is so important," he added.

THE BENEFITS OF ACRS 2-STAGE CERTIFICATION

Adapted for Australian and New Zealand conditions from European best practice for high-risk building materials, ACRS' integrated, 2-stage certification system certifies both the steelmaking at the mill and again the last point at which the steel properties can be changed before delivery and installation in the structure.

Known as a "bookended" system, this type of 2-stage certification is far more robust than a single point certification of either just the mill, or just the processor or fabricator (or of one stage being certified by one certifier and the second stage by another).

As ACRS steel certification covers both ends of the supply chain, the ACRS 2-stage system inherently includes full materials traceability - not just for reinforcing and prestressing steels, but also for structural welded sections manufacture, covering CC1 to CC3 to AS/NZS 5131, which are increasingly used in construction.

Philip Sanders commented: "You cannot just accept certification of the steel mill (Stage 1). You need to know what arrives on site. Is all the steel as you expect? If it is, has it then been properly processed or fabricated?"

"Historically, Australia and New Zealand have accepted a more relaxed product verification regime at the processor or fabricator (Stage 2) level than most developed countries, and these less

onerous requirements have saved builders significant time and money in checking and testing costs."

"However, in today's dynamic market with global sourcing and supply, we can only maintain our traditional approach by the use of expert and independent certification systems to provide the minimum necessary assurance of both steel manufacture and equally the supply of that steel to site," he added.

"If not, as shown increasingly over the past few years, there will be more poorly performing structures as non-conforming materials are substituted for those the customer, and the public have been led to expect."

"Over the last 20 years, the ACRS 2-Stage certification system has been developed and expanded this to meet the specific needs of Australian and New Zealand construction industries, governments and public," Philip Sanders explained.

CERTIFYING STEEL FROM SOURCE TO SITE

If you only have certificates from the steel mill, it means you only have half the story. The ACRS steel scheme certifies both the steel mill (Stage 1) and steel reinforcement ("rebar") processor, mesh manufacturer, or structural welded section manufacturer (Stage 2) - providing a rigorous mechanism covering the two critical aspects of steel supply, and the traceability of materials between them.

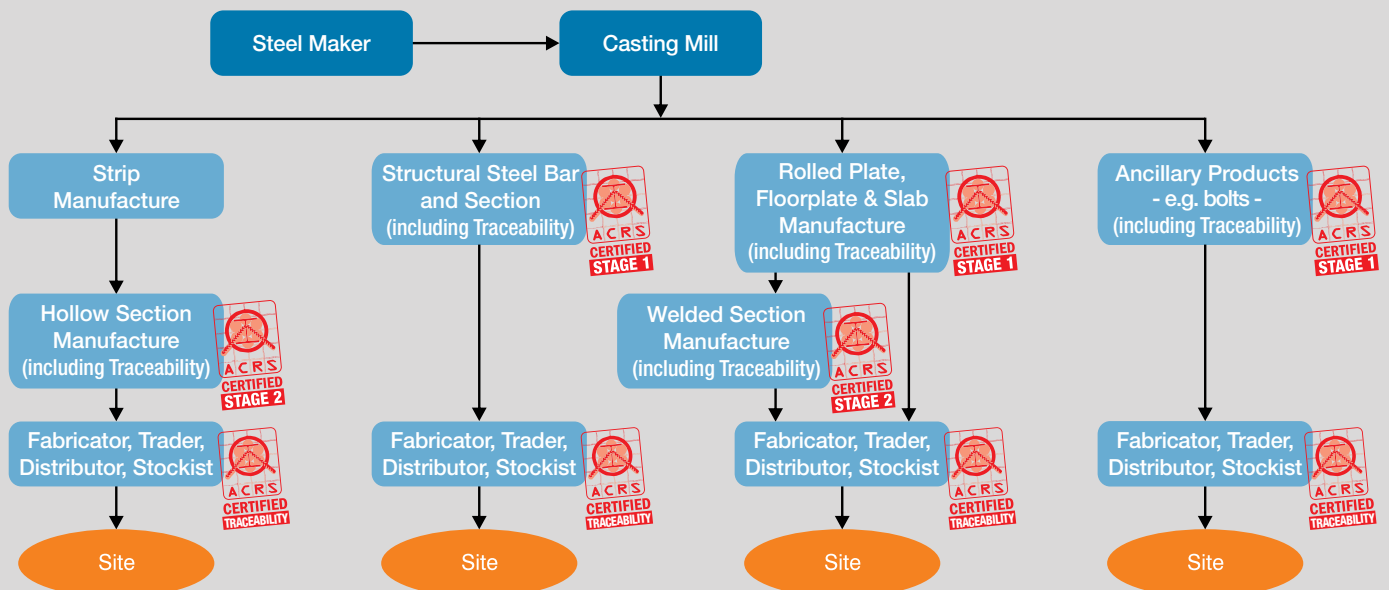
This 2-Stage 'chain of certification' provides a vital link between the steel producer, the reinforcement processor, or welded structural section fabricator, the steel supplier, and the construction site.

ACRS Stage 2 certification of the reinforcement processor, or welded structural section fabricators is the vital link between the steel producer (ACRS Stage 1 certified) and the end-user on the construction site, ensuring that:

- All steel is from an approved source and satisfies the requirements of the relevant product Standard(s).
- Steel is correctly handled and processed so materials performance is not compromised during subsequent rebar processing or steelwork fabrication.
- The necessary procedures and documentation are in place to ensure full product traceability from steel mill through materials scheduling and fabrication to delivery to site.

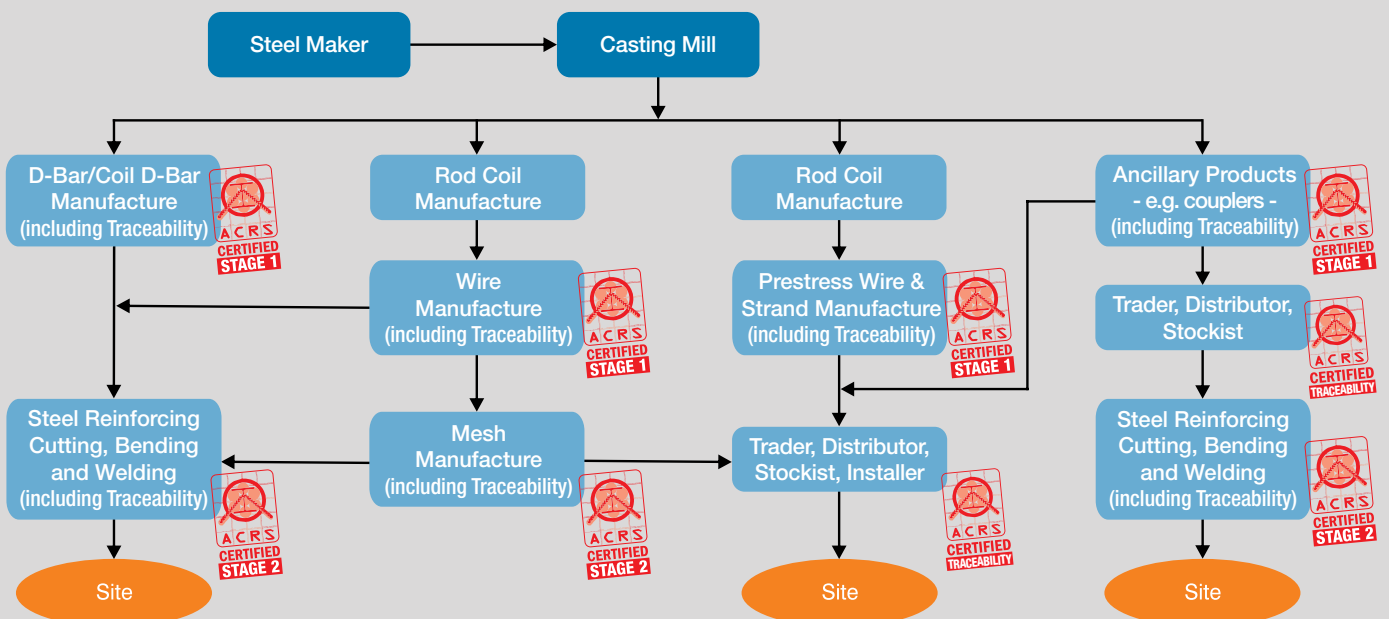
For your steel to be ACRS certified, it must be covered by both ACRS Stage 1 and ACRS Stage 2 certification. Any break in the 'chain of certification' between the steel mill and the processor or fabricator means the steel delivered to site is not ACRS certified.

ACRS Structural Steel Chain of Certification



For structural steels, ACRS certifies BOTH the steel mill that manufactures the steel AND the manufacturer or fabricator of any welded structural steel sections. Verification of the outputs of both these supply streams is essential for any structural steels and steelwork claiming to conform with AS/NZS 5131. ACRS has worked with the ASI to deliver “end-to-end” certification from steel mill to construction site via the ASI’s Steelwork Compliance Australia fabricator scheme to provide consumers confidence in structural steelwork from the purchase of verified and traceable ACRS certified structural steels, through the supply chain to ACRS certified welded section fabricators and then through supply, delivery and erection of all finished fabricated steel on the project site.

ACRS Reinforcing Steel Chain of Certification



For reinforcing steels, ACRS certifies BOTH the steel mill that manufactures the steel AND the steel reinforcement processor and mesh supplier. Verification of the outputs of both these supply streams is essential for any steel reinforcing materials claiming to conform with the Standards.



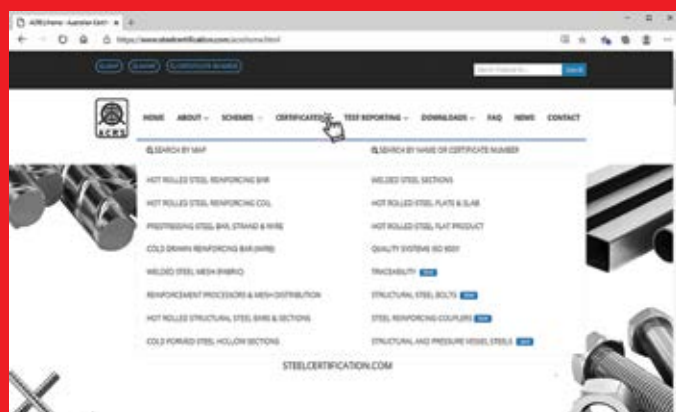
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Just because your supplier was previously ACRS Certified, don't take it for granted that they still are. Their ACRS Certification status may have changed due to factors including:

- Changes in ownership
- Changes in manufacturing locations
- Additional products
- Discontinued Products

That's why ACRS' comprehensive program of annual audits and rigorous 3-monthly data analysis is so important. It ensures that standards and quality are maintained, so you can have confidence in your construction steel supplies.

Importantly, checking and confirming that ACRS certificates for products/suppliers are current is quick and easy on the ACRS website. Visit: **www.steelcertification.com** for full details of all current certificates.



INDEPENDENT, EXPERT, THIRD-PARTY CERTIFICATION

The only way to be truly sure that the materials being used conform fully with the appropriate Australian and New Zealand Standards and are fit for purpose, is through independent, expert, third party validation and certification.

ACRS provides a fully independent, expert assessment and certification for both Australian and internationally sourced construction steels, including reinforcing steels, structural steels and prestressing steels.

ACRS certification makes checking for compliance with the relevant Australian and New Zealand Standards easy. It demonstrates **INDEPENDENTLY** and **EXPERTLY** that the supplier consistently meets the Standards stated on the certificate.

By using ACRS certified construction steels, builders and contractors can be confident that they are getting the AS/NZS compliant materials that they ordered, and engineers and building certifiers can be confident that steel meets the requirements of the Building Code and associated Standards.

Beyond checking the supplier's ACRS certificate, product markings and tags, there's no need for you to make any further checks on ACRS certified materials.

- No more checking materials properties against technical specifications;
- No more checking batch numbers against the test certificates.

All ACRS auditors are fully qualified metallurgists with many years of experience working with steels.

In addition to factory production control audits and independent testing, the ACRS scheme provides regular review and analysis of all products manufactured and supplied by the certified supplier. This makes matching material to conformity documentation simple and effective for the customer and for any verifier.



HOW DO I SPECIFY ACRS CERTIFIED STEELS?

The easiest way to manage and minimise the risk of non-conforming construction steels, is to specify ACRS certified steels.

