

QUEENSLAND'S PLASTIC POLLUTION

crisis



CONTAINER DEPOSIT & OTHER SOLUTIONS



Queensland's Plastic Pollution Crisis

Container Deposit
and Other Solutions

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EXECUTIVE SUMMARY

Consecutive Queensland governments have failed the community by not paying enough attention to the management of rubbish. Queensland is now the most littered State in Australia with beverage containers and plastic packaging representing the bulk of that litter. According to the Keep Australia Beautiful Litter Index, the incidence of litter in Queensland is 41% higher than the national average.

The 2012 study of marine debris by the CSIRO found 'three quarters of the rubbish along the coast is plastic. Most is from Australian sources not the high seas, with debris concentrated near cities.'

Plastic litter in particular, is both toxic to the environment and devastating to wildlife. Studies in Moreton Bay have found that the ingestion of plastic debris was responsible for about 30% of all turtle deaths, with a further 6% of deaths due to entanglement. Thousands of sea birds also die along the coast as a result of plastic ingestion.

The Great Barrier Reef Outlook Report 2014 has identified marine debris and plastics as a major problem for the health of the reef. Studies show that corals eat microplastics, causing a slow death from starvation.

The tried and proven approach to reducing litter and plastic pollution is the banning of single use plastic bags and the introduction of a container deposit scheme (CDS) for beverage containers.

The banning of plastic bags would immediately remove an estimated 800 million-1 billion bags used in Queensland every year.

Introducing container deposits would reduce beverage litter of the marine environment by 60% and triple bottle and cans recycling rates to 85%. It would generate \$140 million in revenue for resource recovery supporting hundreds of jobs and new recycling centres; and provide a significant financial boost for both local government and community organisations.

The Queensland Government came to power promising to address both littered beverage containers and plastic bags:

Labor will actively pursue model legislation across all States that establishes a National Container Deposit Scheme, and investigate the establishment of a state-based container deposit scheme.

Labor will restrict the use of single use packaging, particularly plastic bags.

The Local Government Association of Queensland (LGAQ) backed motions to restrict plastic bags and introduce a container deposit scheme at its last conference in November 2014.

The newly introduced Queensland Waste Avoidance and Resource Efficiency Strategy identified packaging waste, plastic bottles, bags and other consumer plastics as priority waste materials requiring action.

Public surveys on plastic bag bans routinely show considerable support whilst a Newspoll in January 2015, commissioned by Boomerang Alliance, showed 86% support for a container deposit scheme in Queensland.

With the returned NSW Government committed to introducing a container deposit scheme in that state, a once in a generation opportunity exists for Queensland to join with NSW and expand a container deposit scheme across both jurisdictions.

It's time for Queensland to act on litter and rubbish, in particular plastic debris. Failure to do so will prolong the state's growing reputation as the rubbish state and the ongoing toxic threat to the environment and our wildlife.

Boomerang Alliance and its allies urge the Queensland Government to:

- 1** Actively participate in the NSW Government design taskforce for a best practise CD scheme in NSW to harmonise it for Qld and the startup date of 1 July 2017.
- 2** Join with other state jurisdictions in acting to phase out single use plastic bags and other identified problematic plastic packaging and items. As a first step release a public discussion paper on options to phase out these materials.
- 3** Participate in a micro-plastics taskforce to phase out and enact its recommendations.
- 4** Take immediate steps to investigate enforcement techniques and licensing conditions to ensure waste plastics (nurdles and other material) do not escape manufacturing sites.

We also welcome the initial steps taken by the Government in announcing a taskforce to investigate a container deposit scheme and consider banning plastic bags.

INTRODUCTION

Consecutive Queensland Governments have badly neglected waste and recycling. The Sunshine State now has the embarrassing record of having the worst recycling rates in Australia; is the most littered state; with its pristine beaches and ocean the country's most polluted. Illegal dumping of tyres is reaching record levels – often without legal recourse due to poor regulatory provisions and enforcement that apply to the waste industry.

In August 2003, the Australian government declared “injury and fatality to vertebrate marine life caused by ingestion of, or entanglement in, harmful marine debris” was a key threatening process under the Environment Protection and Biodiversity Conservation Act. This declaration obliges government to develop threat abatement plans to minimise the impact on threatened and vulnerable marine creatures. Yet, not only have Queensland Governments allowed a dramatic increase in the volume and proportion of plastic wastes released into the ocean, it has also allowed many key initiatives and practical policy solutions be abandoned, including:

- Twice committed to action on plastic bags then failed to deliver
- Walked away from the national investigation into CDS – in favour of a tokenistic effort whose greatest media announcement was to pay for recycling in chicken shops
- Wound back regulations in areas like licensing waste management facilities, regulated wastes
- Failed to enforce provisions to ensure industry contains and controls pollutants produced at their premises.

The consequences are frightening: hundreds of thousands of tonnes of marine plastics are choking our turtles, marine mammals and birdlife; microplastics are sucking up toxins and persistent organic pollutants – slowly poisoning our fisheries and in turn entering our food chain. Dangerous illegal dumping of tyres proliferates around Brisbane; and the state has become a net importer of some 500,000 tonnes of waste from NSW each year.

