

KWINANA AND WTE IN AUSTRALIA

AFTER FOUR YEARS IN THE MAKING, THE FIRST COMMERCIAL WASTE-TO-ENERGY PROJECT IN AUSTRALIA HAS ACHIEVED FINANCIAL CLOSE. OPPORTUNITIES AND CHALLENGES LIE IN STORE FOR WASTE-TO-ENERGY IN AUSTRALIA. BY **ROB WATT**, PARTNER, **JAMIE GUTHRIE**, SENIOR ASSOCIATE, **ZAC KEDGLEY-FOOT**, ASSOCIATE, **JESSICA O'SULLIVAN**, LAWYER AND **SAURABH NARAIN**, LAWYER, **ALLENES**.

In 2015, the Clean Energy Finance Corporation forecast opportunities for approximately A\$5bn worth of investment up to 2020 in the bioenergy and waste to energy (WtE) sector¹.

This is in large part due to the steady increase in state landfill levies, which have provided greater financial incentives for local councils and industrial waste producers to adopt alternative waste management strategies. As a result, WtE facilities are becoming increasingly commercially viable in Australia.

The Allens team advised the lenders in relation to the financing of the Kwinana WtE project, the first utility-scale WtE facility to achieve financial close in Australia.

The regulatory landscape for WtE

The Kwinana WtE project highlights the tension between the Western Australian government's commitment to reducing the amount of waste that ends up in landfill, and the state's environmental regulatory framework, which does not always accommodate alternatives. Other states have similar legislative frameworks and navigating the regulatory landscape will be critical for future WtE projects.

- **Waste policy** – As a matter of policy, Western Australia's Waste Strategy "Creating the Right Environment" policy set out a target of 50% of all municipal waste to be diverted from landfill by 2015 and up to 65% in 2020. In line with this, the regulatory landscape in WA has become increasingly favourable to WtE in recent years.

The Western Australia government introduced the Waste Avoidance and Resource & Recovery Act 2007 (WA) with the objective, among other things, of encouraging conversion of waste to energy instead of diverting it to landfill. It also levied the amount of waste received by landfill under the Waste Avoidance and Resource Recovery Levy Act 2007 (WA).

The fee payable by landfill licence holders has increased exponentially, from A\$7 per tonne in 2009 to A\$70 per tonne in 2018. This increase is the key development that has enabled the commercial viability of WtE projects in the region.

- **Environmental regulation** – Despite the policy commitment described above, Western Australia does not currently have regulations specific to the WtE sector at the state or federal level. The environmental impact of WtE in WA is regulated

generally under the Environmental Protection Act 1986 (WA) (the EPA). Some tension is evident between the evolving technology and the lagging regulation, such as around the issue of emissions. Air pollution through emissions is one of the main environmental risks posed by WtE technology.

In the absence of the Western Australian government's own regulatory limits on emissions, the Minister for Environment restricted the emissions produced by the Kwinana WtE project in the Ministerial Statement providing approval for the project under the EPA by reference to the European Union Waste Incineration Directive 2000/76, together with its updates. As a result, the project is exposed to changes in the Waste Incineration Directive made by the European political institutions.

In addition, there is no established regulatory regime for the re-use of the "incinerator bottom ash" generated by the facility. Any regulatory approvals required to be obtained by the ash off-taker to use the ash in road base and other construction materials can only be determined once the facility commences operations and the ash generated by the facility can be matured and tested.

The Kwinana WtE project

While examples of small-scale WtE projects using organic waste material have previously been seen in Australia, such as the Yarra Valley Water 33,000 tonne facility in Wollert, Victoria and the ResourceCo/Cleanaway waste to fuel facility at Wetherill Park in Sydney, the Kwinana WtE project represents a milestone for the Australian energy market, being the first utility-scale project in Australia to process mainstream landfill waste.

The project will use moving grate technology to treat thermally municipal non-recyclable waste and convert the recovered energy into steam to produce electricity. The facility will provide 36MW of reliable baseload energy into the grid, sufficient to power more than 50,000 homes annually. A significant amount of the technology in the facility contributes to reducing emissions in compliance with Waste Incineration Directive 2000/76.

