

ThreeSixty

February 2019

+ Waste

06
Funding and new opportunities to manage waste

12
Dublin's waste-to-energy solution – the incinerator

14
Back to the future – Queensland's cash for containers scheme



ThreeSixty team

Editor Troy Webb
Journalist Dianne Reilly, Dianne Reilly Communications
Design Wills Brand Design



Welcome

CONTENTS

- 2** Legacy Landfill Sites – Problem or opportunity?
- 6** Funding and new opportunities to manage waste
- 10** Moreton Bay Regional Council tackles growth – and a growing waste problem
- 12** Dublin's waste-to-energy solution – the incinerator
- 14** Back to the Future – Queensland's cash for containers scheme

As our cities and towns continue to grow, so does the problem of waste management. Over the past few months we have been working with councils and other key industry leaders on finding solutions to the waste dilemma, and recently held forums on the topic in Brisbane and Sydney.

We are pleased to bring you this edition of *ThreeSixty* centred on the theme of “waste”.

We know that this is a very large topic and there is a myriad of examples of best practice solutions from around the World, however, we have focused on just a few this time (with the view of sharing more in the future). From the international case study of the Dublin's “incinerator” (waste-to-energy facility) to the City of Holdfast Bay's new community centre in Adelaide, to Moreton Bay Regional Council's Waste Reduction and Recycling Plan – the range of options for waste-to-resource recovery are limited only by imagination and of course, budget!

We hope that the article covering funding and revenue sources by Ren Niemann provides some food for thought and as always, we are here to help should you be interested in pursuing any of the options covered or indeed other such public-private partnerships.

By now you are most likely dealing with the impacts of legislative change enabling container exchange refunds and we would love to hear from you if you have some interesting insights to share or indeed any problems you may be ironing out.

Finally, from all the team here at McCullough Robertson, I would like to wish you a safe, happy and prosperous new year, as free from the effects of storm and cyclone season as possible! We know that some regions have already been affected by extreme weather events, including devastating bushfires, and our thoughts are with those Councils facing repairs and recovery during this busy time.

All the best

Troy Webb

Partner and head of McCullough Robertson's Local Government Industry Group



“...many councils want to achieve sustainable re-use options but may be put off by the upfront costs and/or engineering issues.”

LEGACY LANDFILL SITES – PROBLEM OR OPPORTUNITY?

Councils across Australia are faced with the problem – what to do with landfill sites?

Landfills have been re-used as reserves, parklands and sporting facilities for decades, however, not always to their optimum potential. Landfill sites are not attractive for developers so the responsibility for redevelopment usually falls to councils, but the costs can be prohibitive.

The opportunity to turn one such site into valuable, high quality playing fields and at the same time address environmental and health and safety issues was too good to miss for the City of Holdfast Bay in South Australia.

The City of Holdfast Bay Council in Southern Adelaide had both a problem and a vision, and the redevelopment of the Kauri Community and Sports Centre on a site previously used as landfill between 1963 and 1974 was the solution. Following the closure of the waste and rubbish dump in 1974, the site was filled and turned into a reserve with sand-dressed turf dual-purpose fields for tennis and hockey.

By 2010 the existing facilities had reached the end of their life span and required urgent maintenance, and the adjacent grassed reserve was uneven and required rejuvenation. Located close to schools and urban development, there was community support for improved sporting facilities and multi-purpose buildings or a community hub.

Herbert Kers of Tonkin Consulting says many councils want to achieve sustainable re-use options but may be put off by the upfront costs and/or engineering issues.

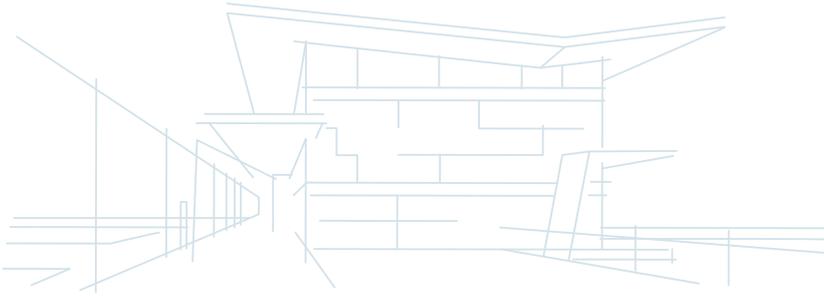
“First and foremost, Council had the vision of turning the landfill site into a valuable sporting and community hub. They realised that by redeveloping this site they would also deal with some environmental issues and reduce potential risks to public health,” Herbert says.

“So yes, there is an upfront cost especially as Council opted for a high standard engineering solution, but the result is a win-win as they will save money on the whole-of-life maintenance of a site and provide a facility with long-term benefits for the community whilst improving the environmental conditions.”