FOR STRUCTURAL STEELS

"Structural steels shall comply with AS 1074, AS 1442, AS 1579, AS/NZS 1163, AS/NZS 1594, AS/NZS 3678, AS/NZS 3679.1, or AS/NZS 3679.2, as appropriate. Structural bolts shall comply with AS/NZS 1252.

Where applicable, materials shall be fabricated in accordance with the "Fabrication" requirements in Section 14 of AS 4100 or Appendix G of AS 5100.6, or AS/NZS 2327, or NZS 3404, and the requirements of AS/NZS 5131.

Acceptable manufacturers of structural steels, structural bolts, and the fabricators of structural welded sections must hold a valid certificate of approval issued by the Australasian Certification Authority for Reinforcing and Structural Steels Ltd (ACRS), or to such other accredited product certification system as shall be demonstrated by the supplier to be directly equivalent in scope and technical rigour to ACRS and approved as such in writing by the specifier.

Evidence of the supplier's compliance with this clause must be obtained when contract bids are received."

FOR STEEL REINFORCING MATERIALS

"Steel reinforcing and steel prestressing materials for concrete shall comply with AS/NZS 4671 or AS/NZS 4672, respectively.

Where applicable, materials shall be cut and bent in accordance with the requirements of the "Material and Structural Requirements for Reinforcing Steel" clauses in AS 3600 or AS 5100.5, or the "Reinforcement" clauses of NZS 3109.

Reinforcing couplers shall comply with RMS specification RMS SF2013/184115 Approval of Mechanical Reinforcing Bar Splices, or NZTA SP/M/022 Bridge Manual (technical approval sections), as specified.

Acceptable manufacturers and processors of steel prestressing and steel reinforcing materials, including both manufacture and application of reinforcing couplers, must hold a valid certificate of approval issued by the Australasian Certification Authority for Reinforcing and Structural Steels Ltd (ACRS), or to such other accredited product certification system as shall be demonstrated by the supplier to be directly equivalent in scope and technical rigour to ACRS and approved as such in writing by the specifier.

Evidence of the supplier's compliance with this clause must be obtained when contract bids are received."



ACRS 2020 CERTIFICATES AMENDED FOR ADDITIONAL CLARITY AND AVOIDANCE OF MISUSE

ACRS 2020 certificates have some important changes to protect builders, engineers and steel purchasers.

ACRS not only certifies steel at manufacture (Stage 1) and then the rebar processing/welded section fabrication of that steel (Stage 2), but also assesses materials' traceability between the two certificate holders. ACRS Stage 2 certificate holders can only source and use ACRS Stage 1 approved materials, and this is regularly checked by ACRS.

To assist Builders' personnel make their determinations, from 1 January, 2020 the wording on ACRS certificates was amended to state clearly that "ACRS certified" may only be applied to steel that arrives on the project with both ACRS Stage 1 (mill) certificates and ACRS Stage 2 (rebar processor, or structural welded section) certificate.

Ensure your staff are aware of these important changes to ACRS certificates and make sure your specifications call up ACRS certification not only for Stage 1 (mill manufacture) but also Stage 2 suppliers (processing and welded section fabrication) to manage your risk of inadvertently accepting non-ACRS approved materials.

If your staff have any questions, get them to email ACRS for assistance at: info@steelcertification.com



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- Steve Murphy. NAC

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Compostable cucumber wrap adapted for magazines

by Jessica Bassano

A compostable shrink-wrap - developed in South Australia for cucumbers - has been adapted to magazine film opening up a potentially huge market for its Adelaide manufacturer.

The alternative plastic wrapping was invented by Adelaide-based compostable bag producer BioBag World Australia last year with a number of supermarket chains now using the product for fruit and veg. The bio-wrap was first used on cucumbers sold at South Australian independent grocer Drakes Supermarkets following a partnership with produce and packaging business IG Fresh Produce.

Company managing director Scott Morton said the development of the plastic alternative mailing film was the result of a partnership with South Australian-based Direct Mail Centre of Australia.

"It took us about a month to develop the first film wrap, which was an industrial compost version," Morton said.

"We then tried to take it one step further and we created a new version which was suitable for home compost ... so that even outside of South Australia, where industrial compost isn't necessarily available, we would have a solution."

The cucumber wrap was launched as an environmentally friendly alternative to the traditional polyethylene plastic wrap and has since been adapted for a range of uses – most recently as a magazine film. BioBag World Australia's bioplastic film is made from a compostable resin called Mater-Bi that uses substances obtained from plants including non-genetically modified corn starch.

The company's Adelaide operation is the Australian base of BioBag World, which is headquartered in Norway and has a number

of other subsidiaries around the globe.

According to the State Government's environmental services body Green Industries SA, plastic production rose from 15 million tonnes in 1964 to 311 million tonnes in 2014 and is estimated to weigh almost the same amount as the entire human population. Green Industries SA expects plastic waste to double in the next 20 years.

In a bid to reduce the state's plastic consumption, last year the South Australian government introduced draft legislation to ban a range of single-use plastic products – including straws, cutlery and stirrers – with a bill to be introduced to parliament later this year. It is also considering a plan to phase out items such as takeaway coffee cups and reusable plastic bags.

Direct Mail Centre of Australia director Chris Lawson said the decision to move into home compostable film was part of an overall strategy to use entirely environmentally-friendly products.

"Being in the direct mail industry, it's not really a growth industry," Lawson said.

"It's been declining with the postage increases and a lot of other variable factors that have been impacting our industry. So, what we identified was diversification into greener alternatives and that led me to investigate compostable alternatives to the regular plastic wrap that we use.

"In the past we were using the oxo-degradable plastic and now we're trying to make that shift across to 100 per cent compostable wrap."

The Australian Competition and Consumer Commission has previously labelled oxo-degradable plastics misleading. It said while oxo-degradable products may fall into the biodegradable plastic category they break

into smaller microplastics, which move more easily through the environment.

According to KESAB, compostable products, on the other hand, are made from plant-based materials, breaking down during the compostable process.

KESAB environmental services officer Brian Jonston said while the organisation sought to reduce waste production wherever possible, compostable products were the greenest choice.

"Having a compostable product versus a film is better in that it can be turned into a compost and go into a green bin," Jonston said.

"It won't sit around for a long time in landfill, it won't end up in the environment sitting around and causing a problem there, so from that point of view it's a better choice – as long as it's still required.

"If there's the option to never produce something in the first place, then that is the best option. It conserves our precious resources, it stops it from potentially becoming a litter issue and the decision doesn't have to be made about its fate," Jonston added.

"But we recognise there are reasons for these things. So, if there has to be, always make the best choice in terms of the material."

Chris Lawson said the company had its first order of the home compostable film delivered in June and, in the last month, had used about half a tonne of the product for a range of local and interstate magazines.

He expected to use one tonne of the film a month and said while the product cost "a couple of cents extra" per magazine he thought the environmental benefits outweighed the "few extra dollars".



Below: BioBag's compostable magazine film can be broken down in the home compost.

MariMatic to deliver Automatic Waste Collection to the City of Amsterdam

MariMatic has, through a public tender process, been chosen by the city of Amsterdam as the supplier of an *Automatic Waste Collection System (AWCS)* for the new residential area in Sluisbuurt. The system utilizes MariMatic's unique energy efficient MetroTaifun® technology with non-corrosive pipe networks.

Sluisbuurt is a new neighbourhood in Amsterdam located on the Zeeburgereiland and it will comprise of 5,500 new homes and include schools, shops and offices. In addition to the OAT system (Dutch acronym for automatic waste collection system AWCS), the area will be equipped with other kind of sustainable technologies, such as district heating from renewable energy.

Waste is collected and transported directly from the buildings through an underground pipe network by using vacuum conveying to a waste transfer terminal, eliminating noisy and polluting traditional waste trucks from the area. Four different waste fractions are collected to separate containers located in the waste transfer terminal. The containers will then be picked up for further distribution to recycling centers etc.

The waste transfer terminal, which is part of the scope of the contract, called *"The Diamond"*, will be located in the park. The building is designed with high sustainability in mind, including solar panels, rainwater collection and even a charging point for the service cars. Part of the walls will be glass, giving the public possibility to view the pneumatic collection in action.

The public tender in Amsterdam was focused on technology, reliability, performance, quality, and a technical life cycle of 60 years. MariMatic's technology and solutions achieved maximum scores.

MariMatic is known for the usage of 300 mm diameter "composite piping", instead of the commonly used 500 mm carbon steel piping systems. Due to absence of corrosion, longer life cycle of the systems is achieved. Interruptions of possible blockages are minimized, as the waste fills up the pipe, giving higher vacuum force for conveying.

Development of MariMatic's formator technology enable use of larger waste bags (150 litre) in 300 mm size piping. MariMatic's patented Ring-Line configuration allows change of air flow direction, to facilitate removal of possible blockages.

Recently, MariMatic was also awarded contracts to supply Automatic Waste Collection Systems for the two new residential areas in Sweden, Förseglet, Västerås and Haga Norra, Stockholm. The order value of these together with the Amsterdam contract exceeds 30 million euros.

MariMatic is a technology company, developing and marketing vacuum pipe conveying systems. The company manufactures two types of waste collection

systems: the Taifun®, launched in the 1980s for use in industrial applications, and the MetroTaifun®, launched in 2010, and is specifically designed for subterranean conveyance of municipal waste. To date, MariMatic has delivered over 1,000 systems in over 40 countries.

MetroTaifun has the potential for exponential growth in Asia. In the City of Zhuhai, a newly developing modern eco environment was created by the system several years ago. MariMatic's participation in this forward green-thinking project contributed its expertise in the waste management for the Soul of the City -project. This MetroTaifun® automatic waste collection system was designed for collecting four waste fractions from the city's housing and office complexes via pipe network with an expected daily waste collection of 12 tons from 542 waste inlets. The system has comfortably served the needs of 6,000 residents and additional offices.

For further information, please visit: <https://www.marimatic.com>





Multi-purpose oil spill response vessel to feature innovative marine growth prevention system

A new multi-purpose oil spill response and towage vessel being built for the Kuwait Oil Co will be installed with a Cathelco marine growth prevention system (MGPS) to prevent bio-fouling and corrosion in seawater pipework. The system is manufactured by Cathelco which has been part of the Evac Group since 2018.

The 60-metre vessel is currently under construction at the Uzmar Shipyard in Turkey with delivery scheduled for Q4 2020.

It will be equipped for towing services, area surveillance, offshore fire-fighting, logistics support duties and search and rescue in an area around Kuwait and in international waters.

"This is a very advanced oil spill recovery vessel and we are delighted to be supplying equipment which will keep vital seawater systems free from blockages", said Erdal Dincer of Industrial & Marine Supplies, Evac agent in Turkey.

To protect the pipework against marine growth and corrosion, copper and ferrous anodes will be installed in five seachests, connected to a control panel. In operation, the copper anodes produce ions which prevent the larvae of barnacles and mussels from settling and creating blockages in engine cooling and firefighting systems.

At the same time, the ferrous anodes produce ions which create a protective coating on the internal surfaces of pipes to mitigate corrosion. More commonly, in the case of ships with steel pipework, the anti-corrosive function is achieved using aluminium anodes.

The concentrations of copper ions are around 2 parts per billion, effective in preventing marine growth from settling, but having no effect on the wider marine environment after discharge.

Cathelco is the world's largest manufacturer of MGPS which have been installed on vessels of ranging from cruise and cargo ships to military craft and offshore support vessels.

For further information please visit: www.evac.com

World-renowned composting tech makes its debut in Australia

Organic waste and Waste-to-Energy solutions expert *Tidy Planet* is shipping its first ever Rocket Composter unit to Australia, where it will help a not-for-profit community farm to divert 200-300 kg of food and green wastes from landfill per day.

The global partnership – facilitated by Tidy Planet's exclusive Australian distributor, Eco Guardians – will see the A900 In-Vessel Composter (IVC) head over 17,000 km to Fish Creek, Victoria, where it will be installed on the Rail Trail near Buckley Park Community Farm.

The composting project is funded by the Victorian Government's 'Pick My Project' community grants initiative.

Food and green wastes will be collected from the surrounding residences before being fed into the Rocket – alongside a dry source of woodchip – to produce a nutrient-rich compost for use in the on-site gardens.

Commenting on the rationale behind the investment, Marg Watson, a volunteer at Buckley Park Community Farm, said: "This is a completely new project for the farm, and as we're a community initiative, it was crucial that the environmental solution we invested in would allow for a completely closed loop model.

