Media Release

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National research centre signals cleaner future for heavy industry

Australia's leading companies in the heavy industrial sector will embark on a program that will enable a step-change in the rate at which they transition toward zero net-carbon emissions through the Heavy Industry Low-carbon Transition Cooperative Research Centre (HILT CRC).

The HILT CRC has today, Wednesday 30 June 2021, been awarded $39 million in cash support over 10 years from the Australian Government to unlock more than $175 million investment from its partners which are located around the country, and fund the leading collaborative venture between heavy industry, government and researchers, who will accelerate this transition.

The HILT CRC brings together many of Australia's leading researchers in this field, drawn from the University of Adelaide, which led the bid, together with the Australian National University, CSIRO, Curtin University, University of Newcastle, Swinburne University, Queensland University of Technology and international partners Arizona State University, German Aerospace, MINTEK and the University of Canterbury.

"Heavy industry produces materials such as steel, aluminium and cement, which are vital to the national and global economy," says the University of Adelaide's Professor Gus Nathan, Director of the Centre for Energy Technology and the Deputy Director of the Institute for Mineral and Energy Resources, who led the successful bid for the HILT CRC.

"It is critical to the global economy and job markets because it produces things that we all need, while also supporting the countless industries and businesses that depend on it.

"However, while tackling its contribution to the planet's climate change is a challenge, it is also an economic opportunity because of the growing demand for new, higher value, green products. This is why the transition of heavy industry to net-zero carbon emissions is such an essential and important next step in Australia's path toward a sustainable future."

The 57 partners in the CRC will grow one of Australia's most important industrial sectors, which generates around $180 billion per annum or 9 per cent of the Australian economy, and is a major regional employer.

Dr David Cochrane, who is Technology Lead at core CRC partner global mining and metals company South 32, is also an industry leader of the HILT CRC.

"The HILT CRC will play an important role in transitioning to a low-carbon future by creating a framework for industry to collaborate, sharing knowledge and experience while lowering the risk of trialling technology," says Dr Cochrane.

"For South32, we have recently set medium term targets to halve our operational emissions by 2035 as we transition to net zero by 2050 and initiatives like the HILT CRC are part of our plan to achieve these targets."

Susan Jeanes, who is Chair-elect of the HILT CRC, says the funds awarded by the Federal Government will supplement more than $45 million in cash and more than $130 million of in-kind support committed by partners to develop and adapt the technologies for the heavy industry sector to transition to a net-zero carbon future

"Decarbonising Australia's heavy industry will position it to be competitive in the rapidly developing, global low carbon markets for green iron and aluminium products that have higher value than our current exports. These new markets are being driven by our trading partners in countries like China, Japan and Europe, which are introducing a range of financial measures to meet their carbon targets, such as EU's Carbon Border Tax," says Ms Jeanes.

"Our mineral resources geographically co-exist around the continent with our first-class renewable energy resources making decarbonising more competitive here than in other parts of the world."

The University of Adelaide's Deputy Vice-Chancellor (Research) Professor Anton Middelberg says that the HILT CRC will support up to 50 higher degrees by research students across the partnership.

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"A dedicated education and training program will take advantage of the CRC's highly innovative environment. It will build on an established education and technology transfer infrastructure in the sector within industry and universities," he said.

"The HILT CRC will be Australia's leading collaboration which will bring to bear world-class research and expertise from all the CRC partners to develop and demonstrate the technologies needed to grow Australia's low-carbon economy."

The CRC plans to work collaboratively with industry in regional Australia where the transformational research will be applied. It will be head-quartered in Adelaide, with hubs in Gladstone, the Pilbara, Northern Tasmania, the Upper Spencer Gulf in SA, the Kwinana and South West region in WA, the Southern Highlands of NSW and the Portland region of Victoria: all areas where heavy industry operates.

The uptake of low-carbon technologies will help meet the Australian Government's obligations to the United Nations Paris Agreement.

The CRC partners will work together to reduce heavy industry's CO_2 emissions which currently account for some 20 per cent of Australia's total output. The industrial sector globally accounts for 32 per cent of all CO_2 emissions, of which approximately half are from the heavy industrial sector.

"Unlike electricity and transport, large and bespoke processing plants cannot use off-the-shelf technologies to tap into renewable energies like solar power and hydrogen fuel," said Professor Nathan.

"The HILT CRC will help achieve technology-driven solutions for low-carbon industry transformation with an inter-disciplinary approach engaging all key stakeholders. In addition to developing the new technologies with both the suppliers and users of the technology, we will engage with communities and trading partners to develop solutions that are both desirable and implementable.

"Research leaders will work with our partner companies and their industry experts to refine and demonstrate rapidly developing low emissions energy technologies such as hydrogen production and concentrated solar thermal technologies to their large industrial processes to enable them to thrive and grow in the new international markets.

"Our analysis indicates that the increased competitiveness could provide an additional 376,000 direct and indirect jobs and contribute up to an additional $120 billion into the Australian economy.

"The HILT CRC will be able to respond to the dynamic nature of local and global challenges. Transitioning heavy industry to a low carbon future will not only reduce emissions but help Australia's heavy industry to be competitive in the global economy of the future."

For more information about the Heavy Industry Low-carbon Transition Cooperative Research Centre including a full list of all the partners please visit www.hiltcrc.com.au

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