

INVEST IN GREATER CERTAINTY

The bid for a CRC for Achieving Sustainable Mine Closure

Lower cost | Greater certainty | Build social value



Investment in mining and post-mining projects requires certainty in order to make informed decisions about the associated risks and costs. The effective relinquishment of mine sites is a critical issue that is both complex, costly and currently hinders confidence and certainty in mining investments.

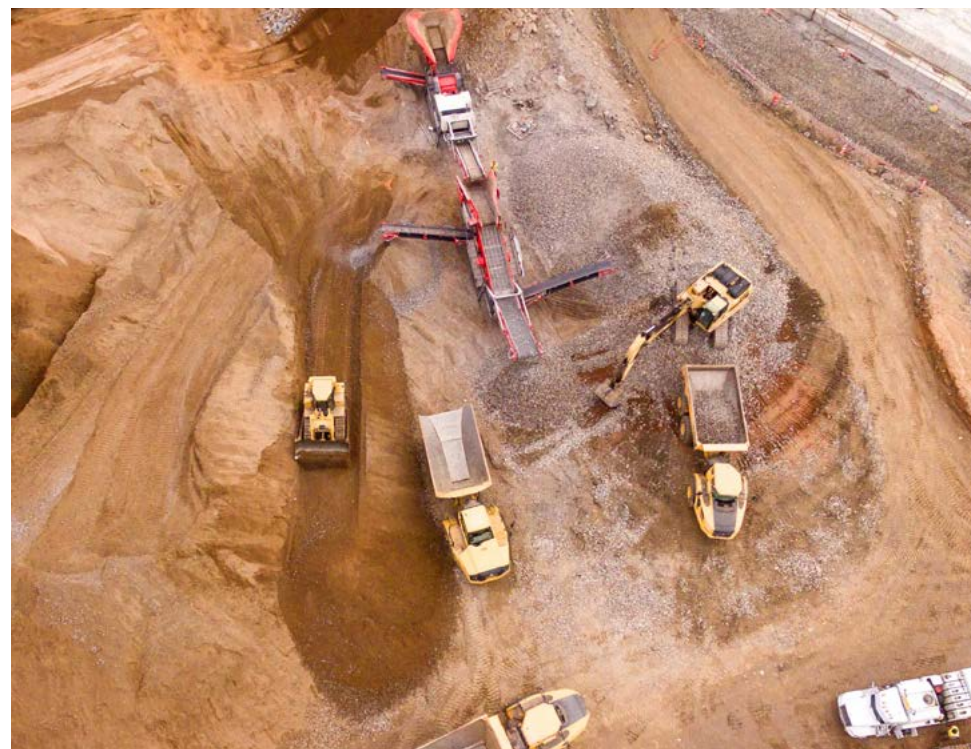
A national, collaborative partnership between industry, government and research is being developed to address end user issues that will boost investment as well as regional sustainability through mine closure. The partnership will enable Australian Mining Equipment, Technology and Service (METS) companies to capture the growing billion dollar global market in environmental restoration.

Addressing industry issues through a national partnership

Successful mine closure and relinquishment is a complex and expensive process; significant costs are associated with making the transition to a sustainable post-mining economy. Liabilities can amount to billions of dollars, in addition to other economic and social costs that are borne by industry, governments and communities. With only a few examples of successful mine closure, there is considerable uncertainty in closure-related investment, planning and decision making that ultimately impacts on investment in new projects and post-mining ventures.

The METS sector currently accounts for 15% of Australia's GDP, contributing \$236.8 billion in 2015/16 and supports 1.1 million jobs. To ensure its continued growth, innovation that helps develop new processes and technologies is critical to enable sustainable mine closure and inform strategic decisions. An investment in innovation will allow the sector to better adapt and remain globally competitive.

A 10-year research partnership in the proposed Cooperative Research Centre for Achieving Sustainable Mine Closure (CRC-ASMC) will bring together mining companies, METS sector, governments and communities to make a step-change that will enable the effective closure and relinquishment of mine sites while also driving innovation.





Delivering direct value to industry

National cooperation across industry, government and research is essential in addressing complex issues. A partnership that accesses leading capabilities and experience in bid management, will ensure that a high level of return on investment is delivered.