The CSIRO has suggested that by 2050, “95% of all sea birds will have plastics in their gut.” It is clear that marine species and Queensland's pristine natural marine assets are under threat. It's time for government to stop stalling and take immediate and decisive action.

“After 25 years of solid work by hundreds of thousands of Queenslanders, it's time for their government to acknowledge the efforts of these volunteers and demonstrate some leadership by stopping plastics and containers being discarded in the first place.”

*Ian Kiernan, Founder and Chairman
Clean up Australia. AO*

In order to tackle rubbish and its impacts in the marine environment, Boomerang Alliance has developed a simple 3-step plan that can be readily legislated and implemented within 3 years. The key initiatives proposed are:

- 1** Adopt a state-wide Container Deposit System and work with NSW to harmonise joint introduction.
- 2** Ban dangerous and unnecessary plastics applications that most directly target marine species – single use bags and microbeads used in personal care products.
- 3** Provide support and incentives to underpin a voluntary plan for improved stewardship within the plastics industry that minimises the impact of plastics extrusion and resin manufacture. This would include:
 - a** That any plastic packaging or product has the maximum practicable recycled content
 - b** Embodies sustainable packaging design principles
 - c** Has an onsite management system to capture nurdles on site.

Combined, this 3 step plan will see Queensland triple its plastic recycling rates; halve the amount of litter found in Queensland; and reduce the incidence of key marine plastic pollution by some 75% – all at no cost to rate or taxpayers in Queensland.

IS QUEENSLAND BECOMING THE RUBBISH STATE?

“Queenslanders and visitors to the Sunshine State should be ashamed and will our next tourism slogan be beautiful one day, filthy the next?”

David Curtin, CEO Keep Australia Beautiful Queensland

LITTER

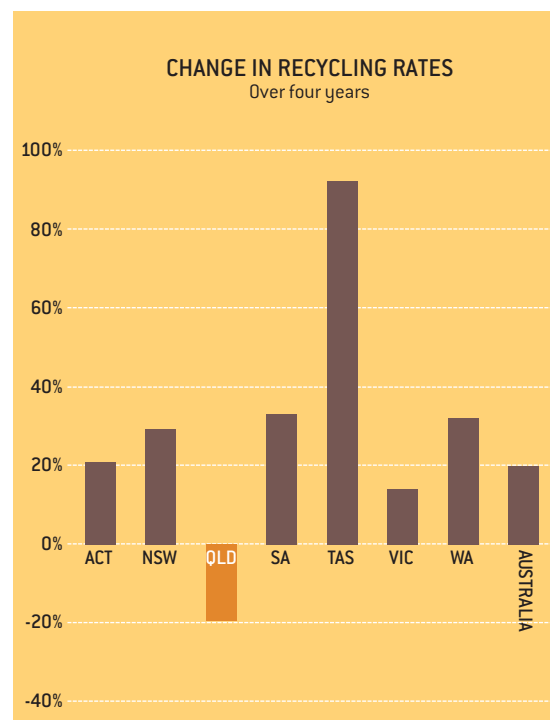
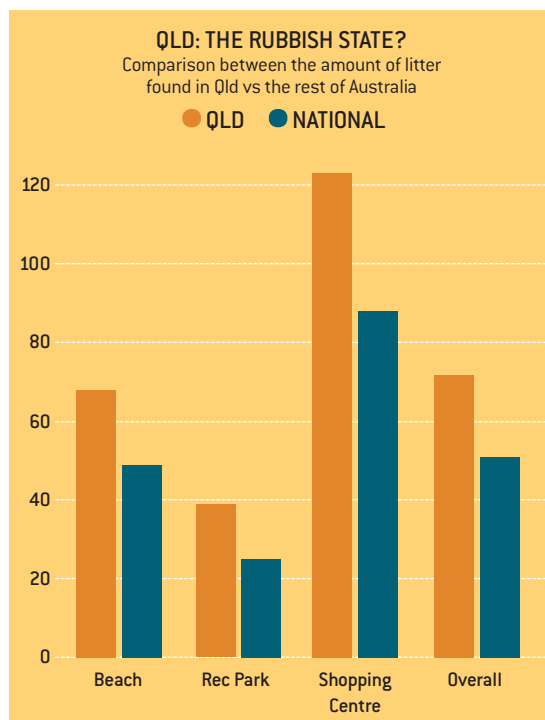
According to the Keep Australia Beautiful Index, Queensland:

- Has the highest litter incidence in Australia, with some 72 items found in every 1,000 M2 surveyed – 41% higher than the national average!
- While the amount of litter around Australia has been steadily decreasing (<19.1%), last year the incidence of litter in Queensland increased by 6.8%.

- The most littered item by volume are drink bottles and cans. Six of the KAB ‘dirty dozen’ most littered items (by volume of material) were found to be beverage related rubbish. Together these items represent an average of 2.81 litres of rubbish found in every 100 square metres surveyed – that’s 58% of all rubbish!

