

Maryvale Energy from Waste Project

June 2022

Key update

- Financial close for the Maryvale Energy from Waste (EfW) project is targeted for the second half of 2022, and construction is planned to commence in 2022, with the facility potentially operational by late 2025.
- There is still some capacity remaining for Councils to participate in this innovative waste management solution.
- The EfW facility will offer Councils a competitive waste management solution that will divert residual waste from landfill, reduce emissions and deliver a range of social benefits.
- The project is developer-led, which maximises value for Councils, while minimising risk.
- The facility will offer Councils contracts based on waste arising. This model provides Councils with the freedom to pursue waste reduction initiatives without penalty.
- The EfW project partners will offer individual contracts for Councils that match their requirements under project finance style terms.
- The East Rockingham project in Western Australia featured on page four provides more detail of the model in operation.

\$48.2 million MMI Grant

The Maryvale Energy from Waste (EfW) project has been awarded a \$48.2 million grant through the Australian Government's Modern Manufacturing Initiative. Project partners Veolia, Masdar Tribe Australia and Opal are delighted with the funding support, which demonstrates the Government's confidence in the EfW facility and transformational manufacturing infrastructure projects.

The Maryvale EfW project is aligned with the principles of the circular economy and will bring state-of-the-art alternative energy technology to Gippsland.



\$48.2 MILL-ION

Australian Paper's energy-from-waste project in Latrobe Valley receives federal funding boost

ABC Gippsland / By Kerrie Thomas
Posted Fri 29 Apr 2022 at 6:50pm



Gippsland's waste will be converted to energy, in a new project at the Maryvale Paper Mill. It's hoped the move will completely power the facility, thanks to a...

Ash Recycling

The Maryvale EfW project is focused on maximising the recovery of by-products that result from the energy creation process, and identifying value added ways to re-use these.

The ash residues that are an output from the EfW process, are known as Incinerator Bottom Ash (IBA, (6)) and Flue Gas Treatment Residues (FGTR, (7)) in the diagram below).

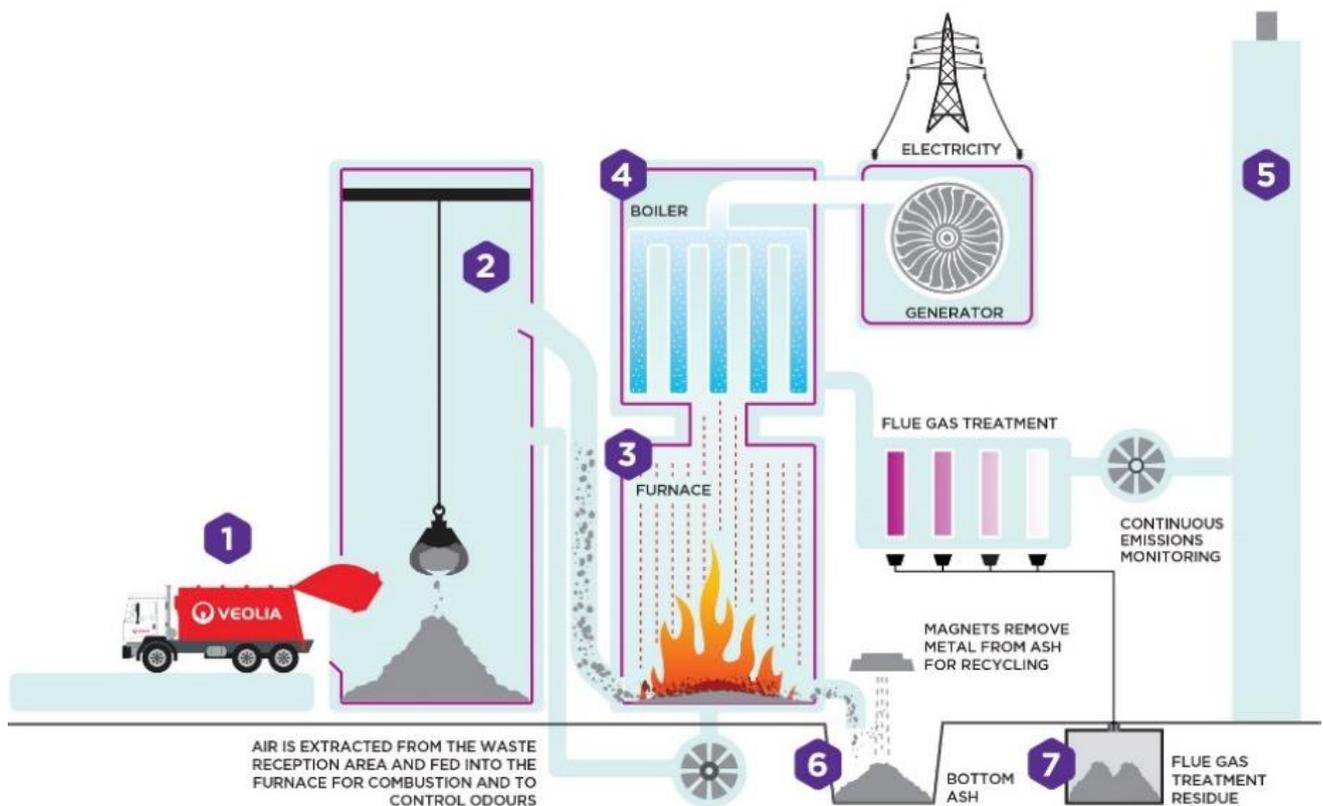
We have recently made a submission to EPA Victoria for the construction of a Bottom Ash recycling facility. The facility design meets Best Available Technology requirements and provides high efficiency in material recovery. The application is currently under EPA consideration with a decision expected in the near future.

