



COPPER

to the **WORLD**

CONFERENCE **2021**

PRE-CONFERENCE REPORT



Government of South Australia
Department for Energy and Mining

INTRODUCING COPPER TO THE WORLD 2021

After the success of our virtual event in 2020, C2TW returns in-person this year at the Adelaide Convention Centre. The previous online conference attracted participants from around the world with almost half the attendees located outside of Australia. To maintain that global reach we will again stream all of the sessions live, simultaneously with the in-person event.

This year, we expand even further down the supply chain with a range of speakers representing each stage of the journey from copper mine to market. The Hon Dan van Holst Pellekaan MP, Minister for Energy and Mining, will open the conference with a number of exciting initiatives in South Australia. Georgina Hallett, Chief of Staff at the London Metal Exchange (LME), will outline the perspective of the world's largest metals exchange, while Flavia Tata Nardini of Fleet Space Technologies and Harrison Mitchell of RCS Global Group will both discuss the role of copper within the space sector and in the EV-led green transition respectively. The copper mining sector itself will be well represented with BHP Olympic Dam Asset President Jennifer Purdie among the keynote speakers. Here in South Australia specifically there has been a 'copper rush' over the last year with a number of significant exploration results released to the market and we're really looking forward to hearing more about these new discoveries. We are also delighted to welcome Bloomberg Intelligence's Senior Analyst for Metals & Mining, Yi Zhu, who will offer an overall insight into the global copper market.

With nearly two thirds (65%) of our 2020 event poll claiming that innovation and sustainability were the two areas where the South Australian copper sector can show global leadership, the event this year will feature several sessions looking at the sustainable copper production and demand for sustainable supply chains. How the copper sector itself is innovating and contributing to environmental and social responsibility through innovation will also be explored.

Continuing the theme of innovation, we are also delighted to announce that Dr Kathy Ehriq will be presented with the inaugural Roy Woodall Medal, for her many achievements not least her role in the emergence of Olympic Dam as a world class copper asset. The award itself commemorates the world-renowned earth scientist for his exploration achievements. Woodall's scientific approach to exploration, coupled with his use of the latest geological techniques, contributed greatly to the discovery of the Kambalda Nickel Field (1964), uranium at Yeelirrie (1971), and Olympic Dam copper-gold-uranium deposit (1975).

EXPLORATION. INNOVATION. COLLABORATION.

As well as a key moment to take stock of the copper market globally and here in Australia, the event on 31 August is also a major opportunity for the industry to convene and network. We are expecting over 300 guests and over 30 exhibitors to attend the event in Adelaide marking a significant return to the information sharing and networking that made the event a key date in the copper market calendar.

There is of course a risk of COVID disruption to the in-person event, but we hope to welcome you back to Copper to The World next month. In the meantime, we hope you find our brief copper sector primer interesting pre-reading.

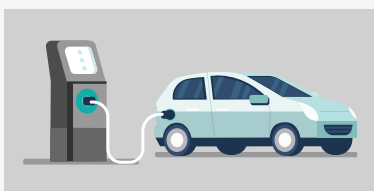
COPPER: THE CATALYST FOR INNOVATION AND THE CARBON NEUTRAL TRANSITION

A year on from our last event, the global economy is still grappling with the uncertainties of the pandemic recovery. Yet in the resources sector there are signs of real encouragement. In markets such as Australia the robustness of commodity exports has been a critical factor in underpinning the economy over the last year. And copper is part of this story.

Contrary to what many thought at the start of the pandemic, industrial innovation and the carbon-neutral transition have not stalled over the last year. In fact, the transition to a more efficient and more sustainable industry and economy has continued to accelerate – sustaining copper demand, and seeing it reach record highs through the first half of 2021.

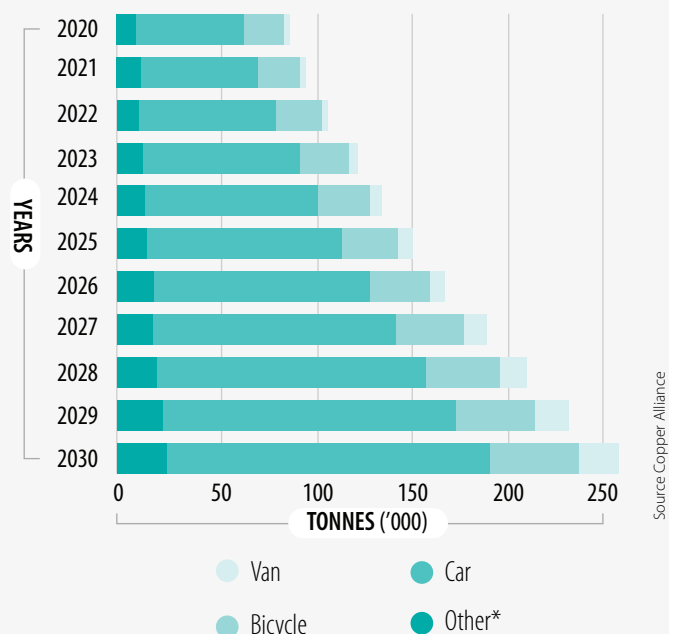
Copper is fundamental to the development of new renewable energy generation assets, green energy infrastructure and green mobility. And while the burgeoning electric vehicle market is often highlighted as a key driver of copper demand, other tech and industrial sectors are also playing a huge role. From 3D printing, to semiconductors, diagnostic devices and medical robotics. Wherever there is innovation there is copper.

