

# INVEST IN GREATER CERTAINTY

The Bid for a CRC for Transformations in Mining Economies (CRC-TiME)

Lower cost | Greater certainty | Build social value



## CRC TiMEs Mission

CRC-TiME will drive transformational change to enable regions and communities to transition to a prosperous and sustainable post mine future. CRC-TiME will:

- deliver key components of the National Resources Statement.
- enable greater certainty post mine to drive investor confidence and social development in one of Australia's most important industries.
- create new technology and process solutions to better position Australian METS companies in a growing mine closure global business opportunities

## The Challenge

Transforming mining economies to enable Australian regions and their communities to build a successful post mine future is a growing challenge.

- The social and economic landscape for mining is increasingly complex and adversarial.
- Mechanisms for collaboratively building a shared vision of post mine options are limited and unproven, placing the future of mining regions in limbo. This creates an uncertain future for investment in Australian jobs, resources and an increasing disconnect between regional businesses, communities, governments and mining companies.
- The broader community's expectations of the mining sector are high. Addressing them will ensure the mining sector continues to contribute strongly to the national economy and Australian society.

## Global Relevance

Mine closure is an integral phase of an active mining industry but is a global challenge. The 2018 Ernst & Young annual "Ten Business Risks facing Mining and Metals" report identified social license as mining's number one risk factor, while the ICMM - a peak body comprising 28 of the largest global mining companies - identified mine closure as a priority area for the first time in 2018. The growth in the global closure market place also presents a significant export opportunity for Australian METS companies.

## Vision of Success

A successful CRC-TiME will transform mining economies to deliver increased certainty of relinquishment, reduced likelihood of abandonment, diversified post mine economies and new Australian businesses supplying a global market. It will build trust between mining companies, regulators and communities and improve the business settings for closure and succession.

CRC-TiME will enable transformational change required to fulfil the vision of the Australian Government's National Resource Statement:

*"To have the world's most advanced, innovative and successful resources sector which delivers sustained prosperity and social development for all Australians".*

## A unique coalition with a unique value proposition

CRC TIME creates a coalition of industry, service providers, Governments, community and researchers to better connect mine operations to long term regional and community outcomes.

It aims to deliver:

- increased certainty of relinquishment;
- reduced likelihood of abandonment;
- diversified post mining economies
- new Australian businesses operating in a global closure market.

...and build trust between mining companies, regulators and communities and improve the business settings for closure and succession.



### Current Partners

Mining Companies	METS Companies	Government/Community	Researchers
Alcoa BHP CME WA Mining3 FMG Iluka Newmont Rio Tinto South32 MMG ACARP	3RZ, AgGrow, Aurecon, Decipher, Deswick, Ecocene, EIANZ, Golder, Landloch, Ozius, Phibion, EIAWA, SSG AGRF	Geoscience Australia, Supervising Scientist State Governments <ul style="list-style-type: none"> <li>• WA,</li> <li>• Qld,</li> <li>• NT,</li> <li>• Chemcentre,</li> <li>• WA Biodiversity Science Institute</li> </ul> NRM: Rangelands & PHCC) Regional Development: PDC, SW RDA Indigenous: Regional Implementation Committee (Pilbara)	Universities: <ul style="list-style-type: none"> <li>• Queensland,</li> <li>• Western Australia,</li> <li>• South Australia</li> <li>• Adelaide,</li> <li>• Curtin,</li> <li>• Murdoch,</li> <li>• Flinders</li> <li>• Federation,</li> </ul> CSIRO,
Supported by leading Industry bodies: ICMM, MCA, AMEC, ACARP and AMIRA			

### Building Scale through investment

These current partners have declared financial support to the proposed CRC over a ten year period (2020 – 2030) as follows)

	Cash	In-kind	Total
<b>Industry/State</b>	\$16.7 M	\$34.2 M	\$50.9 M
<b>Researchers</b>	\$13.7 M	\$39.5M	\$53.2 M
<b>CRC request</b>	\$29.5 M		\$29.5 M
<b>Totals</b>	\$59.9 M	\$73.7 M	\$133.6 M

## **An integrated and multidisciplinary programme**

CRC-TIME will provide all the stakeholders involved with the closure, relinquishment and creation of a post-mine regional future with new tools and technologies to make better decisions and lower residual risk into the future. Social, environmental, economic and technical research will be conducted through three highly integrated programs.