WASTE AND RECYCLING

- Between 2006/07 and 2010/11 (the most recent data) the level of recycling per capita in Queensland dropped by 20%. In comparison, the amount of recycling (per capita) increased by 20% (2013 National Waste Report)
- Queensland recycled just 40.1% of waste generated in 2013 – dwarfed in comparison to South Australia’s 77%, Victoria’s 72% and NSW at 65%
- Governments have been wilfully ignorant to the problem for the past 10 years. It’s actually reached the point where state policy now encourages other states to use the state as a garbage tip. Last year over 20,000 truckloads of rubbish was shipped from Sydney to Queensland.



PLASTIC

- Over 430,000 tonnes of plastic waste is consumed in Queensland annually
- Just 4% of plastics are recycled
- Plastic represents nearly 40% of all litter volumes
- There is 45% more plastic rubbish found in the Queensland environment than found in the rest of Australia
- Three quarters of all marine debris is plastic
- According to the Great Barrier Reef (GBR)

Outlook Report 2014, marine debris affects inshore habitats, species, and the Reef's aesthetic values. Between 2008 and 2014, about 683,000 individual items of marine debris, were collected from beaches in the reef region. Plastic is the main offender.

- Using estimates developed by Alison et al in researching gross pollutants entering Port Phillip in Victoria, it is possible to estimate that at least 540,000M3 (36,000tonnes) of rubbish is entering Brisbane waterways each year, with no more than 10% caught by litter traps. That represents some 750M3 of bottles and cans being washed into Moreton Bay each day.

THE PROBLEM WITH PLASTICS

Plastics are durable (and useful), but require about 500 years to decompose in the ocean. Their durability and buoyancy allows them to be carried far from their sources.

Whales, fish and other marine species depend on zooplankton for food. Researchers believe zooplankton ingest plastics and then pass it through the food chain. The ratio of plastic to plankton in the major ocean gyres, which tend to concentrate floating material, is estimated to be up to 6:1 by weight.

There is also the potential for marine wildlife to absorb heavy metals and other toxic substances, through ingestion of suspended 'microplastics'. When plastics break down, they release toxic products. Microplastics also aggregate pollutants in the environment. Both are released when animals digest the plastic.

"Plastic debris has up to thousand times higher concentration of contaminants on its surface than the surrounding seawater from which it came."

Dr Jennifer Lavers, Marine Scientist



Within marine food webs, plastic debris can serve as both a transport medium and a potential source of toxic chemicals such as polychlorinated biphenyls (PCBs), endocrine-active substances and chemicals similar to DDT. These chemicals are known to compromise immunity and cause infertility, even at very low levels.

Many marine scientists have expressed serious concerns that these toxins are being consumed by our population, warning the toxins may also be absorbed by our consumption of seafood.

It is estimated that globally over 1 million sea birds and over 100,000 mammals die every year as a result of plastics. These creatures die through ingestion of plastics they mistake for food or from being entangled in plastic items. Ingested debris may starve animals by preventing ingestion of food; reducing absorption of nutrients, resulting in internal wounds and ulceration.

Marine turtles are particularly vulnerable to floating debris as some species of marine turtles are thought to mistake plastic bags and other items for jellyfish prey. A significant number of dead whales and dolphins have been found to ingest sufficient plastics to have caused fatal blockages.

Ingestion of debris also has a wide range of lethal or sub-lethal effects on seabirds as debris can cause perforation, mechanical blockage or

impairment of the digestive system, resulting in starvation. When plastics are regurgitated as food to chicks by their parents, physical impacts and internal ulcerations are likely to lower survival rates.

Some 77 different species of birds, turtles, whales, sea lions and other species are identified as being affected by marine plastic pollution. Twenty six species listed as threatened under the EPBC Act were identified as negatively impacted by marine debris:

Southern Wright Whale, Green Turtles, Australian Sea Lion, Blue Whale, Loggerhead Turtles, Dugong, Humpback Whale, Leatherback Turtles, Seals, Sei Whale, Hawksbill Turtles, Pelican, Brydes Whale, Olive Ridley Turtles, Wandering Albatross, Grey Nurse Shark, Flatback Turtles, Tristan Albatross, Antipodean Albatross, Indian Yellow Nosed Albatross, Blue Petrel, Grey Headed Albatross, Northern & Southern Royal Albatross, Northern Giant Petrel, Gould's Petrel.

“Most (debris) is from Australian sources, not the high seas, with debris concentrated near cities.”

*Leading CSIRO Marine Scientist
Dr. Brita Denise Hardesty*



STEP 1 – CONTAINER REFUNDS

Any effort to restrict plastic marine pollution is doomed to failure without strong and decisive steps to address bottles and cans. CSIRO Marine Scientist Dr Brita Denise Hardesty summarises the rationale for this simply:

“The waste associated with the beverage industry comprises a third and in some estimates a half of the marine debris we find globally ... we do not find full plastic bottles, or cans in South Australia. I would likely attribute that to the container deposit scheme that they have.”