Greater certainty in decision-making for mining investment and relinquishment	Better closure options for miners and governments	Deliver community value beyond a mine's closure	Effective research partnerships for your business
<p>Reduce residual liabilities</p> <p>Quantify residual risk and improve approaches to reduce risk</p> <p>Connect rehabilitation investment with relinquishment certainty</p> <p>Sensing systems for real-time monitoring and prediction</p> <p>Nationally consistent approaches</p> <p>Achieve operational efficiency</p>	<p>Robust post-mining land use planning</p> <p>Early access to new and innovative products</p> <p>New techniques for plant establishment and ecologically resilient landscapes</p> <p>Technologies for stable and functional landforms and soils</p> <p>Innovative technologies for real time management of hazardous materials</p>	<p>Shared action to inform harmonised policy development</p> <p>Strengthen social license to operate</p> <p>Post mining economic development</p> <p>Develop talent and future leaders</p> <p>New community engagement tools</p> <p>Trial closure outcomes on preferred case studies</p>	<p>Direct access to leading research capability</p> <p>Embedded researchers linked to your priorities</p> <p>'Communities of Practice' across industry, government and research</p> <p>Eligibility for R&D Tax Credits (seek advice)</p> <p>Access to new local, national and global relationships</p>

Industry challenges drive research priorities and themes

Research themes in the proposed CRC-ASMC will develop solutions to the challenges that limit effective relinquishment of mine sites. It will bring together world leading research capability from across Australia to undertake collaborative research integrating multiple disciplines involved in mine closure.

A long-term dedicated research effort will produce significant gains in rehabilitation and closure practices. It will also drive innovation to bolster Australia's position as a preferred supplier to global markets and as a destination for investment, whilst building opportunities for regional sustainability.



PROPOSED RESEARCH THEME 1

Defining post-mining options

Community engagement, effective post mining land use planning and policy harmonisation

- Approaches to build confidence that community views are respected.
- Options to streamline approval systems that balance flexibility and certainty for investment.
- A broader range of next land-uses and re-purposing that can be investigated and facilitated.
- Balanced economic, social and environmental considerations of closure and post-mining options.

PROPOSED RESEARCH THEME 2

Quantifying and monitoring residual risk and uncertainty

Integrated data for better decisions

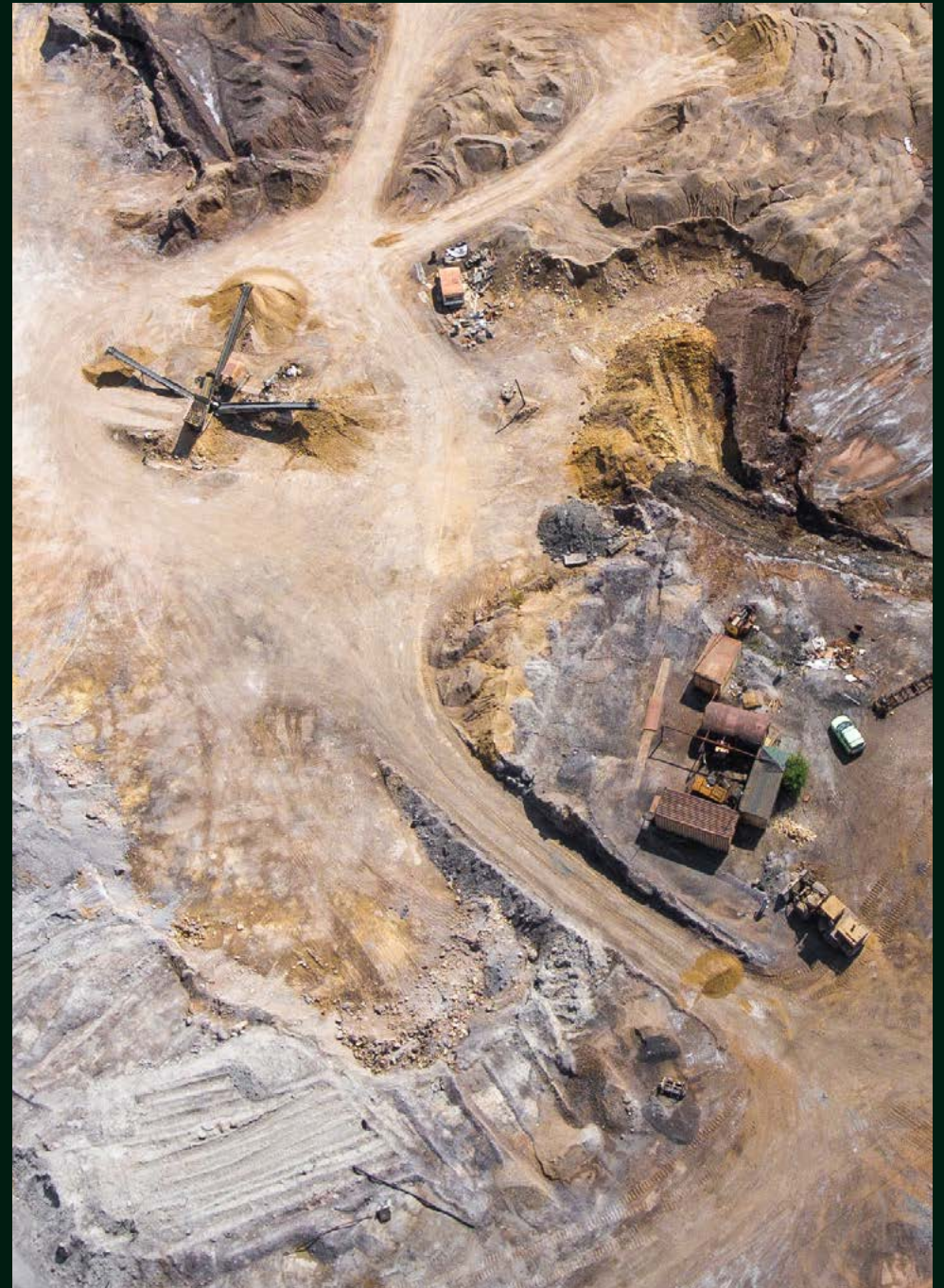
- An understanding of the interdependencies of actions throughout the life of the mine.
- An integration of operational practice and closure planning actions from approval to closure.
- A suite of decision tools, monitoring systems and technological options to optimise closure outcomes.
- Data science enabled approaches to basin and landscape planning and project approvals.
- Innovative technologies for real time management of hazardous materials.
- Certainty for all stakeholders.

