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Funding boost for hydrogen and low emissions iron & steel research

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) today announced it has awarded \$59.1 million in funding across 21 research projects to support research and development (R&D) and commercialisation activities covering renewable hydrogen and low emissions iron & steel.

The funding has been provided to research teams from some of Australia's top universities, research organisations, startups and companies.

ARENA CEO Darren Miller said funding early-stage R&D and pushing innovation was at the core of ARENA's mission in supporting the global transition to net zero emissions.

"We're backing Australian technological innovation that helps build our clean industries and underpins our ambitions of becoming a renewable energy superpower."

An initial \$25 million in funding was provided for each of the two funding rounds – Renewable Hydrogen and Iron & Steel. Due to the quality of applications, ARENA has increased the total funding amount to \$59.1 million. Grant funding for each successful applicant ranges between \$1.3 million and \$5 million.

Funding for the R&D projects will be provided over two stages, an initial core research stage followed by a research commercialisation stage aimed at scaling up and demonstrating application of research breakthroughs in the market.

"ARENA has a strong track record in funding and supporting early-stage innovation. Through our strategic priorities, we have highlighted the importance of renewable hydrogen and low emissions metals growing to become a significant export industry," Mr Miller said.

"Innovation starts in the lab, and we have the best minds taking our decarbonisation efforts to the next level – to the benefit of all Australians through jobs, lower emissions and cheaper energy."

Australia is the world's largest exporter of iron ore, supplying up to 53% of international exports each year. Decarbonisation through the iron & steel value chain will have a significant impact on global emissions reduction.

The Iron & Steel R&D round aims to support a step change in emissions abatement pathways in the production of iron and steel, and encourage additional research capacity in these sectors, facilitating collaboration between research groups and industry.

The Hydrogen R&D round aims to accelerate the commercialisation of renewable hydrogen through innovation in hydrogen production, storage and distribution technologies. Renewable hydrogen is also expected to play a large role in reducing emissions in hard-to-abate sectors like iron and steel production.

The successful recipients across both R&D funding rounds can be found on page 2.

Iron & Steel R&D Funding Round

ARENA media contacts:

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For more information
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Recipient	Project	ARENA funding (\$)	Total Project Cost (\$)
The University of Wollongong	Australian Pilbara Iron Ores in an Electric Smelting Furnace Process	2.0m	4.2m
Australian National University	De-risking large-scale Australian fine-ore hydrogen ironmaking	4.8m	13.7m
The University of Newcastle	Electric Smelting of Australian Hematite-Goethite DRI	2.9m	5.9m
MIH2 Pty Ltd (subsidiary of FFI)	Low Temperature Direct Electrochemical Reduction for Zero Emissions Iron	5.0m	42.6m
HILT CRC Limited	Upgrading Iron Ore for DRI Production Using Seawater Reverse Osmosis Brines Project	1.4m	5.7m
Macquarie University	Upcycling of steelmaking slag for material reuse	1.5m	7.2m
CSIRO	Low temperature iron ore agglomeration process for Australian iron ores	2.6m	5.3m
University of New South Wales	Blast Furnace Innovations: Integrating New Injections & Burdens for Sustainable, Low-Carbon Ironmaking Transitions	4.4m	18.1m
		24.6m	102.7m

Hydrogen R&D Funding Round

Recipient	Project	Stream	ARENA funding (\$)	Total Project Cost (\$)
Future Energy Exports CRC Limited	Development and demonstration of safe, efficient hydrogen liquefaction through optimized mixed refrigerants and plant design	Storage and Distribution	2.1m	6.3m
Cavendish Renewable Technology Pty Ltd	Efficient, scalable, and modular ammonia to hydrogen/electricity conversion system development and demonstration	Storage and Distribution	1.6m	4.3m
Hysata Pty Ltd	High-temperature, Ultra-high Efficiency Green Hydrogen Production	Production	3.0	5.9m
Curtin University	Hydrogen export using a powder	Storage and Distribution	5.0m	16.5m
Monash University	Lowering the cost of proton exchange water electrolysis systems	Production	2.3m	7.2m
Australian National University	Accelerating the Commercialisation of the Direct Solar-to-Hydrogen Technology	Production	2.2m	7.5m
University of Melbourne	Mega-Scale Liquid H2 Storage with Super-Insulated Full-Containment and Zero-Boil-Off	Storage and Distribution	3.1m	6.6m
The University of Sydney	Advanced Manufacturing Alkaline Electrolyser Cell-Stacks for Affordable and Scalable Green Hydrogen Production	Production	2.2m	5.9m
University of New South Wales	Production, Multiphase Electrolysers for Renewable Ammonia Production	Production	1.9m	7.2m
Australian	H2 storage enabled by nano-scaffolded gas hydrate	Storage and	1.4m	5.5m

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National University	capsules with ground-source energy utilisation	Distribution		
Jupiter Ionics Pty Ltd	Capital Cost reduction in electrochemical ammonia synthesis	Production	2.5m	6.5m
Royal Melbourne Institute of Technology	Solar-Energy-Driven Modular Floatable Device for Scalable Green Hydrogen Production from Wastewater	Production	2.0m	5.9m
MIH2 Pty Ltd (subsidiary of FFI)	Scale up and demonstration of next generation CSIRO axial flow electrolyser for green hydrogen production	Production	4.9m	14.3m
			34.2m	99.6m

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