"We've been operating for over three years now, and our ethos has always been that a community should be able to grow enough food to feed all those who live in it. With the help of the Rocket, we'll be able to produce high-quality compost for use on our cultivation plots.

"We've been strongly supported by the wider community in bringing this project to fruition, and we're looking forward to what the future holds."

For the green wastes, soft environmental weeds – from public and private lands – will be collected by local community groups and dried on site, to be used as the main source of carbon content.

The IVC will not only help the site to redirect food wastes from landfill, but it will also create a nutrient-rich fertiliser in just 14 days.

"This represents our first ever composting project in Australia and we're really excited about taking our technology to the other side of the world," commented Tidy Planet's sales manager, Huw Crampton.

"The food waste management debate has been hotting up in Oz for a while – ever since the government launched the 'National Food Waste Strategy' in 2017 – and composting can provide a effective way to reduce landfill and carbon emissions, at the same time."

David Berry, director of Eco Guardians added: "The country is continuing to take action to halve annual food waste figures by 2030.

"We hope that by showing the positive environmental results composting can have on a localised scale, more businesses and municipalities across the land will see the benefits and look at ways to close the loop themselves to create a more circular economy countrywide."

The A900 Rocket Composter is expected to be installed and operational by the end of September

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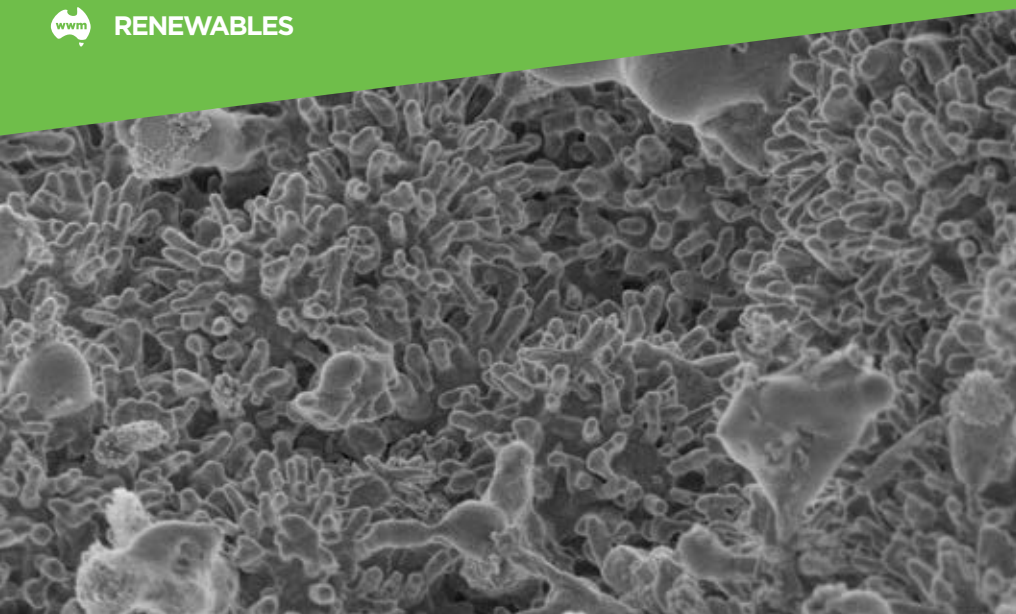
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Left: The new method for producing hydrogen can also convert the carbon found in biogas and biosolids into advanced carbon nanomaterials, pictured here magnified 50,000 times.

“The wastewater sector is constantly looking to develop new ways to transform biosolids into high-value products, in environmentally sustainable and responsible ways,” Surapaneni said.

HOW THE TECH WORKS

In the new method, published in the *International Journal of Hydrogen Energy*, biosolids are first converted to biochar – a carbon-rich form of charcoal used to improve soil health.

The biosolids-derived biochar contains some heavy metals, which makes it an ideal catalyst for producing hydrogen out of biogas.

As part of the experimental bench-scale study, researchers tested the process with a methane-rich gas that resembles biogas.

They showed the biochar made from biosolids is highly effective for decomposing the gas into its component elements – hydrogen and carbon.

The decomposition process can also be conducted in a specially designed and hyper-efficient reactor developed and patented by RMIT, which can produce both hydrogen and a high-value biochar that is coated with carbon nanomaterials.

By converting the carbon found in biogas and biosolids into advanced carbon nanomaterials, their method can also capture and sequester the greenhouse gas to prevent its release into the atmosphere.

How to harness the power of biosolids to make hydrogen

Researchers have used biosolids to produce hydrogen from wastewater, in new technology that supports the comprehensive recycling of one of humanity’s unlimited resources – sewage.

The innovation focuses on the advanced upcycling of biosolids and biogas, by-products of the wastewater treatment process.

Developed by researchers at RMIT University in Melbourne, Australia, the patented technology uses a special material derived from biosolids to spark chemical reactions for producing hydrogen from biogas.

The approach means all the materials needed for hydrogen production could be sourced on-site at a wastewater treatment plant, without the need for expensive catalysts.

The method also traps the carbon found in biosolids and biogas, which could in future enable a near zero-emission wastewater sector.

Lead researcher Associate Professor Kalpit Shah said existing commercial methods for producing hydrogen were emission and capital-intensive, and relied heavily on natural gas.

“Our alternative technology offers a sustainable, cost-effective, renewable and efficient approach to hydrogen production,” said Shah, Deputy Director (Academic) of the ARC Training Centre for Transformation of Australia’s Biosolids Resource at RMIT.

“To enable the transition to a circular economy, we need technology that enables us to squeeze the full value from resources that would ordinarily go to waste.

“Our new technology for making hydrogen relies on waste materials that are essentially in unlimited supply.

“By harnessing the power of biosolids to produce a fully clean fuel from biogas - while simultaneously preventing greenhouse gas emissions - we can deliver a true environmental and economic win.”

Biosolids are commonly used as fertiliser and soil amendment in agriculture, but around 30% of the world’s biosolids resource is stockpiled or sent to landfill, creating an environmental challenge.

Dr Aravind Surapaneni, Senior Research and Planning Scientist at South East Water and Deputy Director (Industry) of the ARC Training Centre for Transformation of Australia’s Biosolids Resource, said research into new and valuable uses for biosolids was vital.



Lead researcher Associate Professor Kalpit Shah, with the novel reactor developed and patented by RMIT University.

The carbon nanomaterial-coated biochar produced through the novel technique has a range of potential applications including environmental remediation, boosting agricultural soils and energy storage.

PATENTED REACTOR TECHNOLOGY

Shah said the unique reactor developed by the RMIT School of Engineering team was at the heart of this innovative recycling approach.

“We’ve radically optimised heat and mass transfer in our reactor, while shrinking the technology to make it highly mobile,” he said.

“There are no reactors available that can achieve such phenomenal heat and mass integration, in such a small and cost-effective package.

“And while it’s already energy efficient, with further integration, this reactor could turn biosolids and biogas conversion into a process that actually produces energy instead of consuming it.”

As well as being used in wastewater treatment, the novel reactor has potential applications in the biomass, plastics and coating industries.

The research was supported by South East Water, which will be trialling the biosolids and biogas conversion technology in a pilot plant currently under fabrication.

Dr David Bergmann, Research and Development Manager at South East Water, said the technology had potential for adoption by the industry.

“Supporting these kinds of innovative emerging technologies is an important part of our commitment towards reduced emissions and a circular economy approach involving wastewater,” Bergmann said.

The Australian Research Council Training Centre for Transformation of Australia’s Biosolids Resource based at RMIT brings together expertise from 20 national and international partners from Australia, the UK and US including universities, wastewater sector and allied industry partners.

‘Production of hydrogen by catalytic methane decomposition using biochar and activated char produced from biosolids pyrolysis’ is published in *International Journal of Hydrogen Energy* (DOI: 10.1016/j.ijhydene.2020.08.036).



Maximising solar self-consumption by rethinking PV panel orientation

Over two million Australian households – more than 20 per cent – now have rooftop photovoltaic (PV) solar panels, and while this is a generally positive scenario, the increased uptake of PV systems around the nation is creating a few challenges for our electricity industry.

UniSA solar researcher, Kirrilie Rowe, says one key problem currently facing home PV stems from the discrepancy between the times of peak use and peak production.

“Solar panels on residential dwellings are typically installed facing the equator to maximise the energy collected, but the power generated by an equator-facing panel peaks at around midday, whereas residential loads typically have peaks in the morning and afternoon,” Rowe says.

At the moment, households are paid a ‘feed-in tariff’ for excess electricity they send to the grid, but, as the number of homes producing electricity increases, the viability of exporting to the grid is reduced.

“In some markets at certain times we’re already seeing over-supply during peak production times, which can cause grid instability and is leading to reductions in feed-in tariffs,” Rowe says. “The real challenge now facing the solar industry is finding ways to balance production and consumption by maximising self-consumption for the solar panel owner.”

Offering one elegantly simple solution to this challenge, Rowe’s research explores how rethinking the orientation of rooftop solar panels might better match times of production to patterns of consumption, even if that means a slight reduction in overall energy generation.

“Traditionally, PV panels are mounted facing the equator as this creates more energy per square metre of PV panels, but this orientation does not necessarily maximise the community self-use of the energy prior to the excess being exported to the wider grid,” Rowe says.

“By orienting panels in different

directions rather than just facing the equator, it’s possible to minimise the shortfall between load and generation.

“This benefits the end-user by decreasing the amount of electricity required to be imported, and the stability of the grid by decreasing the amount of variability between peak and low loads.”

A recent study by Rowe and Associate Professor Peter Pudney calculated the optimal self-consumption panel orientations for a community of 29 individual dwellings and a residential building with 42 apartments in Australia.

“Our analysis uses detailed load data and detailed irradiance data and shows that optimal panel placement for self-consumption is never towards the equator,” Rowe says.

“In both cases, if the panel area is small enough so that the household will not export, then facing the panel north is best. But as panel area increases, it becomes better to face the panels facing north-west to meet the afternoon loads, and if even more panel area is available then panels should be faced north-east and west.”

Over the next few years, as solar uptake increases, feed-in tariffs fall and the cost of solar batteries remains prohibitive, the real value of solar self-consumption will continue to rise.

The strategy developed by Rowe and Assoc Prof Pudney offers a simple approach to improving self-consumption without increasing set-up costs on new PV systems, and the method could also be easily adopted for remodelling existing systems.

“The information on how to orient solar panels to minimise power shortfall is useful to groups developing housing precincts and has been used to design a renewable energy system for a retirement village with 24 dwellings,” Rowe says.

“Future work will incorporate energy storage into the model,” she adds.

Canterbury-Bankstown have their eyes on illegal dumping

Illegal dumping is an ugly problem; the worst kinds of dumps can be downright dangerous. But the old mattress on the nature strip is more than just an eyesore. A survey conducted in Canterbury-Bankstown found 90 per cent of the community were concerned about illegal dumping and generally wanted a cleaner and greener city.

It would be a mistake to think clean and green is just a “nice to have”. Cleaning up illegal dumps can lead to exorbitant tipping fees. Untidy, unsightly streets also affect the perception of the health and economic prosperity of an area.

To combat this, Canterbury-Bankstown’s Eyes On It Anti-Dumping campaign took a different, approach to “cleaning up”. Unlike many campaigns, it wasn’t about collecting every illegal dump. Instead the 16-week campaign was all about prevention and getting people to clean up their acts instead.

At the end of the campaign, illegal dumping was reduced by 39 per cent and reports from the community on illegal dumps were tripled to more than 2,700 calls.

A CAMPAIGN DRIVEN BY DATA

The campaign depended on crunching the numbers. Gathering the right data was instrumental to its success: data on dates, locations, make-up and size of every illegal dump over a period of time. This information combined with demographic information from the census led to a deeper understanding of hot spots like rail corridors, commercial laneways and multi-unit developments. Identifying hot spots also meant these areas could be targeted with educational materials on booking a Council clean-up.

Manager of Sustainable Future at City of Canterbury Bankstown, Brad Gray said the key to success was their evidence-based approach.

“We looked at what people understood and did not understand about dumping,” he said.

“This campaign was specifically designed to change views on what was right and wrong.”

Despite this, Mr Gray said the campaign was not just about punishment.

“An enforcement only approach would have the biggest impact on our most disadvantaged groups: people in insecure housing, recent arrivals and those who speak little English, and we don’t want to just punish those already experiencing difficulties when education can create the desired changes,” he said.

