

# IJGlobal Renewable Energy ESG Award – APAC – Ark Energy

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In a world where hydrogen is being touted as the panacea for so many of the world’s energy woes, it comes as little surprise to see an innovative project – an “early mover in H2 in resources sector” as one judge labelled it – pick up a trophy at the IJGlobal ESG Awards.

Ark Energy H2 Pty Ltd – a subsidiary of Korea Zinc (owner of Sun Metals Refinery) – in connection with the Clean Energy Finance Corporation (CEFC) project financed the construction and commissioning of Ark Energy’s SunHQ hydrogen hub as well as the deployment 5x 140 tonne rated hydrogen fuel cell electric trucks (FCET).

The hydrogen hub being built in Townsville, Queensland, to power Korea Zinc’s local refinery. This will make Sun Metals the world’s first producer of green zinc.

It is the first hydrogen project to be jointly supported by ARENA and CEFC, and the Australian government is investing A\$50 million in infrastructure to support training in renewables and hydrogen.

New and innovative electric trucks have been designed to replace diesel vehicles to transport heavy loads, and this in turn will propel increased improvements to Australia’s ultra-heavy transport sector.

The transport sector is Australia’s third largest source of greenhouse gases, responsible for 17.5% of emissions. This is all the more significant as transport emissions have increased 41% since 1990.

Education for hydrogen production will be provided by TAFE Queensland to Ark Energy workers, enabling long-term jobs in the area. The project – and related education – will be largely financed by the Australian government.

On the transport front, Hyzon’s 5x 140-tonne hydrogen fuel cell electric trucks are based on innovative technology and will develop the transport sector as a whole. They will replace diesel equivalents and avoid 1,300 tonnes of CO2 emissions per annum.

As for Sun Metals Refinery, the evolution towards green zinc is innovative and has impacts beyond carbon reduction. Apart from Sun Metals being the first to produce green zinc, the refinery also plans to power 80% of its operations with renewable electricity by 2030 and 100% by 2040. Sun Metals produces 230,000MT of zinc annually, of which 170,000MT is exported to China, Southeast Asia, the Middle East, Africa and North America.

At the ESG Awards judgment day, one of the infrastructure specialists said: “One of the biggest issues with hydrogen is



investment and early adoption, while cost curve is high. Ark Energy in particular is helping move supply chains toward decarbonisation which is crucial for investment.”

Another adds: “This supports greening infrastructure, and reducing emissions from heavy vehicles will be key to the transition and the use of hydrogen in the production of zinc. Projects like this are key to mobilising the industry to invest in these types of solutions.”

The judge adds on the S element of ESG: “This also shows a strong positive impact via reskilling into the hydrogen economy which will be key to Australia's success in transitioning away from traditional fossil fuel-based industries.”

One further judge said: “This looks like a truly innovative renewable energy project, with broader social impact, which could allow the area to become an important hydrogen production hub.”

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