Continued over...

Herbert Kers,
Tonkin Consulting





APPROACHING THE PROBLEM

"This was not your average project as it involved constructing high-standard tennis courts, a 3-storey building and a wet hockey pitch on top of a landfill, and landfills don't settle evenly. It depends on the age, thickness and type of waste, and investigations identified the site was a filled gully with shallow fill at the edge, and a depth of thirteen metres at the centre" he says.

The initial indicative project cost was estimated at \$10 million based on a developed Master Plan which would see the entire landfill footprint redeveloped into a sport and community facility. Council was able to secure significant State Government funding as well as support from Tennis SA due to the high-quality of the proposed new courts.

"Council went for the highest tournament standards, which meant they were able to attract funding from the state's tennis body, and also provide facilities that could be used all-year round for both tennis and hockey, as well as incorporating netball, with reduced future maintenance or disturbance for users."

Herbert says Council opted for an innovative 'slab-on-mini-piles' tennis courts build, one of the more expensive options, however, cheaper options would have meant more maintenance over time with re-surfacing likely required every few years. In order to further maximise use and create a real community hub, the new clubhouse had to provide opportunity for broader use by groups such as music groups and other local associations.

"Council wanted a new building that served both sports, located in the centre of the site facing both grounds and ready before the old building was demolished," Herbert says.

"This meant putting the building on top of the deepest part of the landfill (13 metres deep). Instinct says to avoid doing this but if you can't, there are ways to safely design and build and place a structure on top of a landfill."

Project and site preparations were undertaken over a 12 month period to address the poor ground conditions and associated risks as well as some additional scope, and the budget was revised to \$14 million. Construction began in 2015 and took three years to complete.

During construction, the aim was to make the site a "zero waste removal" site. In doing this, City of Holdfast Bay realised a major cost saving, as off-site disposal of contaminated waste is a high cost. It also followed the South Australian waste management hierarchy which ranks disposal as the least preferable waste management action.

To keep all waste material on site required well planned and managed earthwork design. Waste and contaminated soils were re-buried under the tennis courts slab on-site as much as possible and segregated cleaner soils were re-used on-site as waste fill and cover soils.

Landfill gas mitigation measures were undertaken to reduce gas migration into on-site and off-site structures and services and the atmosphere. Ongoing landfill gas monitoring will be undertaken to demonstrate performance of these measures.

BENEFITS

A poorly used reserve has now been transformed into a central community facility/hub which will be shared and enjoyed by the general community with the capability of new clubs and activities to be used within the Kauri Community and Sports Centre.

Due to significant planning and a practical solution for the community, the site is now a fully capped landfill, with a community centre that is professionally presented and provides:

- Upgraded hockey pitch
- Both tennis and hockey fields that can be used all year round and now can now also be used for netball
- New community centre/hub available for broader use including 6 music groups
- Additional car parking
- The sporting hub will bring together the local community, including nearby schools, sporting associations and residents alike.

The ongoing management of the old waste fill site has been improved by reducing the risk of waste, contaminated soil and landfill gas exposure. All shallow waste has been removed or covered by a soil layer of appropriate thickness and quality.

PRINCIPLES TO ADOPT

Herbert has a few “take home” messages for any council considering redeveloping a landfill site or looking to create a new community/sporting hub.

“These brownfield sites have a lot potential and when you consider the cost of purchasing land in a greenfield location which may not be close enough to the community you want to serve – they could provide the solution to two problems.”

“Early engagement of architects and an engineering design team is critical. Engage the right consultants to look at the feasibility and identify risk, allocate money and manage those risks.”

“If you are not sure about the engineering solutions and risks, then look at your procurement tools. Sometimes you might ask the market ‘how do we do this?’ and the market will come up with best the methods, so you don’t have to re-invent the wheel.”

The project was awarded Excellence in Design and/or Construction of a Public Works Environmental Enhancement Project at the 2016 IPWEA Excellence Awards.

Tonkin Consulting are a leading consultancy that plan, develop, design and deliver infrastructure and environmental solutions for clients in government, the urban development, water, transport, mining and waste management market sectors. Tonkin are experienced in environment and waste management; landfill design, management and closure planning; landfill gas emission assessment and management and brownfield rehabilitation and redevelopment with offices in Queensland, New South Wales, Victoria, South Australia and the Northern Territory.



