

15/10/25

**Submission via email to: [NetZeroFundConsultation@industry.gov.au](mailto:NetZeroFundConsultation@industry.gov.au)****Net Zero Fund: proposed design consultation**

The Heavy Industry Low-carbon Transition Cooperative Research Centre (HILT CRC) was established in November 2021 to support the decarbonisation of the Australian iron/steel, alumina, and cement/lime sectors. Since commencing operations, HILT CRC has co-developed a groundbreaking research program to develop new technologies and address non-technological barriers and enablers to heavy industry decarbonisation, in collaboration with over 65 partners from industry (including heavy industry, end users and technology providers), government, academia, and nongovernmental organisations. One aspect of HILT CRC's ongoing mission is to pave the way for a prosperous, net-zero Australian heavy industry sector by providing high-quality, evidence-based information for decision-makers.

HILT CRC welcomes the decision to establish a \$5 billion Net Zero Fund (NZF) as a sub-fund of the National Reconstruction Fund (NRF), which draws from within the NRF's existing \$15 billion allocation.

We are pleased and supportive that the proposed NZF scope is to: 1) support large industrial facilities seeking to decarbonise, including investing in the technologies and capital infrastructure required to transition to lower emissions or more productive processes; and 2) support scale-up of manufacture of renewable and low-emissions technologies.

As a collaborative research venture with a mission to de-risk and accelerate decarbonisation of heavy industry, HILT CRC is well placed to provide insights that can assist the successful delivery of the NZF's proposed scope.

The key points HILT CRC wishes to highlight in this submission are:

- **Include specific reference to green metals and cement in the NZF**
- **Temper NZF expectations on returns**
- **Complementary policy settings are crucial.**

**(Consultation Question 1) Include specific reference to green metals and cement**

There are significant economic opportunities that can be realised through decarbonisation of Australia's heavy industry over the longer term. [The Government's Treasury modelling](#) projects in some scenarios that the total value of Australia's green exports – which includes green ammonia, green iron, alumina, aluminium and critical minerals – is projected to reach \$80–93 billion in 2035 and \$109–178 billion in 2050, supporting an increase in total exports.

Considering the National Reconstruction Fund's (NRF) seven priority areas for investment, HILT CRC recommends elevating focus on green metals and cement as priorities for the NZF. For example, the guidance under the existing 'Value add in resources' priority area has a specific reference to battery manufacturing. Similar reference could be included for green metals, given the significant economic opportunity for green metals identified under Future Made in Australia.

A core focus of HILT CRC is identifying and evaluating the most prospective technology pathways for the production of green aluminium, steel and cement, with an emphasis on the key intermediates of alumina and iron, respectively. This work has been informed by evaluation projects led by HILT CRC researchers and technology development roadmaps provided by our industry partners, where these are publicly available, together with our understanding of international efforts.

The technologies that HILT CRC has identified and evaluated as being important in helping metal production transition to net zero are listed below (note: further information on these technologies is available in the following [HILT CRC Green Metals consultation](#) p18-28):

- net-zero steam and improved steam recovery for alumina production
- net-zero calcination technology
- ore beneficiation
- ore agglomeration
- ore property characterisation
- direct reduction technology for iron ore
- electric smelting furnaces for iron- and steelmaking
- supply and utilisation of net-zero energy and fuels
- carbon capture, utilisation and storage
- circularity between sectors.

New and novel technologies that can competitively unlock and add decarbonised value from Australia's unique offering of mineral resources can and should play a strong part of the solution and hence NZF portfolio. For example, HILT CRC has provided supporting R&D which was used by our SME industry partners to

demonstrate technical feasibility of their technology: [ARENA backs Calix with \\$44.9M to fire up green steel future](#). The NZF provides an opportunity to continue to support novel technologies such as these, while still supporting large industrial facilities seeking to decarbonise.

### **(Consultation Question 2) Temper expectations on NZF returns**

Given the early stage of green metals industries in Australia, and based on consultation with our partners, HILT CRC considers that there may need to be a tempering of expectations on the type of returns that can be generated by NZF over the medium term.

NZF will be best served in taking a proactive approach that works closely with proponents and is flexible to their funding needs. Engagement with HILT CRC members has suggested that the NRF should have a carefully calibrated risk appetite to support the critical technology scale-up role that SME companies play, as well as supporting larger industry projects decarbonising their facilities.

While HILT CRC does not have any suggestions regarding specific funding returns and terms, we are aware that the Clean Energy Finance Corporation adjusted its Clean Energy Innovation Fund return target down to the five-year government bond rate plus 1%, while the Rewiring the Nation fund targets an average return of at least covering the corporations cost, so these may have some applicability for consideration for the NZF design.

### **(Consultation Questions 1 and 3) Complementary policy settings are crucial**

HILT CRC hosted a series of Roundtables with stakeholders, including industry partners and government representatives, across Australia in 2023 to discuss non-technical barriers holding back the deployment of decarbonisation technologies. The Roundtables also identified for key priority themes for non-technical barriers to the transition:

- enabling infrastructure
- de-risking decarbonisation investment
- policy signals and enablers
- trade barriers and market drivers.

More recent surveys of partners at the 2024 HILT CRC conference ranked the most important topics for discussion on technology and policy developments to facilitate transformation and a green metals industry. HILT CRC's research and stakeholder engagement has identified the following as key enablers to investment in heavy decarbonisation projects:

1. Accelerate the deployment of net-zero emission energy (including but not limited to, renewable electricity) and invest in enabling infrastructure like electricity grids.
2. Adopt long-term, bipartisan policies and incentives for decarbonisation to reduce investment risk and policy uncertainty for industry.
3. Drive demand for low-emission commodities both domestically through demand-side incentives, and through ongoing climate diplomacy with existing and potential international trading partners to encourage enhanced global climate ambition.
4. Ensure regulatory and approval processes are efficient, consistent, and coordinated across state and federal government.

In particular, in HILT CRC's most recent engagement with partners it emerged that there remains a gap in demand-side policies for green iron/steel, aluminium and cement products. HILT CRC is informing this policy development issue and will be sharing its advice on useful options in the coming months (see RP3.008 summary below).

HILT CRC's Program 3: Facilitating Transformation has the following flagship projects now underway to inform and help address key barriers and potential enablers:

- [RP3.006: Certification and verification to enable a successful low-carbon transition for heavy industry](#)
- [RP3.007: Unlocking investment in energy infrastructure for net-zero industrial hubs](#)
- [RP3.008: A policy roadmap for Australia's heavy industry low-carbon transition.](#)

HILT CRC thanks the Government for the opportunity to comment on the design of the NZF. The NZF can play a key role in providing funding and support for decarbonising heavy industry facilities, as well as helping to address the process and technology integration risks to enable green products and markets.

I look forward to continued engagement and discussion.

If the Government would like to discuss any elements further, I can be contacted via [ceo@hiltcrc.com.au](mailto:ceo@hiltcrc.com.au).

Kind regards,



**Jenny Selway**

Chief Executive Officer,  
HILT CRC