The tried and proven approach used most effectively across the globe is a container deposit system. A CDS targets the largest single source of marine pollution, conservatively tripling the recycling rates for all bottles and cans (expected recycling rates would be around 85%), but also introduces a number of benefits that will assist in targeting other rubbish. These include:

- 1 Attracts private capital to establish around 1,200 convenient collection points across Queensland. Much of this infrastructure will also be used to recover other problem wastes.
- 2 Provides the financial incentives and injects the funding needed into clean-up efforts.
- 3 Educates people about how to recycle and develops the habit of returning material rather than simply throwing it away.

Historically, kerbside recycling became widely established across Australia in the 1980s when the major newspaper and magazine publishers came together to form the Publishers National Environment Bureau (PNEB) and announced a scheme to financially underpin kerbside recycling. This provided a level of certainty for local government and privately owned recyclers to invest hundreds of millions of dollars in recycling facilities, trucks and sorting operations.

CDS plays a similar role by tackling the most problematic aspect of the waste stream – away from home consumption i.e. hospitality outlets, public venues and recreational consumption – where recycling rates are very low (often less than 10%). A CDS also upcycles the kerbside system by removing glass contamination of paper and cardboard which severely reduces its value; and allows for more space to take in new problem products and increase efficiency.

Discussions with coordinating bodies trying to address a range of problem waste have highlighted that one of the major barriers to good resource

recovery is operating enough collection facilities to collect their waste at the end of its life. Existing, but struggling, product stewardship programs for TVs, computers, used paint and batteries are just a few industry sectors who have expressed a strong interest in utilising CDS collection infrastructure to increase their programs' recovery rates.

Further, by placing a 'bounty' on the most commonly littered item – bottles and cans, Queenslanders will start to value waste and become more educated about the problems of waste and recycling. Once the habit of visiting a CDS collection point is established, it becomes simple to expand the range of materials in an organised and systematic way.

CDS's have been adopted in over 40 jurisdictions around the world and four Australian jurisdictions (SA, NT, and now NSW and ACT). Yet Queensland – has until recently been the most resistant to adopting this effective initiative. Why?

Firstly, government has claimed to be concerned about the costs, which the beverage industry has been active in exaggerating. Put simply a container deposit system does not represent a big cost – drink container waste and litter is the big problem! Based on estimates described in the Commonwealth Government Regulatory Impact Statement, released in 2014, Queenslanders consume some 3.5 billion drink containers a year. According to the same report, the net economic cost of adopting a CDS would be \$3.57 billion over a 25-year period – which sounds expensive but represents just 1¢ per container sold. Considering the fact that the average drink costs between \$2.20 and \$4.00 – paying 1¢ to clean up beverage pollution is miniscule. [Note: the 'economic' cost, based on a narrow cost-benefit analysis, is the whole economy impact, not the net individual financial impact from consumer prices which will be close to zero or less, with an efficient CDS and ongoing marketing practises such as discounting].

The second argument used to deter government is the idea (again invented by the beverage industry) that a CDS will hurt kerbside recycling – nothing could be further from the truth. The facts are simple:

- Kerbside recycling costs a lot more than the material it collects
- The single least economic material for local government to collect is glass (90% of which is removed from kerbside through the adoption of a CDS)

- This allows councils and recyclers to service more homes with each recycling truck – in turn dramatically reducing the collection costs
- Any remnant material carrying a deposit that remains in a kerbside system is paid a 10¢ refund, increasing the value of bottles and cans from a current average \$199.20 a tonne (the scrap value) to \$1,268.60 (the refund value) – that’s a 500% improvement in kerbside revenues.

In an effort to understand the true impact of a CDS on kerbside recycling, NSW Local Government commissioned leading waste experts Mike Ritchie and Associates. The results could not be any clearer:

“By adopting a CDS, councils across Australia could save \$69 to \$183million p.a.”
 – Mike Ritchie

EFFECTIVE AND EFFICIENT

The debate regarding the efficiency and effectiveness of CDS schemes is over. In 2010 PricewaterhouseCoopers (PWC) was commissioned by a leading NGO to undertake the most comprehensive study into the most effective ways to recover used beverage containers. The study looked at systems across Europe, North America, Japan and Australia – using a multi-criteria analysis including economic, social and ecological outcomes. PWC compared how well different methods of beverage container collection worked. The results put paid to the debate regarding container deposit systems and provides proof that the beverage industry’s scare tactics had little basis in fact.

A summary of PWC’s conclusions are outlined in the table below:

PWC Indicator: ● Strongly Positive ● Positive ● Neutral ● Negative

IMPACT AREA	CDS (SINGLE USE)	KERBSIDE
BEVERAGE RECOVERY RATES	●	●
LITTERING REDUCTIONS	●	●
RESOURCE CONSUMPTION	●	●
WASTE TO LANDFILL	●	●
OPPORTUNITIES FOR CONTAINER RE-USE	●	●
OVERALL SYSTEM COSTS	●	●
REVENUES EARNED BY SCHEME (TO OFFSET SCHEME COSTS)	●	●
STABILITY OF COLLECTION SYSTEM	●	●
COST OF SCHEMES ON GOVERNMENT	●	●
IMPACT ON BEVERAGE PRICING	●	●

Key findings of the PWC Report include:

- Deposit systems are more sustainable than kerbside collection of beverage containers
- Deposit systems for beverage containers enable higher collection rates and better recycling
- One way deposit systems are not necessarily more expensive than kerbside collection
- Deposit systems are more cost effective than kerbside collection
- Deposit systems and kerbside collection can co-exist very well.