TAKE HOME MESSAGES

- Master planning needs to consider ground conditions and associated implications
- EOI/ECI/D&C are valuable procurement ‘tools’ to identify and manage (financial) risks in the redevelopment process
- High standard re-use of old landfills requires:
 - careful decision making, planning and time;
 - high quality engineering; and
 - proper CQA and supervision during construction
- Architects/design engineers need to be engaged in environmental design requirements at early stages for project success but high level engagement with contractors needs to continue during construction
- Redevelopment of former landfill sites can lead to win-win situations

FUNDING AND NEW OPPORTUNITIES TO MANAGE WASTE



In April 2018, Commonwealth, State and Territory environment ministers agreed to reduce the amount of waste generated in Australia and committed to update the National Waste Policy, increase recycling and work together to better manage waste. The update to the National Waste Policy (*The National Waste Policy: Less waste, more resources*, which was first agreed to by Australian environment ministers in November 2009) was long overdue and needed to reflect current political and social agendas regarding Australia's waste management and resource recovery beyond 2020.

Why is it necessary? Well, in 2009 Queensland's greenhouse gas emissions from waste was 3.3 million tonnes of carbon. By 2014, this had been reduced to 2.9 million tonnes, however, in what should be a concern for councils, 74% of emissions can be contributed to landfills.

We are still no closer to an update to the National Waste Policy, with domestic waste policy being managed separately by each State and Territory. How the issue of waste is being managed across Queensland is a combination of both the public and private sector initiatives, as outlined below.

"In 2012-13 Queensland sent more than half of the waste produced from everyday business and household activities to landfill."

Waste-everyone's responsibility. Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)

Ren Niemann
Partner





QUEENSLAND GOVERNMENT WASTE LEVY

In June 2018, the Queensland Government released a Directions Paper: *Transforming Queensland's Recycling and Waste Industry*, which recommended introducing deterrents to reduce the amount of waste going to landfill, and discussed the need for an appropriate resource recovery, recycling and waste management strategy for the state. The Directions Paper set out a comprehensive framework for the introduction of a waste disposal levy with proceeds to be redirected to waste, environmental and community program funding.

Following consideration of over 100 submissions on the Directions Paper and consultation with the Recycling and Waste Management Stakeholder Advisory Group, the *Waste Reduction and Recycling (Waste Levy) and Other Legislation Amendment Bill 2018* was introduced into the Queensland Parliament on 6 September 2018 and is expected to be debated in early 2019. One of its key features, the waste disposal levy, is now expected to commence on 1 July 2019 following recent announcements by the Queensland Government.

The levy for most waste will be \$75 per tonne. The Government has committed to directing 70% of revenue raised through the levy to councils, the waste industry, scheme start-ups and environmental programs. As part of this framework, the Government has initiated the Resource Recovery Industry Development Program (RRIDP) to allocate some of the levy revenue across three funding streams.

OPPORTUNITIES AND FUNDING SOURCES

The Government has committed \$100 million over three years (to be sourced from the waste levy) to the RRIDP, to be split across three streams:

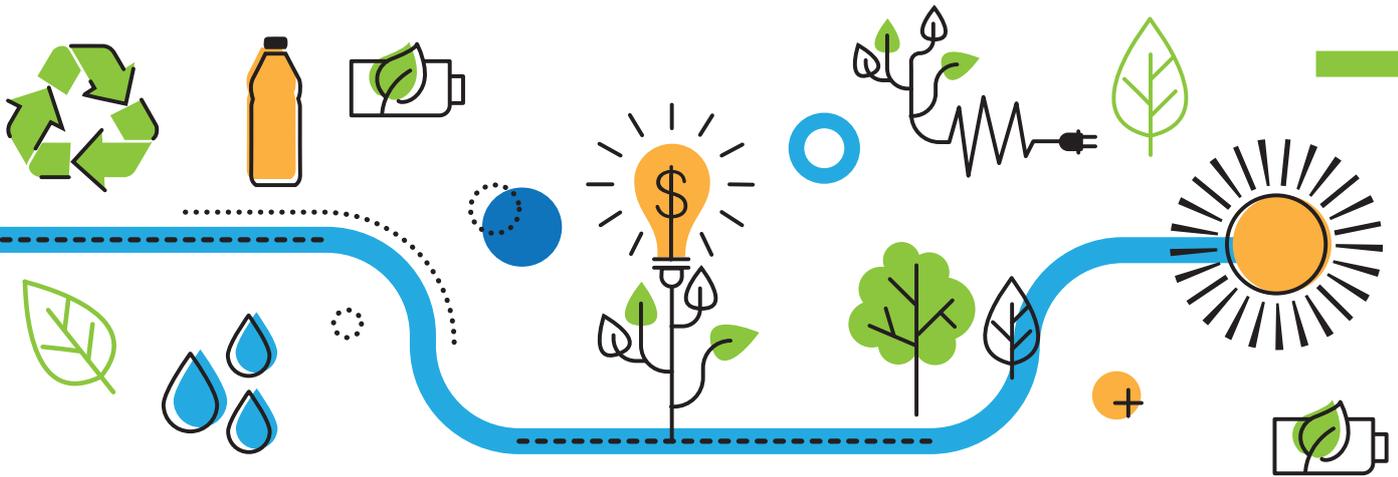
- 1) Stream One offers dollar-for-dollar capital grants of between \$50,000 and \$5 million for existing operations to fund new infrastructure or processing and technological capabilities;
- 2) Stream Two offers broad incentives to attract or expand major resource recovery operations that will divert considerable amounts of waste from landfill and recover valuable resources; and
- 3) Stream Three offers support towards capital-intensive, long-lifecycle projects that require a contribution towards investigations to assist with investment decisions for Queensland.