In a diverse city like the City of Canterbury Bankstown, the data also showed the need for material in other languages. Mr Gray said the campaign produced materials in six languages, reaching more people in its community.

CHANGING PUBLIC PERCEPTION

People were under the impression that leaving items on their kerb was not a big deal. NSW EPA research showed one in three people did not realise putting items on the street was illegal and thought fines would be around the \$250 mark.

The campaign aimed to reduce the number of these illegal dumps and re-direct



We work as one team with our Eyes On Illegal Dumping. CBCity Resource Recovery, City Clean Waste and Cleansing, RID Squad. **Back Row (L-R):** Fouad Alameddine, James Whitby, Vanda Dayusman, Narelle Bowly, Eric Dinale, Robert Tasker. **Middle Row (L-R):** Corinne Pickering, Mandy Alleman, Brendan Kelly, Brodie Smith, Nathan Slade, Bev Dowdell. **Front Row (L-R):** Ivon Sebastian, Danielle Domone, Andrew Bole, Mayor Khal Asfour, Robert Bradbury, Brad Gray, Matthew Kolisnyk and John Nguyen.



people to a booked clean-up. The message was clear: leaving items on the kerb without a booked clean-up was illegal and could attract fines of up to \$4,000.

One of the most unexpected parts of the campaign, according to Mr Gray, was what happened when dumps were identified with warning tape and stickered. With this strategy alone, 43 per cent of dumps were removed by the dumper themselves, which has the potential to save up to \$200,000 in tipping fees.

SEEING RESULTS

After the campaign period, results were published on a dedicated webpage. A total 6,686 illegal dumps were taped, reported and removed. At its conclusion, the campaign reached 3.5 million people, equivalent to every resident seeing the message nine times.

Mr Gray said that the Council received plenty of positive feedback from the community about the anti-dumping campaign.

"We got a range of positive reinforcement from people saying this is fantastic," he said.

"People get upset if they live in a hotspot, and if you leave your house and you see rubbish taped up on your footpath that's a visible way of tackling it."

Mr Gray said his advice to other councils facing similar challenges is to invest in an integrated campaign.

"Communications has to work with waste operations and work with on-the-ground teams," he said.

"You can't do a media campaign and expect illegal dumping to stop – you need to go where people are engaging with dumping. If you see a billboard at a bus stop you will forget that once you're on your own street.

"You need an integrated campaign and you need to understand why people are doing it."

The Eyes On It Anti-Dumping campaign was recently recognised at the NSW Local Government Excellence Awards.



Community groups like *Environment@Lakemba* worked alongside Council teams to provide feedback on messaging, as well as identifying and taping dumping in their neighbourhoods. Here they hold Eyes On It signage that was placed on dumped materials. (L- R): *Environment@Lakemba* volunteers; Susan McLeod; Dihider Zafar Ahamed and Abdul Kalam Azad and CBCity Ranger Steven Balzan.

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Saltwater pool pump



Left: Northern Beaches Council in Sydney is using Tsurumi SFQ series pumps made from cast 316 stainless steel in their pristine saltwater pools because of their corrosion resistance.

The big difference with Tsurumi's SFQ series is their unique stator housings which are cast and machined 316 stainless steel. This means they last longer. Casings, impellers and suction covers are also cast 316 stainless steel.

The grade of stainless steel used has a higher content of carbon for strength. It also has a high proportion of nickel and molybdenum for improved corrosion resistance. No welds are required which means no pitting and reduced oxidation. This material is also capable of withstanding abrasive liquids.

On the Northern Beaches the council also fit anodes to prevent electrolysis which occurs when two dissimilar metals come into contact. These are replaced annually as part of their winter maintenance routine.

Tsurumi incorporate a number of features that enhance the life expectancy of the pump and cut maintenance costs. These include a unique anti-wicking cable gland. Water is prevented from wicking down inside the cable. The motor is protected even if the cable is damaged or the end accidentally immersed.

All Tsurumi pumps have a double silicon carbide mechanical seal. Both seal surfaces are submerged in an oil chamber, well away from the pumped liquid. A patented oil lifter ensures the mechanical seal faces are always lubricated and cooled, even if the pump is installed horizontally.

Tsurumi Pump developed the product range in response to requirements in the Japanese market for super tough pumps for the chemical industry. Like all Tsurumi pumps, they are backed by a three year warranty against faulty material or workmanship.

Comprehensive free literature pack is available as well as application data, support and free advisory service from Australian Pump Industries engineering team.

For further information, contact Australian Pump Industries on 02 8865 3500 or visit the website: www.aussiepumps.com.au

When the Northern Beaches Council in Sydney needed a seawater pump to fill and flush their beachside pool at Freshwater they bought a Tsurumi cast 316 stainless steel submersible. The Council have been using Tsurumi SFQ series pumps to circulate the water in their pristine pools for many years.

"There are a number of these submersibles, installed in various pools on the North Shore, circulating seawater to maintain a healthy swimming environment," said Australian Pump's Tsurumi product manager Neil Bennett.

"These pumps don't fail from corrosion; the last one only choked when blocked with a discarded shoe. We've been told by the

council that these pumps generally last 8 to 10 years in the pools," he said.

Tsurumi SFQ series 316 cast stainless steel submersibles are designed to handle a range of corrosive applications including saltwater. Conventional cast iron and lower grade stainless steel pumps are literally eaten away by seawater.

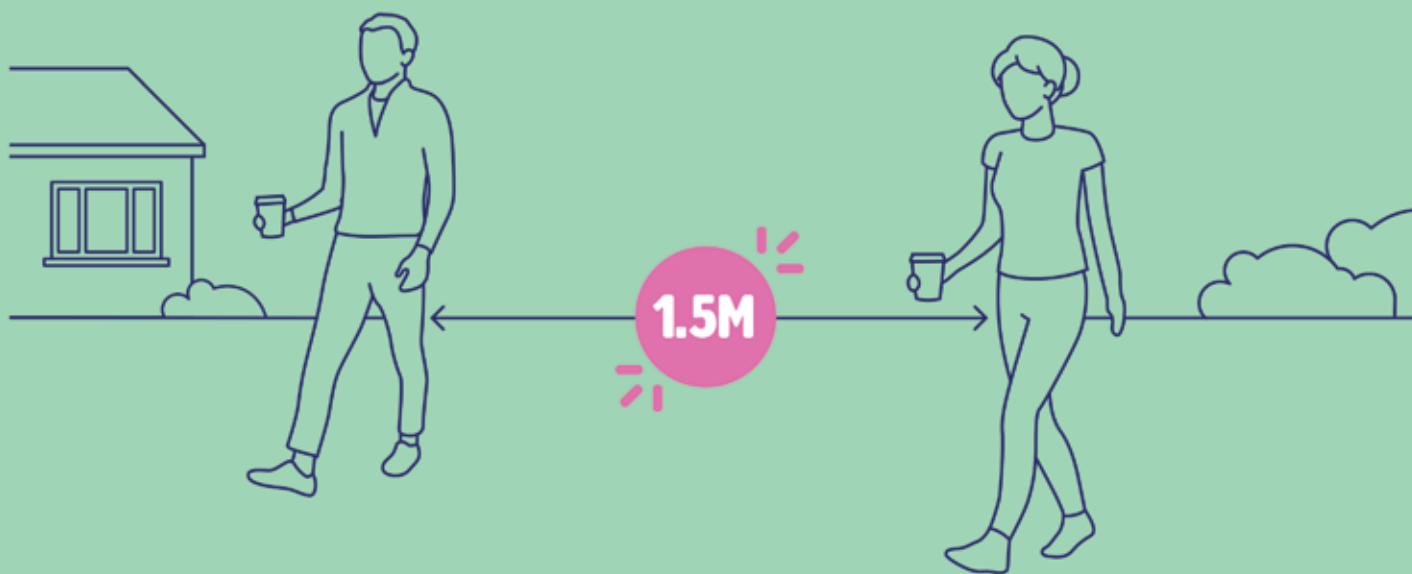
The SFQ range includes 2" and 3" three phase pumps with heads to 44 metres and flows to 2,000 lpm. The ones used in the pools on Sydney's Northern Beaches have a 3" outlet and are powered by a 7.5 kW 2 pole motor. They feature a high capacity open style impeller that will handle sand and solids to 23mm.

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Australian Government



Severn Trent commissions the UK's largest MABR plant during lockdown

July marked a milestone for wastewater treatment in the UK, with the installation of 10 OxyMem membrane aerated biofilm reactor (MABR) modules from DuPont Water Solutions at Severn Trent's Redditch Sernal site in Worcestershire. This central treatment plant has thus become the largest MABR in the UK, all during a period of restricted access to the site due to the COVID-19 pandemic.

The plant processes wastewater from the surrounding catchment area as well as excess biosolids from satellite plants. Consideration for future population growth and tighter ammonia consents led Severn Trent to look for improved process efficiencies.

Rather than expanding the plant, Severn Trent opted for an upgrade by converting it to an IFAS (integrated fixed film activated sludge) MABR system. DuPont OxyMem MABR modules were simply lowered into the existing anoxic zone on site, over a two-day period, to boost nitrification capacity of the current process. The advanced technology offers simultaneous COD and ammonia removal, with nitrification rates 2-3 times greater than MBBR technology at the design temperatures.

This full-scale installation follows an extensive 12-month pilot trial at Severn Trent's Minworth site on the north-eastern outskirts of Birmingham. There, the OxyMem system proved its value, producing

sludge at just 0.13 kg TSS/kg COD applied compared to the typical 0.3-0.4 kg of TSS/kg COD applied for activated sludge. Energy consumption was low and the aeration efficiency was 4.5 kg O₂/kWh, two to three times more efficient than conventional technologies.

Following the pilot and successful installation, Justin Silver, innovation project manager said, "Severn Trent is excited at the potential for MABR technology as a cost-effective way to retrofit and upgrade activated sludge plants to meet tightening effluent standards and to cater for population growth."

A major advantage of upgrading with DuPont OxyMem MABR modules is due to their "plug and play" nature, as the units can be easily lifted and lowered into place without the need to interrupt the process. Additionally, Severn Trent can install the modules which is particularly important during the current health crisis that has led to certain restrictions for external personnel to enter the site.

"The modularity of this self-contained solution means not only can it be easily dropped into place, but it is also scalable should needs change," said John McConomy, commercial director, DuPont's OxyMem product line.

"Severn Trent have put their trust into our system after it proved itself in trials. They are leading the way in the market in terms of low-impact, sustainable wastewater treatment that enhances and protects the investment in existing infrastructure," Mr McConomy added.

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ABOUT SEVERN TRENT

Severn Trent is the UK's second biggest water company. It serves 4.4m homes and business customers in England and Wales. Its region stretches from mid-Wales to Rutland and from north and mid-Wales south to the Bristol Channel and east to the Humber. The company delivers almost two billion litres of water every day through 49,000km of pipes. A further 94,000km of sewer pipes take wastewater away to more than 1,000 sewage treatment works.

For more information, please visit: www.stwater.co.uk





LANXESS realigns water treatment business

Specialty chemicals company LANXESS continues to develop its portfolio and is reorganizing its water treatment technologies business: the company will focus on the ion exchange resins business and intends to grow here primarily in markets for high-end applications. As part of this realignment, LANXESS is selling its business with reverse osmosis membranes to French group SUEZ, a world leader in sustainable resource management. It was agreed not to disclose the purchase price. LANXESS expects the transaction to be completed by the end of 2020.

"The membrane business no longer fits in with our strategic focus on specialty chemicals," said Matthias Zachert, Chairman of the Board of Management of LANXESS. "We are convinced that under the SUEZ umbrella, the business has the necessary conditions to develop its full growth potential in the future."

The membranes, which play an important role in the treatment of brackish and seawater, are manufactured by LANXESS at its site in Bitterfeld, Germany. SUEZ will take over this plant and the research facilities with all employees. In 2019, the business generated sales in the low double-digit million euro range.

LANXESS will also further expand its ion exchange resins business. The company plans to build a new production facility, for which it intends to invest between 80 and 120 million euros in the coming years. "We invest in additional capacities for ion exchange resins in order to be able to meet the growing global demand. At the same time, we want to grow especially in promising market segments," said Matthias Zachert.

The new ion exchange resin plant will have a production capacity of between 20,000 and 30,000 cubic meters and is scheduled for completion within the next five years. LANXESS will decide on the exact location shortly. The specialty chemicals company currently manufactures ion exchange resins at its sites in Leverkusen, Germany, Bitterfeld, Germany, and Jhagadia, India.