“If the return and recycling rates of the systems are included in the assessment, a mandatory deposit system can be viewed as being more cost efficient.”
 (PWC)

There has been significant momentum generated towards the adoption of a CDS in Queensland recently:

- Regional and Rural Councils in Queensland understand the logic and overwhelmingly want a CDS. At the most recent annual conference of the Queensland Local Government Association, regional councils overcame resistance by the big city councils like Brisbane City to carry a resolution calling on the state to adopt a CDS.
- NSW and the ACT have recently announced they will introduce a CDS and have invited the Queensland Government to join their implementation taskforce. This is an ideal opportunity, given that in the lead up to the 2015 state election, the Palaszczuk Government announced a policy to “actively pursue model legislation across all States that establishes a National Container Deposit Scheme, and investigate the establishment of a state-based container deposit scheme.”

Finally, A CDS remains the preferred solution to Queenslanders. The most recent Newspoll undertaken for Boomerang Alliance earlier this year showed that, 86% of the adult population supported introducing a CDS, knowing they would pay a 10¢ deposit, refundable if they returned their drink containers to a reverse vending machine located at convenient points like shopping centres.

BOOMERANG ALLIANCE CONTAINER DEPOSIT SCHEME MODEL

The Boomerang model has been designed to improve on the South Australian (and NT) model by adopting a number of best practice features utilised around the world. The scheme seeks to operate at the minimum cost while making redemption as convenient as possible and ensuring the infrastructure is well deployed to have the maximum impact on overall recycling systems.

Some of the key features are:

- Most depots being automated utilising Reverse Vending Machines and placed in the car park of shopping centres.
- A One-Coordinator approach where a dedicated non-profit body administers the scheme. This overcomes the complexity of multiple coordinators in the SA and NT schemes; and creates transparency and a high degree of public accountability.
- The use of a ‘hub’ to serve as a link between the coordinator and collection network. Most MRF’s and transfer stations could become hubs. This system would also promote the development of Drive Through Recycling Centres that would also collect a range of household and small business discards.
- Transportation costs are reduced by a system of regional ‘hubs’ that consolidate collections and could re-process product, further adding to regional employment opportunity.

RECOMMENDED ACTION ON BOTTLES AND CANS

With the momentum rapidly shifting, the Queensland Government needs to urgently seek to better understand the multiple social, environmental and economic costs and benefits of a CDS (as opposed to narrow cost benefit analysis). We welcome the government’s decision to begin an investigation and liaise with the NSW CDS Design process. It should work towards harmonising with a best practise NSW scheme and adopting their timetable to introduce a scheme in mid-2017



STEP 2 — BANNING SINGLE USE PLASTIC BAGS AND MICROBEADS

Complementing action on beverage containers is the need to directly address two sources of plastics that are known to have the most immediate and direct impact on marine conservation: single use plastic bags and microbeads.

Single use plastic bags: Boomerang Alliance estimates that around 1 billion plastic bags are consumed in Queensland each year. The Australian Government believes that around 2% (up to 80 million) single use bags enter the litter stream each year — however the design of single use bags means that many more escape waste and recycling facilities. Boomerang Alliance believes that the amount of plastic bags entering the environment could be double government estimates. Clean Up Aust data shows that, in Queensland, plastic packaging with plastic bottles represents the bulk of littered items.

Single use plastic bags are often ingested by marine species, particularly sea turtles, who often mistake them for one of their primary sources of food – jellyfish.

Green and Hawksbill turtles in Moreton Bay, have been dying due to plastic bag litter. Marine Biologist Dr. Kathy Townsend from the Moreton Bay Research Station, University of QLD, confirms that approximately 30% of the turtles she autopsies have plastics, including plastic bags, in their intestinal tract with a further 6% killed due to entanglement.

In August 2000, an eight metre Bryde's whale died soon after becoming stranded on a Cairns beach. An autopsy found that the whale's stomach was tightly packed with 6m² of plastic, including many plastic check-out bags. Such obstructions in animals can cause severe pain, distress and death.

Many turtles, that have been killed by consuming debris, have plastic bags or fishing line in their stomachs, some as small as half of a fingernail. Sea turtles are especially susceptible to the effects of consuming marine debris due to their body's structure. They have downward facing spines in their throats which prevent the possibility of regurgitation. The plastics get trapped in their stomach, which prevents them from properly swallowing food. Also, many sea turtle rehabilitation facilities commonly deal with 'bubble butts,' turtles that float as a result of trapped gas caused by harmful decomposition of marine debris inside a turtle's body. The gases cause the turtle to float, which leads to starvation



"The turtles appear to mistake floating plastic bags for jelly fish."