The IBA contains ferrous metals like steel and non-ferrous metals such as copper, aluminium, brass and gold, which are difficult to recover prior to the EfW process. Following combustion, the metals are separated from other materials and recovered from the IBA to be recycled. The remaining inert materials are screened to produce a recycled aggregate, which can be used in road construction. This material is called Incinerator Bottom Ash Aggregate (IBAA).

In Europe where EfW plays a significant role in the implementation of circular economy principles the recovery and re-use of bottom ash aggregates is a proven and accepted practice.

The Maryvale EfW facility aims to recover and recycle ~60,000 tonnes per year of aggregates and ~6,000 tonnes per year of ferrous and non-ferrous metals.

The Project is collaborating with O.C.O Technology regarding the recycling of FGTR.



Typical Energy from Waste facility

O.C.O Technology

O.C.O Technology is a global business specialising in carbon capture, sustainable construction products and waste treatment.

Built on more than 20 years of award-winning research, the Accelerated Carbonation Technology (ACT) process has helped make them a leader in the permanent capture of carbon dioxide.

O.C.O Technology has developed a Carbon Capture and Utilisation (CCU) process to treat and stabilise thermal residues, such as FGTR, and in turn create sustainable construction products of value that are classified as a carbon negative aggregate.

They are currently one of only a few businesses in the UK to hold Environment Agency 'End of Waste' approval, classifying the finished aggregate as a product.

With the unique use of carbon dioxide within its treatment process, O.C.O Technology is ranked within the top 10 companies in the world for permanent carbon capture in a commercialised process and is able to produce an aggregate that is truly carbon negative. <https://oco.co.uk/>

O.C.O Technology visit to Australia

In May, O.C.O Technology's senior development team visited Australia to investigate bringing their world leading technology here. They travelled across the country evaluating suitable partner industries and potential sites.

The Maryvale EfW consortium partners hosted O.C.O Technology at the Maryvale Mill and the Creating Energy from Waste Information Centre in Morwell. Following this, O.C.O Technology met with Regional Development Victoria, Latrobe Valley Authority and Latrobe City Council along with a number of Victorian Government agencies and Departments - Environment Protection Authority, Sustainability Victoria, Department Jobs, Precincts and Regions, and Major Projects Victoria.