"With our applications for water filter cartridges, we are already one of the leading manufacturers. We are now additionally focusing on highly specialized applications that are characterized by high demand and strong growth. For example, in the field of biotechnology, in the semiconductor industry or in the selective removal of metals, such as for the battery industry. With our technological diversity, we are ideally positioned for this," said Bettina Blottko, head of the Liquid Purification Technologies business unit at LANXESS.

Ion exchange resins make an important contribution in modern cleaning processes, for example in the food and pharmaceutical industries. In the semiconductor industry, they play a key role in the production of ultra-pure water, which is needed in microchip production, for example. Due to the trend towards e-mobility, there is also a high demand for ion exchange resins in the battery industry. They can be used to extract the metals lithium, nickel and cobalt, which are important for battery cell production. Ion exchange resins are also used in power generation, the chemical industry, microelectronics and drinking water treatment.



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COVID-19 pandemic should be a wake-up call for water security

Urgent action on water security is essential to better prepare societies for future global health crises, say experts at the University of Birmingham in the UK and Northwestern University in the US.

In a comment article published in *Nature Sustainability*, the researchers are urging policy makers across the world to focus on behavioural change, knowledge promotion and investment in water infrastructure. The call follows studies revealing nearly a quarter of households in low and middle income countries have been unable to follow basic guidelines on handwashing – recognised as critical for preventing the spread of the coronavirus pandemic.

Professor David Hannah, who holds the UNESCO Chair in Water Sciences at the University of Birmingham's School of Geography, Earth and Environmental Sciences, says: "The COVID-19 pandemic has laid bare the urgent need for global action on water security. This is a basic human right that is not being met in large sections of the world's population and COVID-19 has provided us with a wake-up call that we cannot afford to ignore."

Specific areas which need addressing include:

- **Improving water infrastructure and technologies** - Protecting water sources is key to ensuring safe drinking water.

Approaches should include adequate water treatment and distribution systems, as well as developing ways to recycle and reuse domestic wastewater and rainwater. These sorts of measures may be more cost effective than building expensive new infrastructures such as dams or purifying water after it has become polluted.

- **Promoting behavioural change** - Local leaders and communities should grasp the opportunities to promote and embed good hygiene behaviours in the wake of the COVID-19 pandemic. This includes rethinking our appreciation of the value of water and how to use it sustainably. This is important since future predictions on climate and population change mean even communities with good access to water may face an uncertain future.
- **Promoting alternatives** - Predicting and planning for relief efforts such as temporary taps or hand sanitiser products will be increasingly important as climate change and population growth progress. Opportunities for handwashing vary widely across regions and even within households, so hotspots (areas with insufficient clean water) and hot moments (periods of time when clean water is inaccessible) need to be adequately forecast and prepared for. Co-author Professor Iseult Lynch says:

"The COVID-19 pandemic may serve as an opportunity to change behaviours. For example, over-reliance on commercially bottled water can quickly become self-sustaining and disincentivise investment in sustainable water infrastructure. Rethinking the value of water as a multi-purpose resource and how to use it sustainably is required urgently."

"Both the World Health Organisation and UNICEF acknowledge the scale of this challenge," adds co-author Professor Stefan Krause, in the University of Birmingham's School of Geography, Earth and Environmental Sciences.

"Water insecurity has consequences for the well-being – both mental and physical – of billions of people. The costs of not preparing for future crises will be catastrophic."

Sera L. Young, Associate Professor, Anthropology & Global Health, at Northwestern University, says: "This is a great example of how our HWISE scale, that measures household water insecurity experiences, makes visible the often invisible crisis of water insecurity. Inequalities in access to a resource fundamental for existence, and for preventing transmission of COVID, must not continue. My co-authors and I lay out some key actions that can make the world more water secure, and safer for us all."

SA Water's 'Our plan 2020-24' kicks off with shovel ready projects in first month

SA Water's \$1.6 billion four-year capital works program (*Our Plan 2020-24*) commenced recently with construction activities beginning on the first three projects to improve water services for its customers. The three projects are worth more than \$12 million and include water main upgrades across the Northern Adelaide Plains and upgrades of the Glenelg Wastewater Treatment Plant and Myponga Water Treatment Plant.

As the engineering partner and client organisation partner, international engineering, design and advisory company Aurecon, in a joint venture with provider of differentiated professional services and technologies, KBR, has been providing program and project management, procurement support, engineering and construction management services to SA Water during a start-up period for the past 12 months.

'*Our Plan 2020-24*' will deliver a diverse portfolio of projects that includes dam upgrades, water tank refurbishments, bulk water transfer infrastructure, water main replacements, sewerage network upgrades, and water and wastewater treatment upgrades, with work spread across both metropolitan Adelaide and regional South Australia.

Aurecon's Managing Director, Victoria & South Australia Angus Leitch said SA Water's investment in water networks provides asset and infrastructure outcomes that represent value for South Australians, which are delivered in line with community expectations and provide economic stimulus.

"This partnership and this extensive program of works is being delivered through a collaborative model that brings together SA Water, its major construction partners, and Aurecon and KBR as joint engineering and client organisation partner," Mr Leitch said.

"The program creates a smoothed pipeline of works with greater forward-looking visibility. It prioritises works that will deliver the largest benefits to customers and it ensures that these are tracked and incentivised throughout the program."

To get some of *Our Plan 2020-24* projects shovel ready, the team applied SA Water's

asset planning to capital delivery lifecycle framework, which has been developed and refined over the past decade and focuses on continuous improvement activities to optimise portfolio and program delivery, improve safety, enhance stakeholder relations and create great outcomes for the community. This approach has ensured a smooth transition between the regulatory cycles and established a sustainable investment profile across the period, which provides great outcomes for customers as well as securing South Australian jobs.

In a truly joint effort, the team has helped ensure SA Water's full program of capital investment and construction works has continued despite the added challenges of the COVID-19 pandemic, helping fuel the local economy by pushing more work into the market, and allowing delivery partners and the extended supply chains across the state to keep working.

Aurecon's Water Capability Leader Kevin Werksman described how Aurecon and KBR as client organisation partner is embracing SA Water's customer-focused performance goals.

"This includes safety performance by focusing on further cultural change and high potential events, better connecting with the local supply chain and with local and Indigenous communities, and ensuring investment in digital innovation and innovative thinking to drive better outcomes for SA

Water customers," Mr Werksman said.

This is all while ensuring the needs of customers, residents and the wider community are core business requirements underpinning programs of work, and that short-term inconveniences that building and construction sometimes create are minimised by planning and scheduling activity in line with the needs of the community.

For KBR, *Our Plan 2020-24* represents the third consecutive capital program it has supported SA Water in to continually deliver improved water and wastewater services for its customers.

KBR's Alan MacKintosh who is the Program Director for the capital delivery outcomes of *Our Plan 2020-24* said it has been a privilege to have worked alongside SA Water for almost a decade.

"It's great to see our collaborative team and high performing culture evolve as we continue to adopt best practice program and project management principles across *Our Plan 2020-24* to deliver infrastructure and service improvements to the community," he said.

This is Aurecon and KBR's second collaborative partnership, supporting water utilities across the nation in their journeys to realising savings in capital expenditure and community centric outcomes. The team is the Portfolio Delivery Management Partner, supporting WaterNSW in managing drought response and water security projects.



As SA Water's client organisation partner, Aurecon and KBR help ensure best practice planning, design and project management before projects move to construction. Pictured are (L-R) – Aurecon Project Director Anthony Johnston and SA Water's Greg Dworak.

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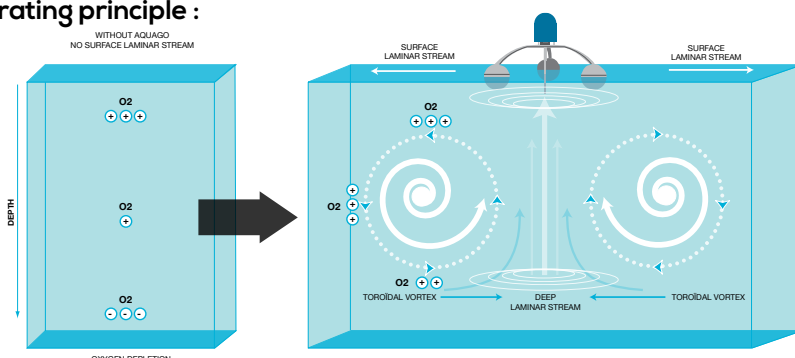
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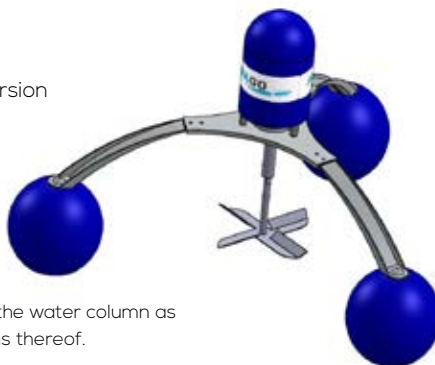
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Mixed market reaction to EU €800/tonne plastics charge as implementation details emerge

By Mark Victory, Senior Editor, Recycling, ICIS.

The EU's €800/tonne plastic packaging waste charge, recently passed by the EU Council and set to take effect from January, sent shockwaves through the market because of both its size and narrow timeframe to implementation.

Reaction has so far been mixed, with immediate questions on how it will be calculated, how it will be passed through the supply chain, and whether it will lead to greater regulatory divergence on plastics.

In the first of a series of insights on the charge we look at the known details that have emerged since the announcements, and the outstanding concerns and questions in the recycling and virgin plastic markets.

The new charge of €800/tonne for all non-recycled packaging waste will be paid by EU nations from 1 January 2021. National contributions will be calculated by the European Commission using existing reporting obligations under the *Packaging Waste Directive* (Directive 94/62/ECC) and its implementing Decision (Decision (EU) 2019/665). Under that directive member states provide data on plastic packaging and recycling. The data are published on the Eurostat website.

The charge will be used to fund the coronavirus recovery package and charged at nation state level.

The charge is not a tax, although commonly referred to as one, because it is payable at state level rather than by individuals or corporations. Nation states could, however, seek to recover the cost of the charge through taxation.

The methods used to meet the cost of the charge will be up to individual countries, and the EU Council has not proposed any regulatory stipulations around this. Individual countries are free to adopt different approaches and could seek to recoup the cost of meeting the charge from differing parts of the supply chain, leading to potential regulatory divergence.

How nation states will incorporate this into national legislation remains the key uncertainty for plastic and recycling markets.

Some players have welcomed the move because it could encourage higher recycling rates in the future, and for devolving how this is implemented across the supply chain to individual national governments.

"[It will be] good for the industry - I think it's a realistic thing because many countries

[and] people [have] had, long term, time enough to think about packaging," a recycled polymer producer said.

Other players, however, raised concerns around regulatory divergence and the resultant potential difficulties with cross-border trade.

"What happens when I send something to the UK? What happens when I send it to Germany. Who bears this burden? ... Don't get me wrong, I'm not against any of this, we just don't understand [how it will be implemented]," a recycler said.

They further argue that it does little to alleviate infrastructure shortages and legislative barriers which limit the ability of the market to increase recycled material suitable for food-grade packaging and hazardous material packaging, and that the charge could encourage a shift to non-plastic packaging types such as glass, paper and cardboard.

"Changing a plastic into a glass bottle is not solving the problem. I think it's a tool from the politicians to do something that is their own target, but is this the correct approach or the right approach? Let's see what the countries do. For sure if there's a tax it could increase plastic use, but adding an additional charge on plastic and changing to other packaging is not the correct approach," one major packaging producer said.

There have been concerns that the bill does nothing to address waste collection infrastructure shortages, and that the short timescale to implementation does not allow nation states enough time to enact the legislation in a considered manner.

"[in] the first years the tax won't be dodged. Supply chains just aren't ready," a packaging converter said.

According to several sources, the lack of suitable waste collection infrastructure will mean that the cost of any potential plastic taxes currently proposed or introduced on the back of this legislation would simply be passed on to the consumer until chemical recycling matures and provides enough volume of material to tackle shortages.

"To be honest I don't see correlation between use of recycled material and this new levy. The national governments will not have the time to implement this by January, and how [will they] pass [this] through the supply chain. I'd love to say we see a reaction but the only extra project it will push is whether people want to substitute to other materials that aren't plastic. That's

a pity. I thought greenwashing was done by companies but now it seems the EU are using it to raise money.