The demand for copper from electric vehicles



By 2030, more than **250, 000 tonnes** of copper will be needed per year as part of the windings in electric traction motors in on-road electric vehicles.

*Other includes scooter, bus, motorcycle, trucks and three-wheelers



THE VIEW FROM AUSTRALIA

Australian copper exports grew from \$10.2 billion in 2019 to \$10.4 billion in 2020¹ reflecting sustained global demand. While halts linked to COVID slowed production in other countries in 2020, the medium and long-term prospects for production in Australia remain very strong. This trend is especially pronounced in South Australia which accounts for approximately a third of Australia's current overall national annual production (cathode & concentrate). The state also hosts 67 per cent of Australia's 93.3 million tonnes of economic demonstrated resources as of 2020².

The majority of these resources and production come from South Australia's renowned iron-oxide copper gold deposits including the world's fourth largest copper resource at Olympic Dam, and also Prominent Hill and Carrapateena. Miners at these sites continue to build on these strengths with OZ Minerals undertaking mine expansion plans at Prominent Hill and new mine Carrapateena, and BHP continuing to invest in sustaining multigenerational production from Olympic Dam's giant ore body. Advanced exploration and preparation for resource definition is also underway at BHP's Oak Dam IOCG copper project - one of the world's most significant recent copper discoveries.

Beyond established production, South Australia also has globally significant copper-gold deposits in the Gawler Craton and a range of copper deposits across the State including the Curnamona Province and Adelaide Rift Complex. The state also has exciting potential revealed by the recent discovery

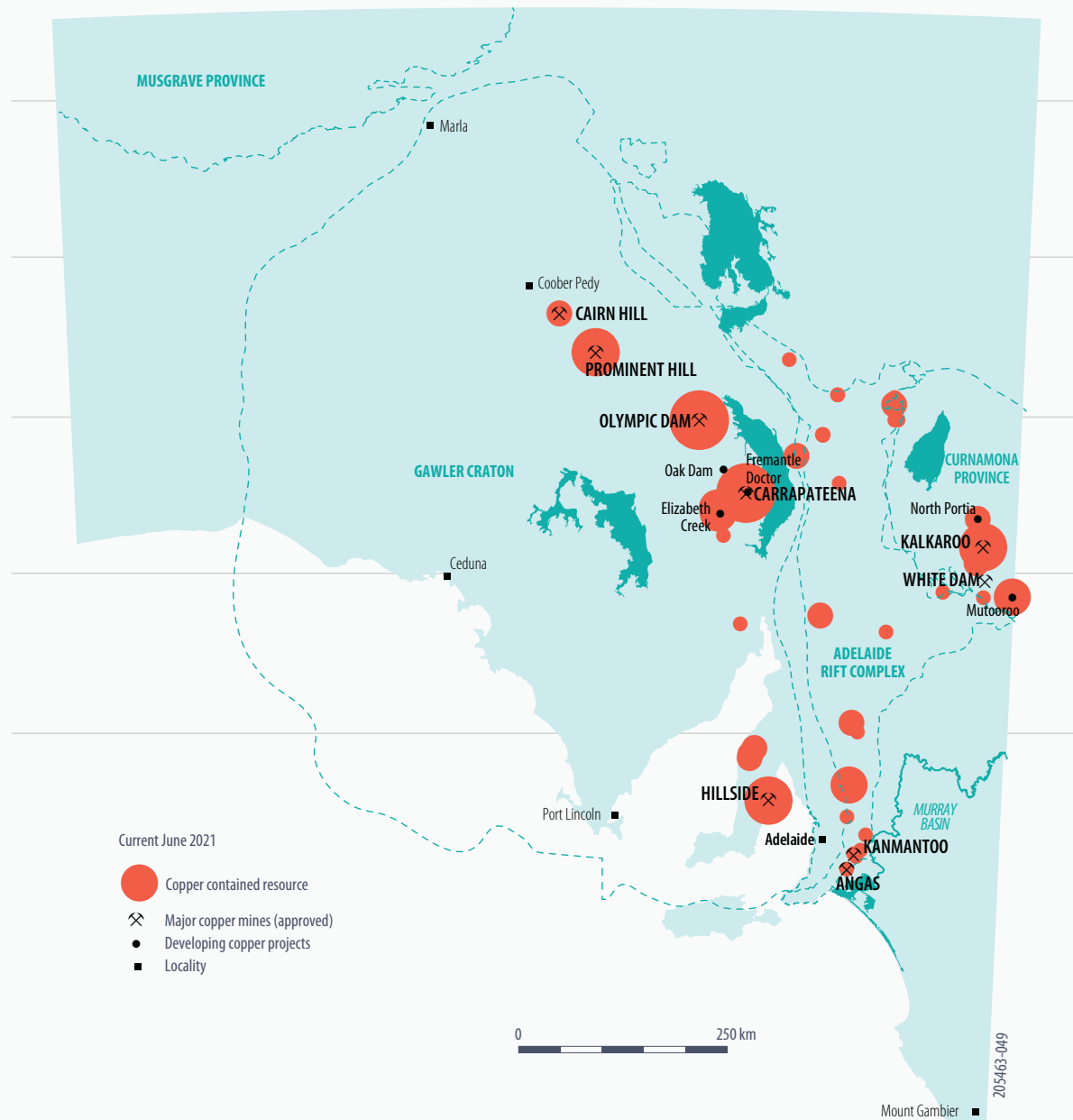
of nickel-copper sulphides in the western Gawler Craton by Western Areas. Finally, there is also emerging prospectivity for a range of other globally recognised copper styles including various types of sedimentary copper, ultramafic and porphyry hosted deposits. This range of diverse mineralisation across the State positions South Australia to be a significant actor in the future of the global copper market.