To be eligible for Stream Three funding, a proposed project must 'recover waste materials that are currently being landfilled, or materials that are recovered to low value outlets.'

Councils looking to employ proven technologies for resource recovery can apply for funding and other support to improve existing operations. These operations or facilities can be along the entire supply chain from collection and transfer to sorting and remanufacture, as well as waste to energy.

By all accounts, the Government was inundated with Stream One applications, with the first projects anticipated to be funded within the first half of 2019.

Continued over...



BIOFUTURES QUEENSLAND

A dedicated unit within the department, Biofutures Queensland works across the government, industry and research sectors to drive development, investment and research and development in industrial biotech and bioproducts.

The Biofutures Industry Development Fund is a \$5 million repayable fund to help well-advanced industrial biotech proponents to get large-scale projects through the final stage of financial due diligence to secure financing from investors.

Under the Fund, the Queensland Government will provide cash grants generally up to 50% of the total value of the finalisation studies and capped at a maximum of \$2.5 million.

The biofutures industry refers to the industrial biotechnology and bioproducts sector – the bioeconomy. It focuses on the development and manufacture of products from sustainable organic feedstock and carbon rich waste resources, rather than fossil fuels. Agricultural residues, forestry thinnings, municipal wastes, algae and dedicated energy crops could all be used as feedstocks to generate a wide range of sustainable chemicals, fuels, energy, synthetic rubber, cosmetics, detergents and textiles.

REDUCING CARBON EMISSIONS

The Federal Government committed \$2.55 billion in the initial Emissions Reduction Fund established under the *Carbon Credits (Carbon Farming Initiative) Act 2011*. Though the Emissions Reduction Fund has not been the subject of further funding since the 2015 budget, recent articles in the Australian Financial Review have reported that Environment Minister Melissa Price will push for additional funding in the May 2019 budget.

In the Climate Change Action Policy Paper it took to the 2016 election, Labor proposed to abolish the Emissions Reduction Fund in order to fund a more ambitious climate change policy. This does not appear to have changed in Labor's November 2018 renewable energy and power policy, with a Bill Shorten-led government planning to double the funding to the CEFC instead – a \$10 billion commitment over 5 years.

CEFC – CLEAN ENERGY FINANCE CORPORATION

The CEFC was established in August 2012 as a Commonwealth statutory authority. The CEFC invests in projects with the strongest potential for decarbonisation, including low carbon electricity, such as solar, wind, battery storage and bioenergy; ambitious energy efficiency, such as property, infrastructure, manufacturing and agribusiness; and electrification and fuel switching, such as vehicles and biofuels.

The CEFC can provide financing solutions that will help councils to invest to achieve long-term sustainability outcomes and energy cost savings, with minimal net cost for debt service. Eligible projects that some councils have applied loans for include: energy efficient street lighting; solar farms; upgrades of council administration buildings and new builds to high energy efficient standards; clean energy solutions for sports and aquatic centre; and energy-from-waste plants.

To help councils prepare and roll out forward works programs to meet their sustainability goals, the CEFC offers a three-year availability period for councils to draw down on approved finance.

The CEFC recently announced its largest investment since commencement of the program – \$90 million towards a large-scale energy-from-waste project at Kwinana in Western Australia, capable of producing 36MW of electricity which is enough to power up to 50,000 homes. When built, the \$700 million project will be able to process around 400,000 tonnes of household 'red bin' and commercial and industrial residual waste a year (provided by local councils).

The Kwinana plant has been co-developed by Macquarie Capital and Phoenix Energy Australia, with co-investment by the Dutch Infrastructure Fund (DIF). Using technology already being used in Europe, the plant is expected to reduce CO₂-e emissions by 400,000 tonnes per year.



Where to from here?

There is no shortage of opportunities for councils to work with the private sector in developing a road map for the delivery of waste management and recycling projects that could leverage the available funds and loans from the agencies and programs outlined above. Private sector know-how, particularly in waste-to-energy and bioenergy, will not only drive new ways of curtailing the growing waste problem, but also deliver councils new revenue sources. This will support local and regional growth and assist councils to diversify their income streams away from rates.