"It will be very dependent on the measures that the country takes, if they just pass it through it will be ultimately the consumer that pays and [there will be] no incentive to do more collection, better sorting or use more recycled content in their product, if they just forward to the consumer that's more or less it. This seems like a rushed tax which only fills the gaps in the budget and that's really disappointing," one integrated waste management major said.

Some have also highlighted that if the cost of the charge is passed through to the supply chain, for many packaging applications the limited volume per item of material will mean the addition of only 1-2 cents per item, which might easily be transferable to consumer.

"It sounds a lot of money, but at €800/tonne and if it's 20g [of packaging] it's not a big deal," a recycled polymer producer said.

To achieve European Food Safety Authority (EFSA) approval, 95% of the material used in reprocessing must have been sourced from food-contact applications, and there must be full and provable traceability throughout the chain.

For recycled material such as R-PP where multiple forms of waste are collected in kerbside schemes, proving provenance of material to reach the 95% content threshold is prohibitive.

The only post-consumer-derived source of food grade R-HDPE pellets is the UK where milk bottles provide an easily separated stream of waste.

Structural shortages of material, along with technical limitations such as opacity of material and loss of tensile strength, have led companies to explore other avenues for reaching sustainability commitments such as chemical recycling or bio-based materials.

ACOR applauds new recycling legislation

The Federal Government's introduction of landmark legislation for Australian recycling's improvement is epic news, according to the Australian Council of Recycling (ACOR), the national peak body for the resource recovery industry which employs some 50,000 people, particularly in regional Australia.

ACOR especially applauds the following aspects:

- The legal implementation of the COAG ban on the export of unprocessed waste provides certainty and stability for the development of domestic technology and infrastructure, and investment in recycling and recycled content product (RCP) manufacturing. This, in turn, gives consumers and customers more confidence in the efficacy of the recycling process and the sustainability results that it provides.
- The 'beefing up' of product stewardship processes with timeframes, actions and transparency send a clear message to product manufacturers, importers and brand owners that they must seriously take the full life-cycle impact of their decisions. That includes designing and transporting their goods with recyclability and other environmental aspects in mind and contributing to the reduction of the costs of recovery and remanufacturing.

Pete Shmigel, ACOR CEO, said: "Taken together with other reforms, this unprecedented legislation marks a new era of environmental, social and economic achievement in recycling through Government leadership and industry partnership and innovation. The Government

deserves full credit for its proactive, positive and purposeful agenda, and industry looks forward to its full implementation.

"Our industry is making unprecedented investments in collecting, sorting, cleaning, and manufacturing from recyclate from homes, businesses and construction sites. Having the law, policy and governments backing that in is awesome and will unlock huge intergenerational value – whether it's keeping stuff out of wasteful landfills or creating jobs in country towns.

"It's especially good that the Government is holding to account those who put products into the marketplace by ensuring their footprint is reduced including through recyclability and recycled content manufacture. That's a key shift we need to make the system even more successful, and we would welcome further measures in this area consistent with achieving the National Waste Policy's objectives," he said.

"Indeed, we acknowledge the Government's strong focus on achieving the targets of the National Waste Policy, including for plastics recycling. And, we are optimistic that Government – with industry partnership – will continue to rise to the challenge and opportunity, including through large-scale infrastructure investment, massively increasing demand for RCPs including through public procurement of recyclate for 'lighthouse projects', and standardisation of operational and logistical aspects, and further incentives," Pete Shmigel added.

"Specific acknowledgement and positive vibes go to the PM, the Minister for Environment, and the Assistant Minister for Waste Reduction for their personal leadership, initiative, and commitment to this highwater mark in recycling policy and future results. They totally 'get' recycling and it's opportunities for Australia and that's really cool and productive," he concluded.





TOMRA to help charities through new recycling initiative

TOMRA has launched its most ambitious drive ever to help Aussies who have been affected by the COVID-19 pandemic. The company is urging Australians to donate their empty drink bottles and cans to help individuals and communities affected by food insecurity, financial hardship and mental health issues.

The TOMRA *'Bottles can change lives'* recycling appeal - supported by the *Return and Earn* scheme in NSW and Containers for Change in QLD - aims to raise a massive \$1 million for three of Australia's most respected charities: OzHarvest, The Salvation Army, and Beyond Blue, by the end of February 2021. Every eligible drink container donated through a *TOMRA Reverse Vending Machine* will raise 10 cents to help Aussies doing it tough during COVID-19.

"The pandemic has already had an unprecedented negative impact on the lives of millions of Australians both financially and emotionally. With these hardships only set to worsen, we would like to encourage everyone in NSW, QLD and NT - whether you have used the scheme before or not - to collect your used bottles and cans and donate to this important cause. If we could just get one in 20 drink containers donated, we would exceed fundraising expectations," says Ryan Buzzell, President of TOMRA Collection Solutions Australia.

The NSW *Return and Earn* scheme has for example already generated over \$10.4 million in revenue and donations for charities and community groups since it started in December 2017 - including over \$500,000 in fundraising for Rural Aid to help rural families devastated by drought and bushfires in the *"Bottles for the Bush"* appeal last summer.

Recyclers across NSW, QLD and NT now have the option of donating their eligible bottles or cans at any TOMRA reverse vending machines to either Beyond Blue, OzHarvest or The Salvation Army.

According to Buzzell, each participating charity has witnessed the demand for charitable services - in some cases up to 60% greater than normal. At the same time, they have seen a significant decline in fundraising activity that is essential to the ongoing funding of their work.

The *"Bottles can change lives"* appeal will run until 21st February 2021. To see how your contributions are having an impact and find your nearest TOMRA recycling machine, go to www.bottlescanchangelives.org.au or show your support on social media using the hashtag #bottlescanchangelives.

Envirostream Australia to commence recycling of spent electric vehicle batteries

Envirostream - a 90% owned subsidiary of Lithium Australia NL has announced that it expects to begin regular recycling EOL EV batteries in coming weeks.

Envirostream has successfully conducted a series of recycling trials on six different types of EV battery packs at its mixed-battery recycling facilities in Melbourne. The trials, all of which were conducted without incident, were intended to document the complete process of EV battery recycling, from transport, handling and discharge through to disassembly and materials recovery.

Envirostream's report on the trials, which included details of safety procedures, transport, and environmental assessments, illustrated that Envirostream can process these EOL battery packs safely, effectively, cost-efficiently and sustainably, thereby providing a sound and environmentally aware solution to their disposal going forward.

BATTERY RECYCLING AGREEMENTS

Under the terms of the non-exclusive battery recycling agreements with the two Suppliers, Envirostream will be responsible for the transport of these battery packs to its recycling facility, as well as protection of intellectual property, the discharge of any residual battery energy and pack disassembly and recycling. Transport of batteries is expected to come from capital city's around Australia and Brunei to its Melbourne facilities.

Neither agreement is considered material agreement due to the volumes and no significant costs are being borne by the Company. The agreements have an indefinite term but can be terminated by the Supplier on between zero and 60 days notice

Neither supplier are expected to rank in Envirostream's top ten suppliers of batteries by volume this financial year. Whilst there are no set volumes under either agreement the significance of these agreements are that Envirostream becomes a first mover in the recycling of EOL EV batteries in Australia.

Envirostream expects to begin recycling a regular small volume of EOL EV battery packs over the next few weeks. Envirostream will continue activity marketing this service to other Australian and international EV suppliers and manufacturers.





Industry body action on 'mountains' of furniture waste

The Australian Furnishing Association (AFA) has the support of industry leaders, representing all areas of furnishing, to help tackle the problem of excessive waste, product contamination and unsustainability in the sector.

The Australian Furnishing Industry Product Stewardship Taskforce was convened earlier this year, in support of Australian Government initiatives aimed at establishing a Centre of Excellence for Product Stewardship. The government initiatives are aimed at inspiring new schemes, and ramping up existing product stewardship and recycling schemes, to address environmental and contamination issues, whilst generating new, sustainable, business initiatives.

The AFA is the recognised voice of the furnishing industry, by government, media and the Australian public. It encourages and supports its members in responsible and sustainable sourcing of materials, quality manufacturing, reducing waste and

eradicating risks to human health and the environment.

The *Recycling and Waste Reduction Bill 2020* was recently introduced into Federal Parliament – a bill that reflects the Commonwealth's commitment to reduce the impact on human and environmental health of products and their waste, reducing greenhouse gases and promoting a circular economy, which will ultimately benefit the community and the economy.

AFA Ambassador and International award-winning designer, Jamie Durie OAM, has urged the industry to 'get serious' about product stewardship, and back the AFA's all-inclusive and independent national Product Stewardship Scheme.

Jamie says it is imperative that the industry moves beyond the 'take, make and dispose' economy, and embraces the circular economy – where all the materials used in production are re-used or recycled, and waste is eradicated.

"The disposability of many furnishings has created a massive environmental problem that has to be addressed. We must not only ensure we use sustainably sourced materials, but also think about the end-use of the materials. 'Single-use' can be deleted from the process, with innovative design," he said.

"There are great opportunities for Australian designers and manufacturers and the AFA's Product Stewardship Scheme is ideally placed, to help support suppliers, manufacturers, retailers – and Australian families, in ensuring a safer and more sustainable future for us all," Jamie added.

Currently, it is estimated that in the greater Sydney area alone, 48,000 tonnes of used furniture are left on the kerbside each year.

Australasian Furnishing Association CEO, Patrizia Torelli, says that the AFA's membership, across the full range of furnishings, can contribute significantly to reducing risks to human health and the

environment, and promoting the circular economy.

“The AFA is already active in providing the furnishing industry with tools and support for product stewardship. A prime example is our timber Due Diligence toolkit, to help combat the use of illegally-sourced timber,” Ms Torelli said.

“We are perfectly placed to help roll-out a National Product Stewardship Accreditation Process and maximise its implementation.”

“The AFA is helping drive the supply-side of the circular economy, and we can help with the demand side as well, through our already-established online consumer advice portal,” she added.

The AFA has been working with industry members to promote public health, product safety and sustainability, but at the same time, to eradicate the sale of ‘recycled’ contaminated foams or mattresses.

Ms Torelli said that a successful Product Stewardship scheme will ultimately result in a ‘better deal’ for the consumer.

“Not only will we reduce waste caused by the use of poor-quality single-use materials. A circular furnishing industry economy will result in a reduction in cost to the community generally, as furnishings are ‘built to last’, energy use is reduced and recycling delivers greater savings and opportunities to industry.”

As a national association, the AFA can help deliver recycling ‘economies of scale,’ by helping industry aggregate classes of furnishing materials, like foam, steel or timber, with commercially viable outcomes.

AFA Member, Woods Furniture, is leading the way with the Woods Sustainability Programme which covers all resources used in manufacture, as well as a furniture take-back scheme for materials to be recycled at the end of their use. Woods is Australia’s leading designer, manufacturer and supplier of furniture for Australian schools.

Collectively, the Australasian Furnishing Industry employs approximately half a million Australians across the supply chain with

significant growth expected over the next five years.

ABOUT THE AUSTRALASIAN FURNISHING ASSOCIATION

The Australasian Furnishing Association (AFA) is the peak industry organisation representing Australian and International Members and provides advocacy and lobbying leadership via government and industry led networks. Spanning national and global markets the AFA contributes to worldwide consultation, collaboration and developments on behalf of all Members across the Australasian region. AFA Members are reputable suppliers to residential and commercial environs, including the hospitality, tourism, workplace, health and education sectors.

AFA Members operate across the furnishing supply chain including education and training, design, manufacturing, supply of services and materials, installation, compliance, testing and certification, import and export of furniture, furnishings and components.

For further information, please visit:
<https://australianfurniture.org.au>



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NWRIC WELCOMES BATTERY STEWARDSHIP SCHEME BUT IMPORTERS MUST SIGN UP

NWRIC has welcomed the recent announcement by the ACCC that it has authorised a national scheme for managing expired batteries through the *Battery Stewardship Council* (BSC), but it says with major battery importers yet to sign up to the voluntary scheme its efficacy is in doubt.

NWRIC CEO Rose Read said while the recycling scheme was long overdue, it would play an important role in removing batteries from mainstream waste as long as all importers were on board.

