

Blue Phoenix IBA plant completed



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Testing materials being recycled through the IBA plant weekly to enable Blue Phoenix Western Australia to meet its maintenance regime.

The opportunity to join Blue Phoenix Group to construct and operate an Australian-first incinerator bottom ash (IBA) processing facility was enough to entice Ian Lyness out of semi-retirement.

Three and a half years and several favours later, the industry veteran and now Blue Phoenix Australia, Managing Director, is proud of the successful completion and commissioning of the plant.

The \$11.3 million IBA project at Hope Valley in Kwinana, Western Australia is the first in Australia, and the world, to bring all Blue Phoenix technology together in the one plant.

Incinerator bottom ash, the end-product of the Energy-from-Waste (EfW) incineration process, is due to be received and processed by the facility in late 2023 when the Avertas EfW plant is completed. Testing material is now being recycled through the IBA plant weekly to enable Blue Phoenix Western Australia to meet its maintenance regime.

“To see this system running with IBA is an exciting period,” Ian says. “The team and I are looking forward to when we can showcase to Australia a proven, sustainable and responsible way to recover and reuse materials otherwise lost to landfill.”

EfW has been a successful and critical component of the waste hierarchy for many years overseas. Ian says it’s a timely and responsible approach for the technology now to be included in Australian waste strategies for the long term. He says it’s prudent that ‘best in class’ technology is introduced to Australia to ensure a sustainable process is used to liberate the residual metals and aggregates that will contribute value to the nation’s communities.

Blue Phoenix operates IBA processing facilities globally, providing the EfW sector with a responsible and sustainable solution for bottom ash that has been proven over the past 20 years.



The Hope Valley IBA plant is the first in the world to incorporate all Blue Phoenix

technology.

The Avertas EfW is expected to process 400,000 tonnes of municipal solid, commercial, and industrial waste under agreements with local governments and other providers in Perth's greater metropolitan area when it's commissioned later this year.

Blue Phoenix will [process 100 per cent of the IBA](#) – about 80,000 tonnes per annum – from the plant, recovering metal down to minus two millimetres and returning the residual aggregates into bound and unbound civil applications.

Ian says the process seeks to liberate agglomerated slags and metals to allow for further refinement and valorisation, but importantly the residual minerals are recovered to provide a proven aggregate for reuse in the civil construction industry.

“This facility will also be available to help educate local communities about the recycling of waste and the responsible recovery of construction materials that until now simply end up increasing the landfill debt for future generations,” he says.

For the past 20 years, Blue Phoenix Group in Europe has recovered and safely reintroduced 15-million tonnes of aggregates, predominantly into road base, with no detrimental environmental effects.

It's a track record Ian and Blue Phoenix are proud of. Ian believes it stems from the company's commitment to give ash a new life.

He says having all Blue Phoenix's processing technology in one plant is unique and in the long-term will allow the company to refine and introduce new technology to achieve greater recovery of metals and improve the quality of aggregates for use in alternate markets.

It is the technical excellence of Blue Phoenix, and a desire to be involved in an Australian-first EfW and IBA project, that appealed to him.

“Coming out of semi-retirement to do this was very meaningful for me,” he says.

“Living locally where these facilities are being built, I was very much focused on making sure things were done the Australian way and done properly with a reliable and responsible company that can assist with continual development.

“The calibre of Blue Phoenix, its leadership and technical ability is renowned. It gave me a lot of confidence in what we were building and who we did it with.”

Ian has lived and breathed the project for three-and-a-half-years from concept to build. He’s proud to have delivered it on time and budget, despite a global pandemic, labour shortages and escalating shipping costs.

The project has used local materials and skill wherever possible and will be operated for the next 25 years by a local workforce.

Ian is full of praise for the Western Australian contractors who worked on the project and says without them, Blue Phoenix would still be waiting for the contract to be finished.

Kerman Contracting provided the structural design as well as the structural, mechanical and electrical installation. Stantec provided civil design and engineering support and MACS Australia did all civil works. Mechwest and Peritas provided engineering design and 3D modelling.

“They’re fantastic partners,” Ian says. “They were highly flexible, very professional and had a great engineering pedigree and excellent resources in Perth which meant we could get things done.

“Their people on the ground made the difference. They’re dynamically technically astute and delivered with a ‘can do attitude’. This made the difference when issues arose because everyone had a voice and their experience was invaluable.”

Ian says every plant around the world is built to different geographies and technical standards. The Kwinana plant had to account for wind and seismic loading and exacting Australian Design standards, which required more structural steel. This meant that all offshore equipment had to be quality checked and assessed to meet these standards before being delivered to Fremantle.

“Getting this right in WA, which is a tough environment, means we can use this as a benchmark to allow new developments of EfW plants elsewhere in Australia to have a proven partner already

operating in the country,” Ian says.

“We expect our next opportunity to partner with a developing EfW to come from the east coast. I’m very excited to see how this unfolds over the coming years.”

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