Dr. Townsend

or makes them an easy target for predators or collision with watercraft.

Like Container Deposits, momentum for a plastic bag ban is growing. Polling conducted for NGO 'Do Something' in May 2009 found that 83% of Australians want a ban on non-biodegradable plastic bags. South Australia, the Northern Territory, Tasmania and the ACT have banned single use lightweight plastic bags. NSW and federal Environment Minister, Greg Hunt are also on record as considering a ban on single use plastic bags.

In SA the ban removes over 400 million bags from circulation each year, whilst government surveys show that most consumers support the ban and have changed their behaviour with nine out of ten shoppers taking their own re-usable bags to the supermarket.

Bags are banned in many regions around the world. There are bans in eight EU countries, in South Africa and many cities such as Katmandu and Los Angeles. In Ireland it is reported that plastic bag use decreased by 90% following the introduction of a levy on bags. Plastic bags were banned in Bangladesh nearly 30 years ago because they clogged drains and caused flooding, a scenario that Queensland would do well to heed.

In the recent Qld state election the Palaszczuk Government announced that "Labor will restrict the use of single use packaging, particularly plastic bags".

Microbeads: these are small polyethylene beads less than 1mm in diameter that are widely used in cosmetics, skin care and personal care products usually as exfoliating agents. Recent advances in

understanding these microbeads act as a sponge, absorbing toxics and other contaminants, and the extent that marine species are mistakenly targeting microplastics as a food source — has seen the use of this frivolous product become a substantial environmental concern.

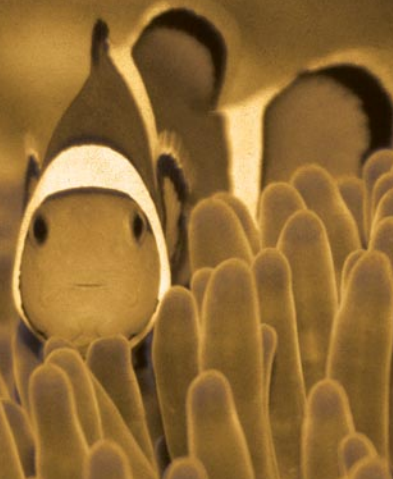
Like plastic bags, microbeads are often confused with zooplankton as a source of food. According to a recent study by the ARC Centre of Excellence for Coral Reef Studies, corals digest micro-beads at about the same rate as normal food. As proven by the large amounts of plastic found in their guts, corals are unable to expel of these fragments. Eventually, corals will starve and die if their stomachs become filled with plastics.

Responding to market protest regarding the use of microbeads in personal care products major cosmetics companies Beiersdorf, Colgate-Palmolive and L'Oréal, Unilever, Procter & Gamble, Johnson & Johnson, Avon, Albert Heijn, the Body Shop, Lush have all announced they are phasing out the use of microbeads in their products.

The NSW Government has recently convened a micro plastics taskforce to deliver a phase out by 2016, preferably with industry cooperation, although regulation may still be necessary to include 'free riders'. At the February meeting of State, Territory and Federal Environment Ministers New South Wales and South Australia agreed to lead work on a jurisdictional phase down of microbeads.

RECOMMENDED ACTION ON PLASTIC BAGS AND MICROBEADS

The threats that plastic bags and microbeads present to the World Heritage listed Great Barrier Reef, spectacular coastal environments and marine species are substantial. The consequences of inaction on bags and microbeads are more pronounced in Queensland. However, while most Australian jurisdictions are taking action to ban both plastic bags and microbeads, Queensland has done nothing. The Queensland Government needs to take immediate action to ban both single use lightweight plastic bags and phase out microbeads.



STEP 3 — MANAGING THE IMPACT OF PLASTICS WITHIN INDUSTRY

The plastics industry also has a role to play. Regulatory action needs to be accompanied by a much stronger commitment than the majority of the plastics industry has displayed to date.

Recent research by leading Australian NGOs Tangaroa Blue and the Two Hands Project has also revealed a gross failure to manage even their raw materials — a fast growing and major source of microplastic pollution - 'nurdles' the resin pellets used to create plastic products and the base product produced by plastics reproducers. Like microbeads, nurdles resemble the food sources of many marine species.

Over the course of many years Tangaroa Blue has carried out a number of studies into the prevalence of nurdles along our beaches and coasts. Tangaroa Blue undertook sampling across 41 broad geographical locations including river systems in Brisbane, Sydney, Melbourne, Perth and Adelaide — finding concentrations as high as 6,000 nurdles per square metre of beach.

Research conducted around Brisbane has found pellets located within the Brisbane River. These sites are both up and downstream from Brisbane's main industrial and manufacturing areas highlighting the strong possibility of domestic release.

Nurdles typically enter the environment by escaping the boundaries of the plastic extruder or recycler factories, and are washed into our

waterways via the nearest stormwater drain. While allowing this to happen is already an offence in Queensland and every other state in Australia — it is difficult to enforce and the Queensland Government has not specified any specific nurdle controls for Queensland plastic related businesses.