The project's sponsors are Macquarie and DIF. Debt financing is provided by the Clean Energy Finance Corporation, Sumitomo Mitsui Banking Corporation, Investec, Metrics Credit Partners, IFM and Siemens, with the Australian Renewable Energy Agency providing grant funding. Acciona

is the EPC contractor, with Veolia providing O&M services for 25 years following commencement, which is scheduled for mid-2021.

The project is supported by a long-term waste supply agreement (WSA) with the Rivers Regional Council (the RRC), which provides for minimum waste delivery volumes. The RRC is an entity formed by a number of local councils from the wider Perth metropolitan region for the purposes of managing waste in a unified manner.

In addition, the project has entered into a WSA with the City of Kwinana and a five-year commercial WSA with Veolia. WA Limestone has entered into an ash offtake agreement with the project with the intention of developing a market for the re-use of the bottom ash generated by the facility in road materials and the project is planning to enter into an agreement for the offtake of recovered metals.

Opportunities and challenges for WtE

WtE facilities have been banked overseas and in particular in the UK and other parts of Europe for some time. However, there were a number of aspects of the Kwinana facility that presented challenges for sponsors and financiers.

In particular, (i) the exposure the facility retains to merchant waste and power prices, and (ii) the highly disparate nature of local governments in Australia, both provided challenges from a bankability perspective.

- *Merchant revenues* – Compared with the UK, the Kwinana WtE project takes greater “merchant risk” with respect to waste and power revenues in comparison with WtE facilities in England, which generally have been procured under a PFI model.

The main revenue sources for WtE projects are waste gate fees and revenues from the sale of energy generated by the facility – electricity, steam or a combination of both. In the case of Kwinana, it will sell energy in the form of electricity into the South Western Interconnected System (the SWIS).

i) *Gate fees* – Waste gate fees are paid to WtE facility owners for the disposal and processing of waste that they receive. Waste gate fees are materially influenced by prevailing landfill levies that are imposed by state governments.

While inconsistent across states – WA A\$70, NSW A\$138.20, Victoria A\$64.30 and ACT A\$149.10 – landfill levies have and will continue to rise owing to increasing scarcity of landfill sites. In addition, China’s decision to stop importing recycling material together with a lack of capacity to recycle waste on-shore, has put additional pressure on landfill capacity in Australia.

While the waste supply agreements with the RRC and City of Kwinana provide the project with medium to long-term certainty of revenue, and it is expected that further waste supply agreements will be secured with surrounding municipalities and commercial waste management providers, as at financial close more than half of the facility’s waste gate capacity will be derived from uncontracted revenue sources. This contrasts to the near fully-contracted capacity of facilities in the UK procured under the PFI model.

Though providing potential for upside returns for equity, merchant revenue exposes projects to overcapacity risk to the extent there is an undersupply of waste and with it variability in cashflows.

Merchant risk is amplified for a WtE facility as the facility has the potential to lose revenue from both the waste gate fee together with a corresponding reduction in the generation capacity of the facility, resulting in a loss of power revenues.

As a consequence, lenders for the Kwinana WtE project undertook extensive due diligence into the geographical suitability of the site, market analysis into composition and forecast volumes of regional waste supplies, including impact assessment on waste supplies from future competing WtE plants, and pricing of the gate fee to ensure that contracted revenue was sufficient to meet debt service obligations.



Waste and Recycling in Australia.
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ii) Power – Expiry of the RET in 2030 and policy uncertainty around carbon pricing demonstrated by the failure of the NEG has led to increasing difficulty for generators in obtaining long-term electricity offtake contracts. Power revenues for the Kwinana WtE project were consequently banked on a fully merchant basis.

Project financing for large-scale greenfield renewable energy assets has traditionally seen a reluctance to take on power merchant risk as it exposes projects to fluctuations in spot prices. In response to increasing legislative uncertainty, projects with diversified revenue streams are now becoming increasingly common.