"We need to get batteries out of rubbish and recycling bins and into separate collection and recycling channels. Stopping fires in trucks and at processing facilities as well as contamination of compost are proof points for the scheme's implementation.

"This scheme is a step in the right direction but has been a work in progress since 2013. A start date of late 2021 is far too long and there's no confirmation that all the major importers are involved."

The Consumer Electronics Suppliers Association (CESA), in a letter to the ACCC in July this year said their members, including Duracell, Energizer, Eveready and Varta had not agreed to sign up to the voluntary scheme.

"The scheme's viability relies on a levy imposed of four cents per 24 grams (the weight of a AA battery) on batteries imported into Australia, with the money used to pay recyclers to collect, sort and process the batteries.

"A big concern is that if all the battery producers and importers aren't signed up, particularly as CESA members account for over 50% of the Australian market, there won't be sufficient levies raised to fund an effective national scheme," Ms Read said.

"There's also concern that the ACCC's approval will not address the free rider issues which will limit the scheme's ability to divert batteries from landfill as well

as removing the current risks faced by collection and sorting staff."

NWRIC has long been calling for a regulated product stewardship program for batteries to protect staff, critical infrastructure and maximise resource recovery.

"For the scheme to be successful and gain public trust, NWRIC encourages the BSC to ensure there is strong governance and transparency in place.

"There should be clear separation between scheme management and service providers (i.e. collectors and recyclers), public tenders for collection and recycling service providers as well as regular public reporting on annual targets and achievements in a timely manner.

"There would be much more confidence in the scheme being successful if it was regulated under the Product Stewardship Act to ensure all producers are contributing their fair share and there is transparency on performance in diversion of batteries out of red and yellow bins. There also needs to be equity for collection and recycling providers, and for the community to have free, readily available access and knowledge of the service.

"With a combination of sensible regulation, targeted investment and consumer education, almost all of Australia's used batteries can be safely recycled," Ms Read said.

ABOUT THE NWRIC

The National Waste and Recycling Industry Council (NWRIC) is a not for profit industry association, funded by major waste and recycling businesses operating Australia wide. It brings together national waste and recycling business leaders and affiliated state waste and recycling associations to formulate policies that will advance waste and recycling services in Australia.

NWRIC

NWRIC CEO TAKES OUT INDUSTRY ADVOCACY AWARD

Congratulations to National Waste and Recycling Industry Council (NWRIC) CEO Rose Read who has been awarded the Industry Advocacy Award at the 2020 Women in Industry Awards.

The awards recognise and reward the achievements of women working within the mining, engineering, manufacturing, process control industries and commercial road transport industries, and aims to raise the profile of women within industry, as well as promote and encourage excellence.

Chair of NWRIC, Phil Richards of JJ Richards and Sons said Ms Read's recognition was well deserved.

"Rose works tirelessly for Australia's waste and recycling industry. Her knowledge, leadership and professionalism has made an enormous and positive impact on our ability to advance waste and recycling services across Australia," Mr Richards said.

Ms Read said she was honoured to receive the award.

"To be singled out and recognised in such an esteemed group of finalists is a real privilege.

"My role at NWRIC enables me to really focus on advocating for moving materials up the waste hierarchy, helping create a circular economy, turning waste into resources where possible and ensuring the safe treatment and disposal of materials that cannot be recovered."





"There is great potential in Australia's waste and recycling industry and it's rewarding to have a role in representing good policy to government as well as advocating for those businesses that are prepared to invest in sustainable solutions.

"Thank you to the judges and also the sponsors for this year for supporting this initiative- BOC South Pacific, BAE Systems Australia and Atlas Copco, it is a real honour to be recognised," Ms Read said.

Supported by Australian Mining, PACE, Manufacturers' Monthly, MHD Supply Chain Solutions, Prime Mover, Trailer, Waste Management Review, Rail Express, Roads & Infrastructure Australia and Australian Bulk Handling Review, the Women in Industry Awards acknowledge the exceptional women who have achieved success through their invaluable leadership, innovation and commitment to their sector.

RECYCLING AND WASTE REDUCTION BILL 2020 INTRODUCED INTO COMMONWEALTH PARLIAMENT

On 27 August the Hon Sussan Ley MP, Minister for the Environment introduced the *Recycling and Waste Reduction Bill 2020* into Parliament.

The Bill sees the implementation of the export ban on waste plastic, paper, glass and tyres agreed by Commonwealth, State and Territory Governments in March this year as well as refinement of the current product stewardship act to further incentivise and encourage companies to take greater responsibility of the products they make and for the products and materials at their end of life.

The NWRIC considers the introduction of this Bill as a significant element of the reform process that can contribute to achieving a circular economy. Most importantly this step by the Australian Government acknowledges that waste and recycling services are an essential service. In addition, they constitute a vital resource industry that makes a substantial economic contribution to the nation. It is an industry that has great potential to strengthen Australia's resource security, generate clean energy, create jobs and protect the environment.

The raft of measures and initiatives currently in play are creating much needed momentum for positive systemic change. The Commonwealth's Recycling Modernisation Fund, the National Waste Policy Action Plan, the National Product Stewardship Investment Fund and CRC-P funding for R&D, are collectively shaping a more coherent approach to how waste management and resource recovery should be planned and managed in Australia.

The NWRIC is still reviewing the details of the Bill within the context of feedback it

provided on the draft bill in July, especially in regard to definitions, objects, charges and the Minister's Priority Product List. The NWRIC is eager to see evidence that industry's views are being understood, acknowledged and acted upon.

The NWRIC advocates for stronger national leadership and coordination across several key areas of activity, including market development, infrastructure planning, product stewardship, harmonisation of state waste and recycling regulations, plus increased investment of landfill levies back into the waste and recycling infrastructure, education and compliance.

The actions of the current Commonwealth Government, in particular Assistant Minister Evans, Minister Ley and the Prime Minister, have gone a long way to demonstrating national leadership and state coordination.

Nonetheless, there are still some key aspects of the reform process that demand detailed attention and completion including; creating markets for recovered materials through government procurement and requiring companies to increase recycled content in products and packaging, including imported goods.

Greater coordination of waste and recycling infrastructure planning across all levels of government and investment of the \$1.5 billion state landfill levies collected annually, is also an outstanding area of work needing further

development. Cleaning up what is collected by harmonising collection bin contents, urgently establishing a regulated battery recycling program and removing hazardous substances like PFAS from products, are obvious imperatives at this time. Focused action is also required to harmonise waste and recycling data, definitions, movement tracking, landfill levies and licensing.

The Recycling and Waste Reduction Bill 2020 is a key element to building a circular economy. Its success and sustainability will require commitment to timely and efficient implementation. The NWRIC looks forward to working closely with the Australian Government to deliver practical action over the coming months and years.



CONDUCTING DUE DILIGENCE WHEN SELECTING A PRECASTER: AN EASY SOLUTION

Master Precasters such as Reinforced Concrete Pipes Australia (RCPA) can be relied upon for high-quality, durable reinforced concrete pipes.

In Medieval Europe, 'master craftsmen' or 'master tradesmen' were considered to be at the pinnacle of their craft, belonging to their craft guild. Masters would typically progress through a career chain from apprentice, to journeyman, before being elected to become masters.

Today, the term is still commonplace throughout the world, and Master Builder, Master Plumber and other trade titles are commonplace.

Precast concrete manufacturers are no exception. With precast manufacturing being a highly skilled and complex process, the importance of awarding a precast contract to a suitable manufacturer is critical to ensure the success of a project.

TYPICAL CHECKS INADEQUATE

When checking a precaster's credentials for a project, the following will often be all that is assessed:

- Their experience with manufacturing the required elements;

- Their location and facilities; and
- Their price.

These are inadequate if the goal is to mitigate any unwanted delays, cost blowouts, safety breaches, quality issues or unexpected finishes.

DUE DILIGENCE IS RESOURCE INTENSIVE

Proper due diligence must be carried out before appointing a precaster to a project. The process of auditing precast manufacturers should be complex and detailed, calling for checks that the required processes and procedures are not only in place, but are actually being implemented on a daily basis.

So much more is required. Just SOME of the checking that is required includes whether the precaster:

- Has an engineer approved shop drawings;
- Undertakes appropriate checks for every element, pre- and post-pour and pre-delivery;
- Has the appropriate technical knowledge,

for example, understand relevant Australian Standards and codes;

- Delivers elements only after they have achieved the required strength;
- Delivers with a certificate of compliance;
- Protects elements to prevent damage during transport;
- Understands Chain of Responsibility;
- Uses material safety data sheets where needed;
- Uses high quality steel moulds;
- Actually engages daily practices that are compliant with environmental legislation;
- Has a sound financial record; and
- Engages a corrective actions process.

Unfortunately, it is usually because of resource constraints that most of this detailed information is neglected and not checked before awarding a contract to a precast manufacturer.

That increases risk to the head contractor and to the client.

“Not carrying out the right checks of a precaster before awarding a contract increases risk. Because of that, and because of an element of market dissatisfaction with ISO certification, is why we’ve introduced Master Precaster”

Sarah Bachmann, National Precast CEO.

MASTER PRECASTERS TO MITIGATE RISK

Launched on 1st July this year by the national peak body for the Australian precast industry, Master Precaster will be the new term for the best of Australia’s precasters who are among the most skilled and experienced. They have been thoroughly audited by National Precast.

ABOUT MASTER PRECASTERS

Master Precasters supply every state and territory of Australia. They can specialise in a particular type of precast such as flooring or can manufacture a range of precast elements.

Master Precasters can supply precast for large or small residential or commercial projects in the building or civil sector.

They operate to a strict code of conduct and manufacture precast to the highest quality.

According to National Precast’s CEO Sarah Bachmann, the new membership category is being introduced to take the hard work out of screening precasters and also because of market dissatisfaction with ISO certification.

“We audit our Master Precasters. It’s a day-long exercise. Passing the audit means that while a company might have formal policies and procedures in place, those procedures are actually being implemented,” Bachmann comments.

The scope of the audit is broad, covering every aspect of manufacture, as well as financial stability, insurances, expertise and qualifications of senior employees, awareness and engagement of new technology, HR practices, staff turnover, CSR, supplier referrals, compliance with key Standards and codes, materials’ checks, outsourced work, currency of certifications, actual quality of output, documentation and so on.

“Being audited by someone who actually understands precast manufacturing makes a world of difference. It’s not so easy to pull the wool over the eyes of someone who is in the know. That is critical to the value of the audit,” Bachmann claims.

For further information, please visit:
www.nationalprecast.com.au



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Reduce your environmental footprint

NATIONAL PRECAST ANNOUNCES NEW PARTNERSHIP WITH ANCON

Ancon has been involved with National Precast since 2008 and in an exciting development, the company has increased its commitment to the precast concrete industry by upgrading its Industry Supplier membership. For the next two years, Ancon will exclusively hold the 'Lifters' and 'Reinforcement couplers' categories within its Industry Partner membership.

Ancon designs and manufactures high quality steel fixings. It is a part of CRH, a *Fortune 500* building materials' business headquartered in Ireland.

Along with sister company Halfen, Ancon's precast-related products in Australia include reinforcing bar couplers as well as lifting, fixing and anchoring systems. Their products are backed by an Australian-based engineering support team.

Together with the National Precast Board, CEO Sarah Bachmann welcomes the upgrade.

"Ancon has been a very active member, as a regular at our member meetings and representing the industry on committees and working groups.

"This strategic alliance makes a lot of sense, given that their commitment to innovation, safety and continuous improvement as they excel at customer service, is synonymous with our own underlying values. It also confirms their support and positions them as a vital player in what is a growing industry," Bachmann comments.

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DEVELOPER RECOGNISES BENEFITS OF CONCRETE PIPES

Project: Kerani Heights Estate STAGE 1

Master Precaster: Reinforced Concrete Pipes Australia

Location: Melton Highway, VIC

Client: Ginsan

Developer: Potter George

Beneath a 13 hectare new residential development in one of Victorian's recently established suburbs lies a well-planned and robust drainage system that will future-proof the homes of just under 200 families from flooding in heavy downpours.

The new Kerani Heights Estate is currently being constructed in five stages and is located just off the Melton Highway in the new Victorian suburb Fraser Rise.

Developer Potter George has partnered with some of Melbourne's award-winning home builders to offer a range of boutique house and land packages to suit varying needs. With modern, well-established amenities - like the Watergardens Shopping Centre, the Caroline Springs' Central Shopping Centre, multiple schools and colleges, medical centers, national parks and public transport - all within easy reach, the development is also surrounded by plenty of green space including parklands and sports fields.