PROPOSED RESEARCH THEME 3

Delivering post-mining futures

Risk-based progressive rehabilitation and repurposing

- Render mining waste safe and stable for the long-term.
- New solutions to make closed mines safe.
- Reduced liability and residual risk.
- Better long-term and fit-for-purpose values from the post-mining landscape.
- Integrated supply and value chains to build the environmental management and restoration economy.
- Sufficient confidence for final relinquishment.
- Nationally consistent approaches and methodologies for continuous life-of-mine rehabilitation and legacy site management.





A highly experienced bid management team

An experienced bid committee comprising key end user participants that represent mining companies, the METS sector and government will oversee the bid.

A research committee will access world-leading capabilities from the bid research partners to develop innovative solutions that address end user challenges.

A secretariat will undertake project management, stakeholder engagement and the development of the bid application. It includes members from: CRC CARE and University of Newcastle, University of Queensland, University of Western Australia, Economic Futures and the Western Australian Biodiversity Science Institute.

A list of key bid management contacts is provided at the end of this document.

Significant national support from industry, government, not-for-profits and research

INDUSTRY, GOVERNMENT AND NOT-FOR-PROFITS

FMG
Alcoa
Newmont
BHP
Rio Tinto
Emapper
Hanson
ICT International
Mining3
Roy Hill
Airborne Research South Australia
Rangelands NRM
Trees For Life
NSW Department Of Planning And Environment
WA Department of Biodiversity Conservation And Attractions
WA Department of Mines, Industry Regulation and Safety
WA Department of Water and Environmental Regulation
Greening Australia
The Western Australian Biodiversity Science Institute

RESEARCH

University of Newcastle
University of Western Australia
University of Queensland
University of Technology, Sydney
University of Adelaide
ChemCentre (WA)
Australian Genome Research Facility
Curtin University
Federation University
Murdoch University
Edith Cowan University
Charles Darwin University
Lancaster University (UK)
Cranfield University (UK)
Southern Cross University



A CRC supports industry-led collaborations

The Australian Government's CRC Program supports industry-led collaborations between industry, researchers and the community to:

- Improve the competitiveness, productivity and sustainability of Australian industries;
- Foster high quality research to solve industry-identified problems; and
- Encourage and facilitate small and medium enterprise (SME) participation in collaborative research.