In addition, CRC TiME will address a siloed and fragmented approach to closure research through two cross cutting themes. The CRC will network a series of national demonstration sites to test solutions that are scalable and transferable and will implement shared data and systems integration policies to promote transparency across sites, companies, governments, researchers and the public.

## **Underpinned by capacity building, education and training.**

A 2018 Senate Inquiry into Mining Rehabilitation highlighted the lack of capacity to close mines as a challenge to both existing operations and future sector investment, CRC TiME will implement education and training programmes that focus on:

- capacity building for developing shared visions for post mine futures through community engagement;
- professional development in the integrated systems thinking required of future leaders; and
- development of skills required to integrate post closure outcomes into the workforce.

## **Linked to major industry and government priorities and initiatives**

In a letter of support, Tom Butler, International Council for Mining and Metals (ICMM) CEO states “Over the next decade many mines across the globe face closure making it an increasing priority for the industry, government and communities to understand and address the environmental, social and economic aspects of mine closure”.

In February 2019, the Commonwealth Government published a National Resources statement, identifying the need for:

- Regional environmental outcomes, and recognition of related export opportunities;
- Stronger, more engaged communities through mining transitions; and
- Long term mine rehabilitation and closure research and development

All Australian state governments reliant on mining are reforming processes to deliver better rehabilitation and mine closure outcomes, recognising mine relinquishment and post mine transitions as a ‘whole of government’ issue

### **Linked Australian Initiatives**

The ARC Industrial Transformation Training Centre for Mine Site Restoration (CMSR)

All centres within the Sustainable Minerals Institute at UQ (and key initiatives such as the social aspects of mine closure research consortium 2019-2021).

The WA Biodiversity Science Institute (bringing industry, government and research partners in WA together to co-develop rehabilitation research priorities)

The Australian Centre for Geomechanics and Mining3 (mining research centres)