Recent initiatives undertaken by councils across Australia include:

- landfill gas extraction, flaring and conversion to energy, with several Queensland councils having arrangements with the private sector to undertake such projects and contribute a revenue stream (e.g. through the Emissions Reduction Fund) to those councils
- energy-from-waste projects, with many councils undertaking studies of such projects and developing a sustainable platform for delivering and operating such infrastructure
- biomass and other bioenergy projects, such as Ti Tree in the Northern Territory, delivering a waste management solution and, at the same time, reducing council's energy footprint
- the development of solar farms and other renewables projects, such as Sunshine Coast Council's solar farm developed in 2017
- councils considering alternative energy models to deliver better value for money for its rate payers. This includes behind-the-meter options, council investments and alternative purchasing and procurement models such as aggregating with other councils (such as the deal recently announced in NSW where 18 councils have an aggregate offtake from the Moree solar farm).

The costs and benefits of such projects and initiatives need to be thoroughly examined by councils to ensure that they are meeting key objectives of councils as well as satisfying the requirements for procurement under the *Local Government Act 2009* (Qld). McCullough Robertson has advised, and continues to advise, many councils and other clients on such projects and would be delighted to speak to councils looking into their waste and renewable opportunities.

THE AUSTRALIAN RENEWABLE ENERGY AGENCY (ARENA)

The Australian Renewable Energy Agency (ARENA), is a Commonwealth statutory agency which was established in July 2012. ARENA is funded to the tune of \$2 billion to invest in renewable energy projects until 2022.

The ARENA's main aims are to improve the competitiveness of renewable energy technologies and increase the supply of renewable energy in Australia. Renewable energy technologies include hybrid, related or enabling technologies.

The ARENA provides grant funding for projects across the innovation chain, from research to pre-commercial deployment. Specifically, the ARENA provides funding to researchers, developers and businesses that demonstrate feasibility and potential commercialisation of their project.

To date, ARENA has invested \$5.55 million across three projects for waste to energy related projects in the private sector.

NORTHERN AUSTRALIA INFRASTRUCTURE FUND

The Northern Australia Infrastructure Fund offers up to \$5 billion over 5 years in concessional finance to encourage and complement private sector investment in infrastructure that benefits northern Australia. This includes developments in water-related and waste treatment assets.

Councils in the Northern Territory and parts of Queensland and Western Australia above and below or intersecting the Tropic of Capricorn could consider partnering with private sector operators to achieve innovative outcomes for waste management/recycling in urban centres or in remote communities.

There are already various opportunities for funding and assistance to support councils with vision, and these are likely to increase as governments ramp up efforts to meet carbon reduction targets.

MORETON BAY REGIONAL COUNCIL TACKLES GROWTH – and a growing waste problem

Moreton Bay Regional Council (MBRC) is the third most populous local government in Australia with a population nearing half a million people, and that figure is forecast to grow by more than 40% in the next 20 years.

The Region is the key growth corridor north of Brisbane and is one of the fastest growing population areas in Australia with the rate of growth outstripping that of South-East Queensland. Over the next 20 years, the Moreton Bay Region is predicted to grow by approximately 40%. The annual average growth rate is 2.8%, compared to the state average of 1.9%.

Planning for infrastructure and service delivery to support population growth is an important function of local governments – waste management is part of that ongoing challenge, especially in the context of a burgeoning population.

Council's Waste Reduction and Recycling Plan 2016-2026 (WRRP) aims to avoid and reduce waste generation, optimise resource recovery and recycling and develop sustainable waste industries and jobs.

The WRRP provides a framework for future action to improve waste management practices in the Moreton Bay Region and is consistent with the objectives set out in the Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024) and complies with the requirements of the *Waste Reduction and Recycling Act 2011 (Qld)*.

Council has taken an active role in educating ratepayers about reducing the volume of waste that goes to landfill. MBRC's Waste Minimisation Program for school students and teachers received the *2016 Queensland Premier's Sustainability – Community Award*.



The program has been around for more than 20 years and encourages waste minimisation through best-practice recycling and resource recovery initiatives. More than 100 schools and early learning centres across Moreton Bay are signed up to the program, which gives them access to educational material and onsite support.

MBRC Mayor Allan Sutherland said fostering lifelong attitudes and behaviours around sustainability from an early age was critical for addressing the problems of the future.

“Surprisingly, it’s actually the adults who present the challenge when it comes to waste management,” Cr Sutherland said.

“Despite access to information across MBRC’s various digital platforms, printed materials, education and awareness programs; what we see at our waste facilities suggests there is still confusion among some members of the community about separating rubbish and reducing landfill.”

Local governments have provided general waste and recycling wheelie bin collection services, as well as waste facilities with recovery and recycling capabilities, for more than 30 years in Queensland.

“But not all waste management programs are equal – one local government may have the facilities to recycle rigid plastics like fruit punnets, while another may not,” Cr Sutherland said.