Since its inception in 1990, the CRC Program has committed \$4.6 billion in funding, with the program able to match industry financial investment up to 1:1 for a ten-year period.

Applications for funding are generally called once per year and include a two stage process. Information about the application process is available at business.gov.au/CRC.

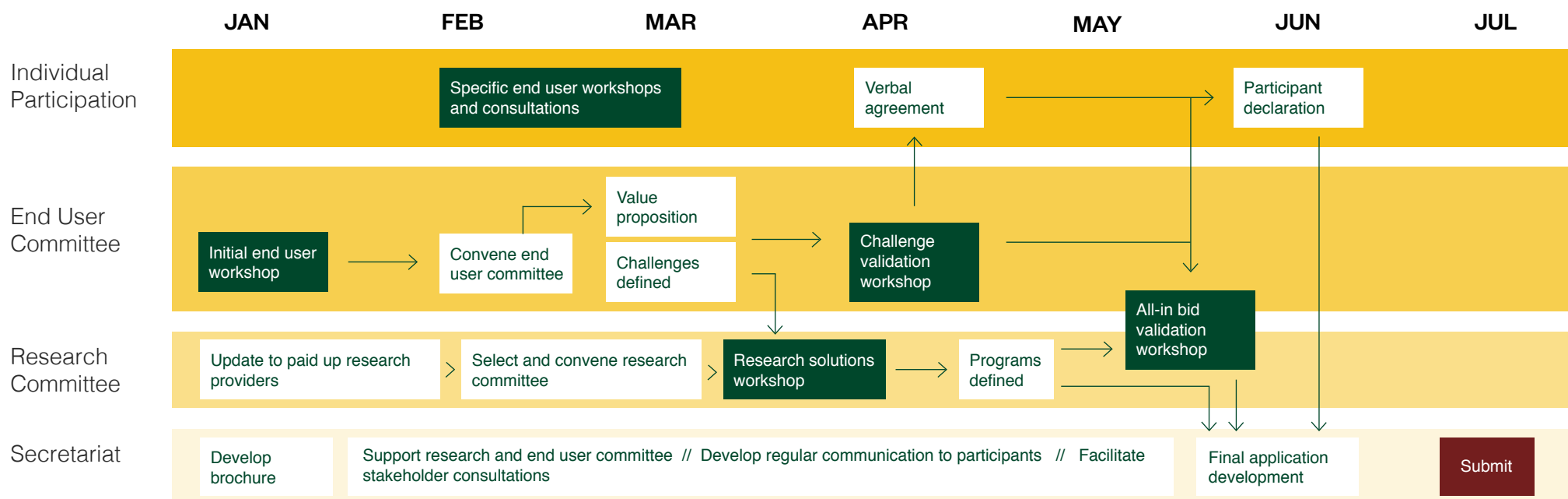
Developing a bid for the CRC-ASMC


The 21st CRC Selection round Stage 1 bid development process is currently underway and offers a significant opportunity to better understand the bid and contribute to the development of its value proposition.

Stage 1: Applications due mid-2019. If approved, progress to stage 2.

Stage 2: Submit a Stage 2 application (late 2019) and attend an interview with the CRC Advisory Committee (early 2020). This stage will include further consultation and participant engagement as part of the detailed application and business case development.

Outcome: Successful CRCs will be announced in 2020 and activity will commence in July 2020. In order to address the complexity of the challenges to be addressed by the CRC and provide long term solutions, the term of the CRC ASMC is proposed to be 10 years, dependent on final research project time lines.





Participate now: shape priorities that address your challenges

A number of participants have already indicated support for the bid. The greater the participation, the more competitive the bid will be.

Invitations are now open to participate in the CRC and to help develop the scope and priorities for research:

- Join anytime during the bid phase however, early participation offers the benefit of developing scope that directly addresses your particular challenges.
- Address your challenges and leverage your investment to achieve greater certainty in decision-making.

Choose the type and level of investment that suits your needs (indicative levels below):

- ☐ Small to medium enterprise: \$15,000 to \$100,000 per annum
- ☐ Large company: \$100,000 to \$300,000 per annum
- ☐ Government: \$50,000 to \$200,000 per annum
- ☐ Research organisation: \$100,000 to \$300,000 per annum

Contact the bid management team

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