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Strictly Embargoed Until 12:01am

Driving down emissions in heavy transport with renewable hydrogen

Heavy vehicles powered by renewable hydrogen will be used in a first-of-a-kind deployment in Townsville, helping to reduce emissions in the transport and mining sectors.

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has announced that it has conditionally approved \$3.02 million in funding to Ark Energy H2 Pty Ltd (Ark) to support the deployment of a 1 MW electrolyser with storage and refuelling infrastructure to fuel five new 140 tonne rated fuel cell electric trucks.

The project will be located at the Sun Metals zinc refinery in Townsville, which is owned by Ark's sister company Sun Metals Corporation (SMC).

Ark and SMC are subsidiaries of Korea Zinc Company Limited (Korea Zinc), the largest zinc, lead and silver producer in the world. The Project is part of Korea Zinc's long-term strategy to export renewable hydrogen to supply Korea Zinc's global operations as well as other end users in Asia, however, the group's priority is to build the domestic hydrogen economy of North Queensland first.

ARENA's funds will be paid upon the commissioning of the refueling facility and delivery of the five trucks, which are expected to arrive in December 2022.

The electrolyser will be powered by renewable energy from the 124 MW solar farm located at the zinc refinery, which is also owned by SMC.

The trucks, supplied by Hyzon Motors, are expected to become the largest road-going fuel cell electric trucks in the world at the time of their deployment. Ark will lease the trucks to its sister company, Townsville Logistics, which will operate them in road train triple trailer configuration and incorporate them into its short haul fleet currently transporting zinc concentrate and ingots between the Port of Townsville and the zinc refinery. The five zero emission trucks will replace equivalent diesel-powered trucks and avoid 1,300 tonnes of CO2 emissions each year.

The project is also supported by a \$12.5 million debt finance facility from the Clean Energy Finance Corporation, and has also been awarded \$5 million from the Queensland State Government's Hydrogen Industry Development Fund.

SMC's zinc refinery is currently the second largest single-site consumer of electricity in Queensland. The introduction of fuel cell electric trucks will assist the company in helping to reduce its overall emissions, starting with the transport supply chain.

Heavy vehicles currently make up approximately 4 percent of road vehicles in Australia, but account for around 23 percent of all road transport fuel consumed in Australia. Replacing diesel vehicles with renewable hydrogen alternatives is viewed as a key opportunity for early uptake of commercially viable hydrogen due to the relatively high cost of diesel as the incumbent fuel.

The development of clean hydrogen is one of the key stretch goals outlined in the Australian Government's Low Emissions Technology Statement. The stretch goal is to produce hydrogen for less than \$2 per kg, or 'H2 under 2', which is the price where hydrogen is expected to become competitive with other energy sources for industry and transport.

ARENA has also recently launched its new 2021 Investment Plan and the project strongly aligns with the strategic priority of commercialising clean hydrogen, which aims to support a viable domestic and international clean hydrogen economy.

ARENA CEO Darren Miller said the deployment could offer up a valuable pathway towards achieving net zero

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emissions in the heavy transport and mining sectors.

“As Australia pushes towards net zero emissions, we must continue to find renewable and clean solutions for hard-to-abate sectors now so that alternatives to fossil fuels can be implemented as soon as possible.

“Ark’s first-of-a-kind deployment is a great opportunity to highlight the potential of ultra-heavy fuel cell electric trucks in Australia, which has significant replication potential and could fast track the reduction of emissions by using renewable hydrogen not only in heavy transport, but the entire resources supply chain domestically.”

This is the first hydrogen project to be jointly supported by both the CEFC and ARENA, and highlights how critical their ongoing cooperation is to the development of a competitive Australian hydrogen industry.

ARENA has previously funded two hydrogen light vehicle transport projects. The project with BOC will install a hydrogen refuelling station in Brisbane to fuel a passenger fleet of Hydrogen FCEVs and another project with Toyota has also seen refuelling infrastructure installed in Melbourne to support passenger vehicles and forklifts.

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