“Those small differences between local governments can cloud messaging and add to the confusion.”

“Targeted advertising is a great communication tool to cut through all that noise,” Cr Sutherland pointed out, but added that it was also an expensive one that local governments don’t always have the budget for.

“That’s why it’s important to work with other levels of government and support community initiatives that promote the basic principles of reducing, reusing and recycling,” he said.

“We throw our weight behind initiatives like National Recycling Week, Clean Up Australia Day and Containers for Change because they help cut through the confusion.”

MBRC provides free presentations, workshops and waste facility tours to community organisations, residents, schools and early learning centres.

“We also offer free site appointments and phone consultations to local businesses to help them determine their waste generation and identify opportunities to recycle or recover some of those valuable resources, reducing general waste and operating costs,” Cr Sutherland said.

“Our website, libraries and call centre are also great sources of truth for anyone wanting more information about waste management.”



REDUCING WASTE AND RECOVERING RESOURCES

MBRC Spokesperson for Asset Construction and Maintenance, Councillor Adam Hain, said there was more to waste than meets the eye and local governments should view waste as a potential product with value and not a future problem to be buried.

“We’re already using recycled asphalt for local road projects and using old shredded tyres off our fleet vehicles for soft-fall matting in our playgrounds,” Cr Hain said.

“Our landfill sites in Bunya, Caboolture and Dakabin already divert and collect greenhouse gases (methane and carbon dioxide) which is converted into energy to power more than 10,000 homes every year,” Cr Hain said.

“Last year alone, residents and industry helped us recycle more than 274,000 tonnes of waste and more than 1,700 tonnes of reusable items were sold at council’s Treasure Markets, saving vital resources from ending up in landfill.

“Innovative waste management practices like these help to divert waste from landfill, save precious environmental resources, reduce operating costs, all while benefiting the environment.”

Mayor Allan Sutherland
Moreton Bay Regional Council





Dublin's waste-to-energy solution – the incinerator



Like other municipal cities throughout the world, Dublin has a waste problem. Or 'had' a waste problem. Ireland's relatively small landmass and large urban population restricts the availability of landfills and as a result, the majority of the country's waste was being exported.

Since September 2017, the problem has been managed through a new waste-to-energy facility – essentially a massive incinerator.

The Dublin Waste-to-Energy project is a Public Private Partnership (PPP) between Dublin City Council (acting on behalf of the four Dublin Local Authorities) and Covanta, a US-based provider of sustainable waste and energy solutions.

First mooted in the 1990's, the project had a controversial start when plans for an 'incinerator' drew concerns about environmental impacts. In 2009, initial plans to begin construction were shelved when the then Environment Minister (and local member) refused to grant a foreshore licence to allow development to take place on the coastline.

However, Ireland's waste problem continued to grow, and it was obvious that alternative solutions to landfill or exportation of rubbish were required. The licence was finally granted and Covanta re-commenced construction in 2014.

WASTE DISPOSAL

Located in Poolbeg, Dublin Port, the facility aimed to divert at least 600,000 tonnes of non-recyclable waste from landfill annually, generating enough electricity for up to 80,000 homes and potential heating for an additional 50,000.

In mid-2018 Covanta flagged plans to increase the facility's capacity by 90,000 tonnes of waste within eighteen months, which will stretch the incinerator to its full capacity if approved.

Fulfilling a key part of the Dublin Regional Waste Management Plan, including maximising recycling, minimising landfill and generating energy from residual waste, the facility eliminates the need to export waste to other countries. This is enabling the Dublin region to become self-sufficient in managing waste and comply with European Union landfill diversion targets.

ENERGY GENERATION

The energy being produced at the Poolbeg facility is helping Ireland to meet its renewable energy targets. The fuel is indigenous, reducing Ireland's dependence on imported fuel and it expands the energy market in Ireland, thereby increasing competition.

Non-recyclable waste is being converted into approximately 60 megawatts of electricity and exported into Ireland's national grid. It also avoids the importation of 250,000 tonnes of fossil fuels, such as coal, that would be needed to generate the same volume of electricity.

Designed to achieve very high overall energy efficiency and energy recovery, the plant operates 24 hours a day, 7 days a week. It employs state-of-the-art pollution control equipment to scrub and filter emissions to be fully protective of human health and the environment and exceed stringent EU emissions standards.

Water usage is minimised by using all the surface water and rain water from the site, as well as reusing water from the neighbouring waste water treatment plant. Cooling water is drawn from the Liffey estuary which reduces the energy requirement for cooling and maximises power output.

ECONOMIC AND COMMUNITY GAIN

More than 300 jobs were created during construction and the facility continues to employ 100 people - 60 full-time at the facility and 35-40 full-time contractor and service support roles. The procurement of associated goods and services continues to stimulate the region's economy.