With a solid track record of delivering quality projects that provide sustainable, fit for purpose

outcomes for all stakeholders, Potter George understood the importance of quality services being correctly installed in the early stages of construction and the many benefits of using reinforced concrete pipes.

To deliver an efficient, durable stormwater system - which is critical to a development of this size - National Precast member Reinforced Concrete Pipes Australia (RCPA) was awarded the contract to manufacture and supply precast concrete pipes for the estate's stormwater system.

Just short of 400 concrete pipes were vertically cast for the project, set with an RRJ 2.34m length rebate. Multiple sizes were manufactured, ranging from a diameter of 300mm through to 1650mm.





Using precast concrete pipes meant shorter lead times and maximised efficiency on site with fast, safer construction using a minimum of workers. With the units being manufactured in a factory-controlled environment, a high level of dimensional accuracy was easy to achieve, which also minimized challenges along the way.

Set to be completed in 2022, Kerani Heights will provide safe homes and amenities for multiple generations to come.



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Did you know you can access the latest issue of *Waste + Water Management Australia* via Informit?

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Sydney Park wins international *Architecture + Water* award and recognised as best of its kind in the world

As governments work to create safer public spaces in a COVID-19-affected world, a much celebrated and frequented Sydney Park has been recognised in the world's most extensive architecture awards program for its contribution to the community and environment.

Announcing this year's 2020 *Architizer A+ Awards* winners in New York recently, Architizer said the Sydney Park Water Re-use Project - a public park integrating water infrastructure on one of the city's oldest post-industrial wastelands - had taken out top *Jury Award* in the *Architecture + Water* category.

The award is the second in recent weeks for the project, by Australian-based landscape architects and urbanists Turf Design Studio in collaboration with Environmental Partnership.

The Sydney Park Water Re-use Project was one of only three Australian finalists in total from 430 projects shortlisted from 5000+

submissions from more than 100 countries. Also shortlisted in the *Architecture and Water* category were an extraordinarily creative and eclectic collection of projects from the Arctic Circle to tropical Thailand, including: a water harvesting container cum learning facility and classroom at a school in Thailand; an adventure and polar exploration resort in Northern Norway; a warehouse storing materials for flood control in Suzhou China; and, a publication detailing the ancient art of terraced rice paddies in Bali.

Accepting the award, Turf Design Studio Founder Mike Horne said: "Current times are a stark reminder that it's never been more imperative for us to explore ways to creatively adapt existing and new spaces, wherever they may be, for the enhancement of life, and the public realm. Likewise, the celebration of water and our vital connection to it."

This year's Architizer A+ Awards focused on issues defining the future of architecture. New awards celebrate sustainable

design and new approaches to building. These include collaborative categories like *Architecture+Adaptive Re-use* and *Architecture+Water*, which illustrate the changing demands of the industry today.

Turf Design Studio founder Mike Horne said Sydney Park Water Re-use Project demonstrates excellence in urban design through an integrated response delivering a dynamic, experiential urban space.

"The project highlights the benefit of significant design team collaboration, successfully bringing together water sensitive urban design, new interconnecting civil infrastructure, environmental bio-retention and a local urban water re-use system," Mike said.

"We aimed to exemplify the urban design benefits that can be delivered from strategies such as *Sustainable Sydney 2030* and the *Sydney Green Grid*."

Previously commending the Sydney Park project, City of Sydney Lord Mayor Clover



Moore has said: “I heartily commend Turf Design Studio for its outstanding work on the Sydney Park Water Re-Use Project.”

“This project has realised the city’s stormwater harvesting objectives for Sydney Park, making a major contribution to the City’s *Sustainable Sydney 2030* local water capture and re-use targets,” the Lord Mayor said.

“As co-head consultants, Turf Design Studio and Environmental Partnership have transformed the park, literally bringing the wetlands and the story of water treatment to life in the park’s ecosystems and the community’s imagination.

“Through the chain of wetlands, connected by weirs, bridges, paths and stepping stones, the designers have created delightful places in the park’s landscape, connecting community and nature,” she said.

“Governments, developers, architects and landscape architects among others need to work together to ensure we can design the very best community spaces going forward – precincts that both nurture, enhance and protect the community,” the Lord Mayor added.

The project is an integral component of City of Sydney’s *Sustainable Sydney 2030*, which aims to replace 30 per cent of 2030 potable water demand. The park now

captures and cleans 850 million litres of stormwater a year, making it available for re-use. At the same time, the reinvigorated park provides much-needed open space for relaxation and recreation in this high-density inner-city neighbourhood.

Native animal habitat was carefully considered and improved, with the wetlands now boasting the highest population of native bird species in the local area, including 22 wetland species.

The project was funded by the City of Sydney and built in partnership with the Australian Government through the National Urban Water and Desalination Plan.

The design team incorporated multidisciplinary specialists led by landscape architects Turf Design Studio and Environmental Partnership. The team’s expertise included hydrology, soils, ecology, engineering, and public art, as well as landscape design. The collaboration was central to the design process with the project also showcased by the NSW Government as a case study exemplar.

Turf Design Studio founder and project director Mike Horne said: “Turpin + Crawford Studio, David Knights (formerly Alluvium) and Mia Dalby-Ball (formerly Dragonfly Environmental) brought incredible verve, skill and openness of spirit to the project – their contribution cannot be underestimated. The

City of Sydney also deserves special recognition for its curatorial rigour and commitment to quality on behalf of the community.”

ABOUT TURF DESIGN STUDIO

Turf Design Studio are multi-award winning landscape architects and urbanists. Our blended knowledge of urban design, landscape architecture, environment, community and infrastructure makes our profession unique in connecting people and place. Our creative and accomplished team brings fresh thinking to every project and strives to realise a site’s inherent character through innovative planning and design solutions. The making of meaningful, beautiful places is an endeavour that we take very seriously, as both a creative challenge and project responsibility. We create memorable places.

ABOUT THE AWARD

One of the most extensive awards programs for architecture in the world, the *Architizer A+ Awards* aims to nurture the appreciation of meaningful architecture with some of the best design works showcased to a global audience of 400 million-plus. In collaboration with its official partners, Phaidon, NYCxDESIGN, and The Wall Street Journal, this year, there were 430+ projects shortlisted in more than 100 categories.

The A+Awards are judged by prestigious members of the architecture and design community, as well as luminaries from industries like art, technology, fashion, media, and real estate. Including Christian Benimana (Director, African Design Centre), Neri Oxman (Product Designer, MIT Media Lab), Dong-Ping Wong (Founding Director, FOOD), Amanda Levete (Principal, A_LA), and David de Rothschild (Environmental Activist).

The 8th Annual A+Awards also saw the return of *Architizer: The World’s Best Architecture*, an annual compendium of the world’s best spaces, published by Phaidon. The book, which has featured winners like Zaha Hadid Architects, Steven Holl, Heatherwick Studios, and the National Design Award-Winning MASS Design Group, is the year’s definitive architectural guide.

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Reece group deploys blackberry solutions to protect endpoints and automate threat management

A plumber walks into one of Reece Group's 800 branches in Australia, New Zealand, or the United States to purchase supplies. The sales associate sits them down at a point of sale terminal and helps them search through an inventory of 80,000 parts for the items they need.

Delivery and tracking information are produced if the goods will be trucked to the customer's worksite. Selected items are flagged for replenishment based on data mining rules that reflect previous purchasing trends. And thanks to the suite of specialized applications and digital tools Reece Group developers built to perform these functions, the whole process proceeds seamlessly and securely.

As head of security, Shane Laffin is responsible for protecting Reece's business-critical applications and information technology (IT) infrastructure from cyber attacks.

"Our customers are at the centre of everything we do, which means we take data integrity and cybersecurity very seriously," he says.

"We're always looking at the market, assessing what's out there. It's an ever-changing landscape and you can't rest on your laurels."

Established in 1920 and listed on the Australian Securities Exchange, Reece Group is a leading distributor of plumbing, waterworks, and HVAC-R products to commercial and residential customers. The company has approximately 7,000 employees committed to improving the lives of their customers by striving for greatness every day.

Although it recently celebrated its 100th birthday, Reece Group is constantly innovating to stay competitive and pursue management's international growth strategy.

"The 2018 acquisition of MORSCO accelerated our plans to enhance our cyber resiliency by reducing the complexity of our security stack, upgrading from our signature-based defenses, and streamlining endpoint security management," says Laffin.

"We reached out to Cylance1 partner CyberRisk for assistance."

Prior to co-founding CyberRisk, Director Leong Wang was among the first CylancePROTECT®2 customers in the Australian region.

"As early adopters of AI-based endpoint defenses, we understood the technology very well," says Wang.

"Therefore, we were well-positioned to help Reece Group with its proof-of-concept planning."

THE PROOF IS IN THE TESTING

Laffin and his team spent July and August of 2018 conducting paper-based assessments before inviting Cylance and two other firms to submit their endpoint protection, detection, and response solutions for a month of in-depth proof of concept (POC) testing.

"We began the POC by exposing the candidate solutions to 200 different malware strains to baseline their capabilities for malware detection and pre-execution prevention," says Laffin.

"CylancePROTECT stopped all of them."

Next, the solutions were exposed to attack simulations that utilized the APT29 tactics, techniques, and procedures (TTPs) documented in the MITRE ATT&CK® framework.

"The MITRE ATT&CK simulation tests were eye-openers," says Laffin.

"CylancePROTECT and CylanceOPTICS®3 excelled over the other products we were considering. Their performance was exceptional."

Other tests focused on resource utilization.

"It can be frustrating for employees when a scan or a signature update makes their system run sluggishly," says Laffin.

"The Cylance solution was much more efficient with system resources than our legacy AV. It ran quietly in the background, protecting endpoints without making a fuss or requiring a cloud connection to function."

Laffin also assessed the candidate solutions for management efficiency.

"Simplicity is important to me," he says.

"The Cylance console4 is extremely straightforward and easy to operate. I could immediately see that the learning curve would be a short one."

Management flexibility was another important consideration. According to Laffin, "We knew it would take months to integrate MORSCO's security infrastructure in the United States with our security systems and policies in Australia and New Zealand."

"During the build out, we'd want to manage our entire IT infrastructure from a single pane of glass while monitoring security incidents in the two environments separately. Therefore, the option to deploy the Cylance console in a multi-tenant cloud configuration was especially attractive to us."

Ultimately, however, it was the experience and dedication of the Cylance and CyberRisk teams that convinced Laffin to invest in Cylance solutions.

"It's always wise to surround yourself with people who are both technically astute and trustworthy," says Laffin. "I felt certain that our relationship with Cylance and CyberRisk would be a productive one." In March 2019, Reece Group became a Cylance customer. The CylancePROTECT deployment kicked off soon afterwards.

A TWO-STAGE DEPLOYMENT

Although he was confident that Reece's security and infrastructure teams would be able to implement both solutions successfully,

Laffin decided to engage CyberRisk in the pre-deployment planning process.

"CyberRisk advised us on the best practices for creating CylancePROTECT security zones and policies," says Laffin.

"That saved us a lot of time and effort when we began scanning the environment and enabling security controls."

Within two months of deploying Cylance's unified agile agent technology, Laffin and his team had CylancePROTECT security controls for malware prevention, memory exploit protection, script control, device usage control, and application control enabled in full blocking mode.

"Once we achieved that milestone, we were ready to begin operationalizing CylanceOPTICS," says Laffin.

During the POC, Laffin had envisioned numerous possibilities for incorporating CylancePROTECT and CylanceOPTICS into Reece's automated threat management program.

"We already knew we'd be able to extract and load CylancePROTECT endpoint

telemetry data into our LogRhythm® SIEM without much effort, since the two products had been integrated three years before," says Laffin.

"We began exploring ways to utilize CylanceOPTICS playbooks and MITRE detection rules to contextualize that data and assist with response and remediation."

"CylanceOPTICS can initiate a wide variety of automated response workflows, ranging from collecting and forwarding endpoint telemetry data to taking systems offline," explains Jason Duerden, Managing Director, BlackBerry Spark, Australia, and New Zealand.

"Workflows can be triggered by our AI-based Context Analysis Engine (CAE) models, by custom rules defined by the customer, and by rules that leverage MITRE TTPs of advanced persistent threats. Often, detection rules don't fire at all because CylancePROTECT has already stopped an attack by preventing malware, or fileless threats from executing in the first place."

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