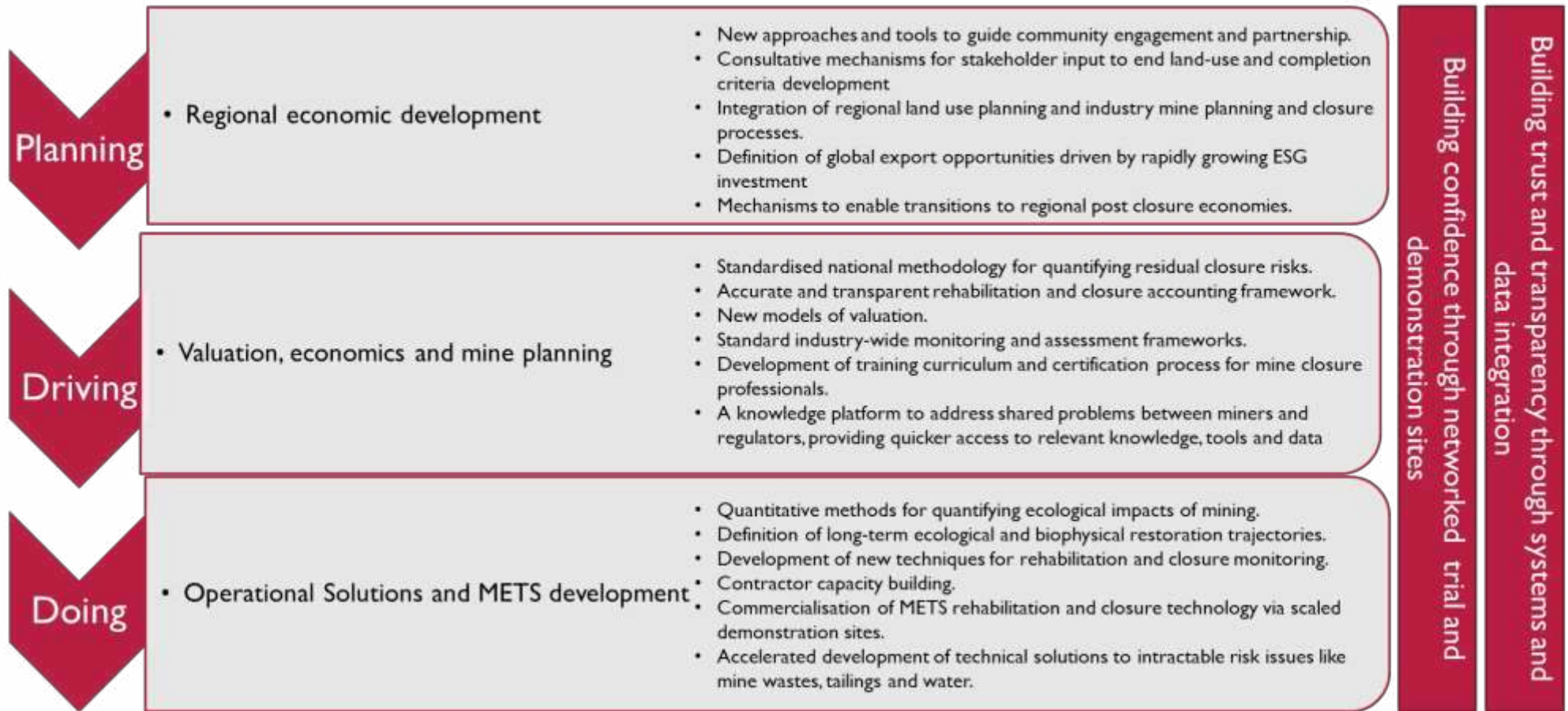
The National Centre for Groundwater Research and Training (ARC Centre of Excellence Program at Flinders University)

Research commissioned under the Australian Coal Association Research Program (ACARP) and Australian Mining Industry Research Association (AMIRA)

Coordination with other research investments in the mining value chain including:

- Waste and risk research in the CRC for Optimising Resource Extraction;
- Waste stream processing research within the Future Batteries CRC;
- Drilling and exploration activity within the MinEX CRC;
- Interoperability frameworks developed by the proposed MI4, if formed.

# PROPOSED PROGRAMME STRUCTURE



## Key Staff and Contacts

**Dr Bruce Kelley**

Chair  
Independent  
[bruce.kelley013@gmail.com](mailto:bruce.kelley013@gmail.com)  
0418 864 507

**Assoc. Prof. Guy Boggs**

CEO  
WA Biodiversity Science  
Institute/UWA  
[guy.boggs@wabsi.org.au](mailto:guy.boggs@wabsi.org.au)  
0434 976 124

**Prof. Anna Littleboy**

Research Director  
Sustainable Minerals  
Institute, University of  
Queensland  
[a.littleboy@uq.edu.au](mailto:a.littleboy@uq.edu.au)  
0419 884 048

**Prof. Fiona Haslam  
Mckenzie**

Programme Leader:  
Regional Economic  
Development  
UWA  
[fiona.haslam-  
mckenzie@uwa.edu.au](mailto:fiona.haslam-mckenzie@uwa.edu.au)

**Dr Bryan Maybee**

Programme Leader:  
Planning and Evaluation  
Curtin University of  
Technology  
[B.Maybee@curtin.edu.au](mailto:B.Maybee@curtin.edu.au)

**Assoc. Prof. Glen  
Corder**

Programme Leader:  
Operational Solutions  
Sustainable Minerals  
Institute. University of  
Queensland  
[g.corder@uq.edu.au](mailto:g.corder@uq.edu.au)