Since inception of the project, Dublin City Council indicated that a Community Gain Fund would be established in accordance with Government Policy to support facilities and local services to benefit to community in the catchment area of the project. The Fund is administered by a Community Liaison Committee and included a one-off contribution of approximately €10m during the construction phase. A further commitment was made for an annual contribution per tonne of waste accepted for thermal treatment at €1 per tonne in the first year and updated in accordance with CPI thereafter.

HOW DOES THE FACILITY WORK?

The facility design is based on conventional thermal treatment technology. Waste trucks are weighed when arriving at the facility. Household and commercial waste is unloaded onto the tipping floor, pushed into a storage pit and thoroughly mixed. The tipping and waste storage areas are maintained under negative air pressure so that the odours associated with waste are captured in the combustion process and destroyed.

Once fed into the combustion chamber, waste is combusted in a self-sustaining process at a temperature greater than 850°C. Waste is not combusted at temperatures below this.

As waste is burned, the heat converts water in the steel tube-lined walls into steam. The steam turns a turbine-driven generator to produce electricity. A small portion of the electricity is used to power the facility with the remainder exported to Ireland's national grid.

Steam from the process is cooled, condensed back into water and returned to the boiler tubes, making it an efficient "closed loop" system. After combustion, the volume of waste is reduced by 90%, leaving an inert ash and metal. Bottom ash is sent off site where metal is recovered for recycling and the ash is put to beneficial reuse. Fly ash collected in the air pollution control equipment is put into silos and removed from the site in sealed containers by a licensed contractor.

Acid gases are neutralised using lime in a semi-dry scrubber reactor and activated carbon is injected for heavy metal control. A baghouse employing thousands of fabric filter bags, controls emissions of particulate matter. Flue gas receives final treatment in a wet scrubber that uses water to reduce temperature and remove hydrogen chloride. It also uses a sodium hydroxide solution to remove sulphur dioxide.

Throughout this process, the control room closely monitors emissions through a real-time continuous emission monitoring system and also controls a number of other automated systems inside the facility.

EMISSIONS DATA AND PERFORMANCE

Emissions performance is measured and recorded by a continuous emissions monitoring system. Emissions data is also collected during source (stack) tests. Continuous emissions data on the facility's web page (www.dublinwastetoenergy.ie) is collected by the facility's Distributed Control System (DCS) and automatically posted as close to real time as possible.



BACK TO THE FUTURE – QUEENSLAND'S CASH FOR CONTAINERS SCHEME



“Nearly three billion drink containers are used by Queenslanders each year and, laid end-to-end, those containers would stretch around the world roughly 10 times.”

Some of us are old enough (sadly) to remember a time when we could get a few cents for bottles or cans - and anyone from South Australia will tell you that has been the case for years!

Queenslanders have been handing bottles and containers back at exchange points since 1 November 2018 for a cash refund of 10 cents after the State Government introduced legislation just over 12 months ago to enable a Container Refund Scheme (CRS). More than 5 million containers were returned and recycled in the scheme's first week and by the 1st January 2019, 100 million containers had been returned.

The Waste Reduction and Recycling Amendment Bill was passed with bipartisan support by Parliament in September 2017 allowing the Government to appoint a Product Responsibility Organisation (PRO) to establish and operate the CRS.

Container Exchange (COEX) was appointed in November 2017 and launched with a network of more than 230 refund sites across the state on 1 November 2018, with more sites to be added.

Originally due to start on 1 July 2018, the timeframe was extended at the request of stakeholders to ensure Queensland did not run into the same roll-out issues experienced in New South Wales when its scheme started in December 2017.

Minister for Environment and the Great Barrier Reef,
Minister for Science and Minister for the Arts,

The Honourable Leeanne Enoch said valuable lessons were learned from the problematic introduction of the scheme in NSW where there were inadequate container refund points from the outset, causing confusion and waste build-up.

Ms Enoch said CoEx was required to ensure an adequate number of container refund points were in place when the scheme started so its benefits would be available across Queensland.

“We wanted to make sure Queenslanders, wherever they are in the state, had the opportunity to receive the refund, or to donate the refund to a charity, school or community group of their choice,” Ms Enoch said.



"We recognised that the scheme would take time to be fully established and reach maturity, which is why we required a minimum number of 232 refund points by 1 November 2018 and for this number to increase to more than 300 sites within the first year of operation."

While most aluminium, glass, steel, plastic and liquid paperboard containers between 150ml and 3l are eligible, there are some exceptions, such as glass wine bottles and plain milk containers.

A website, Containers for Change, was established and 30 information forums (hosted by CoEx and the Boomerang Alliance) were held across Queensland for key stakeholders, local councils and interested groups. The Containers for Change website contains information on which containers are eligible, instructions for recycling, sign-up for scheme account or charity donation as well as information on partners, support and the lifecycle of refunded containers.

