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Kwinana energy-from-waste plant, Australia

Alexandra Dockreay

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The 36MW Kwinana energy-from-waste (EfW) plant in Western Australia is the first large-scale thermal EfW project to be financed in the country. The local Australian sponsor Phoenix Energy drew on the experience of co-sponsor Macquarie in Europe and European contractors to obtain a A$400 million ($285 million), five-year debt package with competitive pricing, banked against a predominantly merchant offtake structure.

The sponsors

The Kwinana project was initially a local council driven project, put out to tender by the Rivers Regional Council. Phoenix bid for and won the right to develop the project, which will be located on land on long-term lease from Western Australia agency LandCorp.

As Phoenix – founded by Peter Dyson and initially largely a one-man enterprise – was seeking the financial backing necessary for the project, potential partners came and went. At one point there were talks with UK construction firm John Laing, which would have brought in German company Martin for the technology.

In 2015, Australia's own Macquarie Group stepped in as financial adviser. Then in December 2016, Macquarie became an equity partner and co-developer.

Macquarie Capital has an established EfW offering in Europe – especially after acquiring UK state lender Green Investment Bank in 2017 and rolling it into Macquarie Capital as the Green Investment Group (GIG).

Macquarie then brought on board Spanish infrastructure developer Acciona as EPC contractor, with its partner Keppel Seghers for the moving grate equipment to produce the steam.

A source said that generally the potential providers for the EPC and technology were coming from Europe and the US.

A further equity raise saw the entry of another European player – Netherlands-headquartered infrastructure fund manager DIF.

The financing

Financial close was on 18 October (2018), with A$698 million debt, equity and grants.

The equity investors provided A$275 million in total. Macquarie Capital provided 40%, while DIF 60% through two of its funds:

- DIF Infrastructure IV

- DIF Infrastructure V

The sponsors raised a A$400 million senior debt from a combination of international banks, debt funds and the state lender Australia's Clean Energy Finance Corporation (CEFC). Debt has a five-year tenor, with bullet maturity.

The CEFC's tranche is separate and fixed rate, with break fees. The size of the tranche is A$90 million.

Meanwhile, the A$310 million floating rate tranche has priced at 300bp over BBSY, with no step-ups. The lenders on this tranche are:

- IFM Investors (debt fund)
- Investec
- Metrics Credit Partners (debt fund)
- Siemens Bank
- SMBC

The financing package is rounded off with a A$23 million grant to the project from Commonwealth Government's Australian Renewable Energy Agency (ARENA).

The construction period is due to be three years, with operations due to start before the end of 2021.

The waste supply

Kwinana EfW plant does not feature a sorting facility. The residual waste for the plant is collected only from residents' main bins. The councils supply other bins for residents' recycling.

The plant is due to have capacity to receive and process up to 400,000 tonnes residual waste per year.

A number of signed agreements underpin Kwinana's waste supply:

- Rivers Regional Council (representing seven local government authorities including Canning City) – 20-year contract
- City of Kwinana – 20-year contract
- Veolia – five-year contract
- two regional councils in Perth region

Veolia is also the O&M contractor, with a 25-year, A$450 million contract.

The contracted gate fee for the plant is around $120 per tonne of residual waste. Compared to the landfill fees of around $150-200 per tonne – including a landfill levy of $70 per tonne – the Kwinana plant offers a material saving for the councils.

The landfill levy in Western Australia has escalated from $28 to $70 since 2014. The levy started in 1998 at $3 per tonne initially.

Still, a significant amount of the plant's treatment capacity is not yet contracted. A source said a number of other smaller, sub-investment grade counterparties are expressing interest in supplying waste and there are likely to negotiate some contracts as a result.

The power offtake

The plant's power production capacity is due to be around 36MW (net) to be exported to the grid as baseload power. There is a small degree of the offtake which is take-or-pay, but the project has been banked on a predominantly merchant basis.

Western Australia Local Government Association (WALGA) appointed the project the preferred supplier of baseload renewable energy. The councils are able to purchase the baseload energy generated from their own specific municipal

waste.

The plant also will produce ash by-products to be used for construction materials and recover and recycle metallic materials.

The project currently does not have a PPA in place, but has had interest from various parties. This includes the Rivers Regional Council, which has indicated interest in entering a 5MW PPA with the project.

One source pointed out that with power prices relatively flat and cheap at the moment, locking in a PPA right now would not have realised best value.

IJGlobal understands the plant's life is expected to be around 30-35 years.

An Australian energy-from-waste pipeline

There are a number of large-scale EfW plant projects in Australia with the potential to advance.

Allens partner Rob Watt said: "There is an expectation in the market of a pipeline of deals to follow. The Kwinana facility will have capacity to treat around a quarter of Perth's non-recyclable waste, so there is significant uncontracted capacity. Eastern Metropolitan Regional Council ran a tender for a rival waste-to-energy project in the Perth area, and there was a bit of a race between the two to reach close and contract additional capacity."

Additionally, *IJGlobal* has learned of the following projects in early development:

- New Energy Corporation, Hitachi Zosen and Tribe Infrastructure Group's project in East Rockingham, Perth area, awarded in September 2017 by Eastern Metropolitan Regional Council
- Remondis' proposed A$400 million, 50MW plant at Swanbank near Brisbane, Queensland

Meanwhile, Victoria and New South Wales are understood to be looking at the technology, but are not quite there yet. Victoria's topics of debate include whether EfW plants should include sorting facilities, which would add significant expense and complication.

Ashurst partner Richard Guit said: "The drivers in Australia are different to Europe, where there has been more uptake. In Europe, due to the EU landfill directive, councils were effectively charged financial penalties for landfill. In Australia, there is space everywhere for landfill… As with the European projects, what made this project make sense is the cost to these councils of the plant taking the waste is cheaper than landfill… Landfill levies are forecast to go up, which helps the project. We have achieved this without the over-arching framework that exists in Europe"

However, the technology does have its critics in Australia – with the National Toxics Network of Australia's zero waste coordinator Jane Bremmer commenting that the project is "more polluting than coal and gas" and adding that the Western Australian community has rejected the project.

Guit said: "Australia does not have a regulatory emissions framework for this type of infrastructure. For this project the emissions controls standards are benchmarked to the European Directive, meaning very high standards the plant must meet."

Advisers

Key advisers were:

- Ashurst – legal to Phoenix
- Allens – legal to Macquarie, financing
- Norton Rose Fulbright – legal to DIF
- Macquarie Capital – financial
- Ramboll – engineering

- SLR – waste forecasting
- Ernst & Young – accounting, tax, electricity modelling