

Clean-tech treating oilfield and mining wastewater shortlisted for industry innovation award

Technology helps resource firms move towards sustainable mining

Brisbane, Australia – A new water-purification technology that uses solar energy to transform wastewater produced by the resource industry into re-usable distilled water has been shortlisted as a finalist in this year’s innovation award organised by the Resource Industry Network (RIN). The Flamingo concentrated solar distiller technology, offered by Brisbane-based JWA Oilfield Supplies, harnesses solar energy to extract moisture from the waste streams generated by oil and gas and mining industries through a multi-distiller system, which then delivers pure distilled water and dried slurry output.

The breakthrough zero-carbon technology allows resource companies to not only reuse water for their own operations, but also to provide beneficial use of the treated water to the local communities, such as farming and irrigation, as well as rehabilitate ponds in water scarce environments – a major step towards creating a circular economy.

The capability to separate dry solids also presents many potential opportunities to close the loop and recycle minerals and resources that would otherwise be classified as waste.

The unique Flamingo water treatment technology is one of three finalists shortlisted for RIN’s prestigious “Out of the Box Award”, which celebrates innovation in new products or services.

“This technology will allow resource companies to view and tackle waste streams in a entirely new manner and progress further towards sustainable mining. Water is an increasingly precious commodity which we cannot afford to squander away,” said Hensley Wee, Business Development Manager at JWA.

Treating produced water is a key challenge faced by the oil and gas sector as it is the largest waste stream generated during hydrocarbon extraction, whereby large amounts of water are injected into the reservoir to counteract underground pressure and increase oil and gas recovery rates.

The fluid that resurfaces, referred to as “produced water” contains various organic and inorganic compounds at variable concentrations which can be difficult to treat for either re-use in mine operations or for discharge, while contaminated water from mining, such as tailings water from coal extraction, also requires costly treatment before it can be discharged.

As a result, resource and mining companies operating in arid areas often purchase and cart clean water from long distances to continually meet their operational needs, while the produced water is either put in large evaporation ponds or treated using reverse osmosis technology, which is expensive in part due to it being diesel powered.

Using the patented concentrated solar method for water treatment is both more efficient and economical than the current reverse osmosis technology. JWA has partnered with Bridgeport Energy (a subsidiary of New Hope Group) to trial the Flamingo concentrated solar treatment unit at one of its sites.

Other finalists for RIN’s innovation award include the Dalrymple Coal Bay Terminal and SMW Group. The final winners will be announced on May 21st.

Resource Industry Network is one of Australia’s peak industry associations for the resources industry and its allied sector.

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About Flamingo concentrated solar technology:

The technology uses highly reflective massive mirrors to focus solar irradiance on its multi distiller system to directly extract steam from waste streams, which then allows purified distilled water and dried slurry outputs to be collected separately. The novel process exploits thermodynamics principles and recycles the heat within the device to achieve a 5-fold increase of throughput.

Each unit is able to treat a minimum 30kL of water a day and is significantly more economical than other water purification methods such as Reverse Osmosis (RO) currently available in the market.

About JWA:

JWA Oilfield Supplies is an Australian company committed to providing innovative and environmentally sustainable solutions to the resources and industrial sectors. Our company has supported major energy and infrastructure projects across the country, including the construction of LNG projects, road and rail programs and renewable developments.

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