Many reasons exist to explain the abundance of pellets in the environment, including unsound practices within factories with regard to cleaning spill-over, but more important is perhaps the lack of mitigation methods that are designed to prevent such incursion to the environment from the factory floor. Factories hose their buildings and workshop floors down at night, resulting in pellets washing into drains — a documented practice at several major factories in these cities. There is no filter on surrounding stormwater drains, so once they are in gutters or drainage areas, they are washed into stormwater outlets easily, resulting in entry to the river systems. Also, in transporting the resin pellets, hopper cars and trucks are not required to have lids on containers of pellets.

If Queensland is to grow the proportion of recycled content in Queensland plastics extrusion and manufacture to increase the financial viability of plastics recovery and reprocessing — it should also have modern pollution controls.

Finally, if any plastic products are to have a future market in Australia, the industry needs to embrace sustainable design principles.

Australia can be proud that some of the companies with the best records of recycling across the globe started in our country. Visy, often regarded as the closest example of a closed loop operation in Australia — recovers around 150% more material than they use in manufacturing. Years of research and development have also seen Visy become one of the few companies that can produce food grade plastic packaging that is 100% made from recycled materials. Similarly, the largest metals recycler on earth, Sims Metal, started in Australia. Orana (previously Amcor Australia) is the largest plastics packager in the world, and from its Australian roots remains one of the largest users of plastic recycle in the world today.

With so many market leaders in Australia committed to a sustainable operation, Boomerang Alliance has initiated discussions with the major plastics producers and recyclers to develop an industry standard to ensure we protect our

With so many market leaders in Australia committed to a sustainable operation, Boomerang Alliance has initiated discussions with the major plastics producers and recyclers to develop an industry standard to ensure we protect our environment from the poor use of plastic products and sub-standard environmental systems within manufacture.

environment from the poor use of plastic products and sub-standard environmental systems within manufacture. Whilst early days, we are encouraged by the extent to which industry is open to reform.

The core approaches companies must use to reinforce their credentials as environmentally responsible businesses would include:

- A commitment to a high recycled content wherever practical
- The development of a management regime to ensure nurdles and other plastic products and waste are retained within the manufacturer's control

- Embracing sustainable design principles in product manufacture
- Independent and public reporting on their handling of plastic: resin pellets; products; and waste.

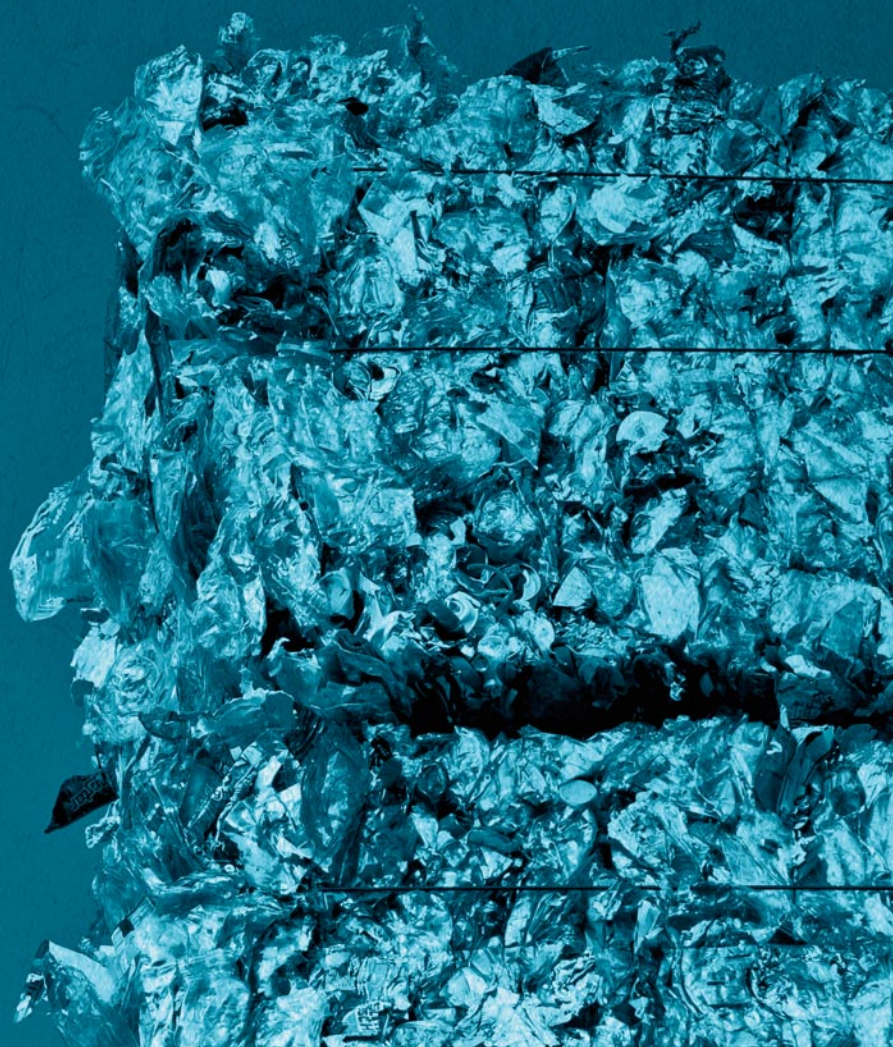
Government has a role to play in this work. Incentives to encourage sustainable practices addressing these issues are an important carrot. Similarly, early adopters of a more sustainable approach need to have confidence that government will provide any necessary regulatory underpinnings to ensure market leaders are not financially disadvantaged against those who refuse to eliminate their plastic pollution.