The network of refund point operations includes depot style refund points, mobile and pop up and bag drop off refund points. In more populated areas reverse vending machines are available.

Ken Noye, Chief Executive Officer of Container Exchange (COEX), the not-for-profit managing the scheme, said he was looking forward to seeing what 2019 would bring.

"The scheme has already seen over 102 million containers returned and over 500 new jobs provided in under two months," he said.

"COEX is excited for Containers for Change to continue to grow in the new year, expanding our network of Container Refund Points, providing more jobs and refunding more containers."

Toby Hutcheon, Queensland Manager of Boomerang Alliance, said: "Container deposit schemes work. The over 40 schemes operating around the world all demonstrate the same thing; they slash litter rates, increase recycling and make a cleaner environment."

"The Queensland Container Refund Scheme is designed to achieve three things; reduce container litter, increase recycling and jobs, and provide a benefit to community groups who collect cans and bottles. We think it will achieve all of these things."



CALENDAR OF EVENTS

FEBRUARY > MARCH



February

06 LGMA Ignite Programme
Introductory Forum

07 More information:
www.lgmaqlld.org.au/ignite

07 McCullough Robertson
Local Government
08 In-House Counsel Forum

27 LGMA Propeller
Programme
28 Introductory Forum

More information:
www.lgmaqlld.org.au/propeller

March

05 LGMA Human Resources
and Learning and
Development Forum

More information: www.lgmaqlld.org.au/human-resources

07 LGMA Ignite Programme
– Day 3

More information:
www.lgmaqlld.org.au/ignite

07 IPWEAQ SWQ Branch
Conference, Gatton

08 More information:
www.ipweaq.com/events

14 LGMA ILG Chiefs Forum

More information:
www.lgmaqlld.org.au/ilg-forum

26 LGMA Future Leaders
Forum, Brisbane

27 More information:
www.lgmaqlld.org.au/fff

29 LGMA CEO Forum

More information:
www.lgmaqlld.org.au/events

2019



Allegiant IRS

A McCullough Robertson Company

independent insight

Allegiant IRS is an Australian owned and operated insurance and risk advisory firm established by McCullough Robertson.

We deliver tailored solutions for clients who receive the benefit of a comprehensive legal analysis conducted by McCullough Robertson's Insurance and Corporate Risk group. The purpose of our work is to align our client's risk profile with the insurance programs we design in order to maximise the benefits of cover.

Once we have assessed and reviewed the insurable risks, we then design, negotiate and implement insurance programs that work.

The insurance programs we design are complementary to McCullough Robertson's legal advice, which means unparalleled peace of mind for clients and responsiveness when it matters most.

Contacts



BRAD RUSSELL

M 0412 806 187
E brussell@mccullough.com.au



ADAM BATTISTA

M 0407 113 100
E adam.battista@allegiantirs.com.au



ANTHONY AUZMENDI

M 0407 319 255
E anthony.auzmendi@allegiantirs.com.au



SAM VICKERSON

M 0407 626 953
E sam.vickerson@allegiantirs.com.au

allegiantirs.com.au | info@allegiantirs.com.au

If you would like to contribute or have an idea for an article in our next edition please contact **Brittney Colbey**, Business Development Executive, McCullough Robertson – bcolbey@mccullough.com.au (07) 3233 8702

Our contributors: Moreton Bay Regional Council Mayor Allan Sutherland ■ Herbert Kers, Senior Environmental Engineer, Tonkin Consulting ■ Troy Webb, Partner, McCullough Robertson ■ Ren Niemann, Partner, McCullough Robertson ■ Nina Nguyen, Lawyer, McCullough Robertson

BRISBANE

Level 11, 66 Eagle Street
Brisbane QLD 4000
GPO Box 1855, Brisbane QLD 4001
Phone +61 7 3233 8888
Fax +61 7 3229 9949

CANBERRA

Level 1, 2 Phillip Law Street
Canberra ACT 2601
Phone +61 2 6243 3699
Fax +61 2 8241 5699

MELBOURNE

Level 27, 101 Collins Street
Melbourne VIC 3000
GPO Box 2924, Melbourne VIC 3001
Phone +61 3 9067 3100
Fax +61 3 9067 3199

NEWCASTLE

Level 2, 16 Telford Street
Newcastle NSW 2300
PO Box 394, Newcastle NSW 2300
Phone +61 2 4914 6900
Fax +61 2 4914 6999

SYDNEY

Level 32 MLC Centre, 19 Martin Place
Sydney NSW 2000
GPO Box 462, Sydney NSW 2001
Phone +61 2 8241 5600
Fax +61 2 8241 5699

info@mccullough.com.au

www.mccullough.com.au



@MCRLaw



facebook.com/MCRLaw