"We are delighted to be invited to showcase our award-winning technology to this exciting project. The passion and enthusiasm of all the various stakeholder to deliver the first Energy from Waste project in Victoria was fantastic. We view this as an excellent opportunity to bring our technology to the Latrobe Valley, not only in support of this project but as a showcase for the rest of Australia. We look forward to being part of the team to help deliver this exciting development. I would like to thank the Maryvale EfW team and Invest Victoria for making us feel so welcome and in hosting and helping organising our visit", said Mr Steve Greig, Managing Director O.C.O Technology.

O.C.O Technology and Maryvale EfW project

The Maryvale EfW project is pursuing a recycling solution for the flue gas treatment residues (FGTR) that results from the scrubbing process in the EfW ((7) in the diagram above).

O.C.O Technology can use FGTR to produce manufactured limestone (M-LS) that is a safe and lightweight aggregate suitable for concrete block and construction materials. The ACT process transforms the FGTR into a safe, environmentally sustainable and valuable recycled aggregate. The process takes in carbon dioxide to create a carbon sequestration effect that makes the final product carbon negative. The potential application of this technology, which is proven and has been operating for over a decade in the UK, will increase Maryvale EfW landfill diversion performance from 95 per cent to over 99 per cent.

Veolia SUEZ merger

In April 2021, Veolia and SUEZ agreed to merge their waste and recycling businesses in several countries around the world, including Australia. The global transaction was completed in early 2022 and as a result SUEZ Recycling & Recovery Pty Ltd is now owned by Veolia.

Like SUEZ, Veolia is passionate about sustainability and the environment. Veolia is deeply committed to developing innovative solutions to tackle challenges throughout the waste journey, from collection to diversion. We are especially focussed on maximising recycling and working to minimise the effects of climate change by optimising the use of resources and improving people's quality of life. In Australia, with over 5,700 employees and more than 250 advanced facilities, we are here to clean up, to recover, to recycle and to provide renewable energy and clean water for our municipal, industrial and commercial customers.

The Maryvale EfW project aligns with our ambition to deliver ecological transformation through waste to energy technology and Veolia welcomes the opportunity to take on a pivotal role in this unique and collaborative project that paves the way for sustainable manufacturing in regional Australia.

East Rockingham Waste to Energy

Masdar and Tribe are currently developing Australia's second EfW facility, the East Rockingham Waste to Energy (WtE) project, which is under construction in Western Australia. The project is on track to receive its first delivery of waste before the end of 2022.

Please click on this [link](#) to see the latest drone fly over of the site.



Waste Arising contracts: the key to our customer-driven solution

In March 2018 when Perth's Eastern Metropolitan Regional Council (EMRC) entered into a 20-year Waste Supply Agreement to send waste to the East Rockingham WtE facility, the Council likely didn't comprehend the place they would assume in Australian energy from waste history.

Of all the "firsts" in the East Rockingham WtE project, the one with the greatest impact is the "waste arising" contract structure for the council Waste Supply Agreements (WSAs). It was a fundamental principle for the EMRC in its August 2016 tender that the councils are not exposed to waste volume risk. The EMRC was prepared to give exclusivity over the residual waste stream that they collect from their LGA households but was not prepared to enter guarantees to the project on the volume of the waste collected.

Their rationale was strong: in order to meet continually increasing waste diversion targets, the councils must be able to implement improvements to their waste management practices over time, without fear of being locked into a put-or-pay contract that would have the effect of penalising councils for waste not delivered.

From a financial perspective for the councils, this makes absolute sense. So, too, from an environmental policy perspective. Importantly, it's a critical issue in securing and maintaining a social licence to operate in this emerging sector in Australia.

For the Maryvale EfW project, "waste arising" is a fundamental part of our offering to councils. Our energy from waste service supports councils' plans to maximise higher-order solutions. Participating councils will only be required to pay for capacity used, incurring no penalty for councils that successfully implement residual waste reduction initiatives. We look forward to making Waste Arising a core value proposition for our council customers in Victoria.