

Looking to sell? Compactors

Blue Phoenix is closing the loop for energy-from-waste plants



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Testing material is being recycled through the IBA processing facility at Hope Valley.

Blue Phoenix Group is helping Australia's energy-from-waste industry take its first steps toward a circular economy.

[Blue Phoenix Group](#) believes there is no such thing as waste.

Taking its inspiration from the mythical phoenix rising from the ashes, the global company has developed solutions for energy-from-waste (EfW) plants to recycle the seemingly unrecyclable.

Ian Lynass, Managing Director Blue Phoenix Australia, says it's judicious that the company's "best in class" technology is introduced to Australia as the local EfW market takes flight.

"Energy recovery is an effective way to manage waste and provide baseload power," Ian says.

"We've contributed to the EfW industry globally by preventing landfilling of the incinerated bottom ash (IBA) and reducing the need for virgin raw materials by producing manufactured aggregate.

"By bringing our experience and knowledge to Australia we can help build a sustainable future in a new continent."

Australia's first energy-from waste facility is currently being constructed in Western Australia. In 2021, Blue Phoenix secured a 25-year contract with Avertas Energy to build the country's first IBA processing facility. The \$11.3 million project at Hope Valley in Kwinana is the first in the world to bring all Blue Phoenix technology together in the one plant. Testing material was being recycled through the IBA plant weekly earlier this year in preparation for full-scale productivity.

When commissioned, the plant will process 100 per cent of the IBA – about 80,000 tonnes per annum – from the EfW plant, recovering metal down to minus two millimetres and returning the residual aggregates into bound and unbound civil applications.

A majority of incinerator bottom ash consists of inert brick, rubble, glass, ceramics, and stones. It's traditionally buried at a landfill site. Ian says Blue Phoenix technology provides an alternative and sustainable solution that closes the recycling loop for EfW plants.

"We see materials to construct buildings, highways and pavements," Ian says. "We see materials for new cars, computers, and mobile phones.

"We see a future in which waste-to-energy plants are fully circular."

Blue Phoenix works with operators to create manufactured aggregates that comply with the country's local needs. The company has developed a range of dry and wet processing solutions to ensure the right quality output in line with local legislation.



Blue Phoenix has a global footprint for IBA solutions.

Ian says that in most European countries, IBA aggregates are used in road construction and provide a sustainable alternative to primary aggregates.

A large-scale facility in Assendelft, a town in the province of North Holland, Netherlands, is processing about 250-275 kilo tonne of IBA each year, with the potential to process 600 kilo tonne per annum. After metal separation and removal of contaminants, about 450,000 tonne of secondary aggregates finds its way back into the circular economy.

“Blue Phoenix IBA plants produce a material that is well known and well regarded,” Ian says. “There are some areas where we operate that struggle to produce enough material to keep up with the market demand.”

In the United Kingdom, incinerator bottom ash aggregate (IBAA) has been used for more than 20 years as a construction material.

Ian says IBAA gives customers a cost-effective, low carbon and sustainable alternative to primary aggregates.

“Blue Phoenix has processed more than 13 million tonnes of IBA to date and works closely with regulators to ensure environmental protectors are at the forefront of day-to-day activities,” he says.

Australia is at a turning point in allowing energy recovery from non-recyclable waste. Ian believes the next step is creating a regulatory pathway to ensure the resultant aggregates are used responsibly.

He says Blue Phoenix is working with government departments, agencies, and customers to help evolve regulation and support the development of sustainable onshore aggregate markets.

Paul Knight, Chief Executive Officer Blue Phoenix Group, says that over the years, the company has developed both technology and knowledge to ensure that IBA is used correctly and appropriately.

“We take this responsibility very seriously and as such we firmly believe that appropriate regulation is in place to ensure compliance is adhered to,” Paul says. “This is not only something we believe is the case for IBA reuse, but for all recycled products, including construction and demolition waste. We need to ensure that material is suitably tested and used in the right areas and for the right reasons.”

Ian says Blue Phoenix constantly improves and adapts to local demands and legal requirements. The company research and development team devises new applications for IBA to ensure that nothing goes to waste.

The latest development, Urbyon, converts IBA minerals into a binder filler for concrete. The filler can substitute up to 25-30 per cent cement in most concrete and is tipped to help the precast concrete industry reduce the environmental impact as well as the costs of concrete products.

Ian says the breakthrough will contribute to a decrease in greenhouse gas emissions.

“We see a future without waste,” he says. “Building a sustainable future takes a little magic.”

For more information, visit: www.bluephoenix-group.com