Therefore, WtE facilities, with their diversification of revenue between waste gate fees, electricity revenue, and income from the offtake of other recovered materials, stand to become more attractive to private finance in the Australian market.

Nevertheless, the mechanisms through which debt investors must gain comfort for such merchant risk will likely be markedly different to other renewable energy projects.

Merchant power and waste gate fee revenues for the Kwinana WtE project were banked through the adoption of varying incurrence and maintenance covenant protections. Debt sizing included split contracted and uncontracted revenue thresholds.

Forecast electricity prices are on a “No Further Policy” basis. An additional complicating factor for the Kwinana WtE facility is the proposal in the pipeline to move the SWIS to a “constrained access” model. The implications of such a change had to be covered in due diligence and modelled.

While securing long-term contracts for power offtake has proven challenging, the Western Australia Local Government Association has appointed the Kwinana WtE facility as a preferred supplier of baseload renewable energy to its members. It is expected that the facility will enter into medium to long-term bundled (black and green) power purchase agreements on commencement of commercial operations.

- *Local councils in Australia* – There are a number of factors that make local councils in Australia challenging to finance. In particular, Australia has a fragmented network of local government, with 537 councils serving 24.6m people, approximately one council for every 45,800 people.

This compares with England, which has 353 councils serving a population of 66m – approximately one for every 187,000 people, over four times the average population served by Australian councils – and New Zealand, where waste management is the responsibility of “regional councils” that cover wide metropolitan regions.

In relation to Kwinana, there were eight separate council counterparties, seven of which contracted through the RRC. The RRC does not have a balance sheet of its own or independent rate-raising power, and does not collect waste in its own right. In addition, since it was established in 2008, some councils have come and gone from the RRC.

Accordingly, waste agreements had to be agreed with eight different counterparties – each of which is subject to its own set of political pressures – which at times proved to be challenging. Council counterparties to UK WtE projects have been much larger in size. For example, the Greater Manchester Waste Management PFI council counterparty is responsible to more than 2.2m residents.

Australian councils are a product of state legislation and are not recognised in any federal legislation or the Australian constitution. Councils in the UK are, by contrast, a product of national legislation.

In addition, given the disparate nature of Australian local governments, the likelihood for amalgamations, including amalgamations with less creditworthy councils, is always going to be a risk for lenders. Given the lack of council insolvencies in the past, there is a lack of any established practices and procedures in the event of council insolvencies.

Pipeline and conclusions

The Kwinana WtE Facility in Kwinana, Western Australia is a landmark project for both the national renewable energy and waste management sectors. It is a milestone that comes off the back of years of negotiation, political and technical obstacles, and a changing regulatory landscape.

Thermal WtE technologies remain a controversial topic owing to concerns in respect of the levels of air pollution and toxic ash caused by incineration. This was recently seen in New South Wales with the decision of the Independent commission (on recommendation of the EPA) to reject a planning application by Dial-a-Dump for a A\$700m waste-to-energy facility in Eastern Creek.

A solid foundation of early projects will help to develop market confidence and encourage waste operators and technology providers to invest in Australia and financiers to commit resources to the industry. There is currently a strong pipeline of large-scale projects in the planning phase across Australia.

These include a A\$400m (50MW) facility in Swanbank, Queensland to be developed by Germany-based company Remondis, a A\$400m (28MW) facility in East Rockingham, WA to be developed by the New Energy, Tribe Infrastructure and Hitachi Zosen Inova consortium, a A\$600m (225MW) facility in Maryvale Mill, Victoria to be developed by Australian Paper and a A\$200m (15.5MW) facility in Port Hedland, WA by New Energy Corporation.

Feasibility studies are also being undertaken in a number of locations, including a A\$160m (27MW) facility at the Mount Piper power station, NSW by Energy Australia, which has received grant funding from the Australian Renewable Energy Agency, and a brownfield project in Fishermans Bend in Victoria. ■

Footnote

1 – Clean Energy Finance Corporation, “The Australian bioenergy and energy from waste market”, A market report by the Clean Energy Finance Corporation (November 2015) page 6.