RECOMMENDED ACTION TO IMPROVE THE ENVIRONMENTAL MANAGEMENT OF THE PLASTICS INDUSTRY

The Queensland Government should take immediate steps to investigate enforcement techniques and licensing conditions to ensure plastics do not escape a manufacturing site.

Government should also engage with plastics industry associations like PACIA and market leaders such as Visy and Orana to discuss what complementing actions it should adopt to ensure that industry is encouraged to take a market leadership approach.

Boomerang Alliance will be hosting an industry summit for a frank exchange of views on some of the key Qld waste and recycling challenges. The state government should support this initiative and use it as an opportunity to engage with key stakeholders.



WHAT'S IN IT FOR QUEENSLAND?*

This simple table outlines the impacts of the BA Plastics Plan in Queensland:

Volume of rubbish found across Qld	The Commonwealth Regulatory Impact Statement on Packaging released in 2014 identifies the incidence of littered material would, with a CDS, reduce (over time) by 51%. Combined with action on bags, microbeads and nurdles we would reasonably expect to see a 60% reduction in total litter.
MSW and C&I Recycling	A 14.5% increase in recycling (excluding construction and demolition waste). A CDS lifts both the recycling rate of beverage containers but also provides the infrastructure to collect much more material. In South Australia at collection depots – for every 1 tonne of CDS material collected an additional 0.5 tonnes of non-CDS material is also recovered. If the plastics manufacturers target high recycled content, this will provide a major incentive for the Queensland recycling industry.
Plastic recycling rates	CDS alone would triple the rate lifting from the current 4% to 15%.
Households with access to recycling	Increases from 82% to 96%. 255,000 households will have access to recycling services for the first time. The regional nature of Queensland makes it difficult to provide a kerbside recycling service to many parts and consequently some 328,000 homes do not have access to kerbside recycling.
Cost of kerbside recycling and local government waste services	Drops from \$61.38/household to between \$52.48-\$37.80/household. The NSW Local Government study into the impact of a CDS on kerbside recycling estimated that the average national savings to MSW recycling services would be between \$69-183million p.a. This reduction is likely to be higher in Queensland due to higher costs to transport recycle from regional areas to reprocessing facilities. The 3 stage plan would also relieve significant pressure on local government services such as street sweeping and maintaining litter traps.
Number of recycling collection facilities	Increases from 236 to 296 facilities, including the development of 60+ regional recycling hubs to target problem waste and collection programs to small business. Some 600 convenient Reverse Vending machine facilities would also be developed via CDS funding. This represents over \$100million in infrastructure investment – at no cost to state or local government.
Employment	The programs will create between 400-500 direct jobs in Qld and another 250 indirect jobs – over 50% of which would be in regional areas.
Marine plastic pollution	The amount of plastic rubbish found along our coastlines and waterways would drop by around 75% within 5 years.
Impact on prices	Consumers should expect to pay around 11¢ more for each bottle of can of drink; but can get 10¢ back if they return their empty container. Elimination of single use plastic bags and microbeads would have little impact on household grocery costs.
Impact on the Queensland economy	<ul style="list-style-type: none"> • No loss of consumer sales • A \$43million p.a. growth in the recycling sector • CDS collection and handling fees would deliver a \$140million p.a. boost to the waste and recycling collection sector
Community Service Organisations, and Clubs	In South Australia, the Scouts operate collection and clean up services that generate some \$44million p.a. If Qld adopted a CDS, surf clubs, community service organisations, sporting clubs etc. could easily expect to earn another \$60million p.a. to support their outstanding work.

* detailed data available

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OUR ALLIES

- AFROCAB
- Australian Conservation Foundation
- Australian Marine Conservation Society
- Arid Lands Environment Centre
- Beach Patrol
- Clean Up Australia
- Conservation Council ACT Region
- Conservation Council of South Australia
- Conservation Council of Western Australia
- Cooks River Alliance
- Environment Centre NT
- Environment Tasmania
- Environment Victoria
- Friends of the Earth
- Greenpeace Australia Pacific
- LEAD Group
- Living Ocean
- Mineral Policy Institute
- Nature Conservation Council of NSW
- Project AWARE Foundation
- Queensland Conservation Council
- Responsible Runners
- SEA LIFE Conservation Fund
- Surfrider Foundation Australia
- Take 3
- Tangaroa Blue Foundation
- Tasmanian Conservation Trust
- Total Environment Centre
- Two Hands Project
- Wildlife Preservation Society of Qld
- Local Government NSW