To broaden the discovery of these opportunities and narrow the search space for copper, the South Australian Government's Geological Survey of South Australia has recently formed a collaborative partnership with CSIRO to further investigate sedimentary copper and Accelerated Discovery Initiative (ADI) co-funding has been awarded to two companies to explore for Zambian style copper deposits in the far north of the State. A further 15 companies have been awarded ADI co-funding to shore up copper discoveries on South Australian soil for future global distribution.

¹ Australian Bureau of Statistics.

² Geoscience Australia.

COPPER MINES AND PROJECTS IN SOUTH AUSTRALIA



EXPLORATION

(positive drilling intercepts, assays or anomalies)

\$45.8 million

copper exploration in 2020

130 companies with 400+ EXPLORATION LICENCES for copper

ADVANCED PROJECTS

(JORC resource, feasibility studies underway)

\$2 billion

potential capital expenditure -11 projects

MAJOR MINES

(producing and exporting copper cathode & copper in concentrate)

272,886t
\$2.4 billion

Olympic Dam

Prominent Hill

Kanmantoo

Carrapateena



TARGET 1 Mtpa COPPER to the WORLD

FULL EVENT AGENDA AND REGISTRATION DETAILS

SPEAKER	PRESENTATION
Session 1: Global Copper futures – what’s driving value?	
Chair: Alex Blood, Executive Director, Mineral Resources, Department for Energy and Mining	
Hon Dan van Holst Pellekaan MP, Minister for Energy and Mining, Government of South Australia	Opening address
Dr Kristin Alford, Director, In Situ Foresight	Copper for our future – choose different perspectives
Yi Zhu, Senior Analyst of Metals and Mining, Bloomberg Intelligence	A post-COVID copper market - the medium-term global outlook
Harrison Mitchell, Founder and Chief Executive for Business Strategy, RCS Global	The emerging electric vehicle (EV) sector and its expectations for sustainable supply chains including copper
Georgina Hallett, Chief Sustainability Officer, LME Group	Copper values - creating a copper market fit for the future
Session two: Explore copper discoveries and technology	
Chair: Rohan Cobcroft, Director, Geological Survey of South Australia, Department for Energy and Mining	
Jennifer Purdie, Asset President, Olympic Dam, BHP	Sourcing the copper required for our copper future
Ian Gregory, Greenfields Exploration Manager, Western Areas	Sahara nickel-copper discovery: uncovering the mineral potential of the Western Gawler Craton
Sam Hewitt, Oak Dam Manager, BHP	BHP’s Oak Dam copper discovery update
Lachlan Wallace, Chief Executive Officer and Managing Director, Hillgrove Resources	Australia’s next copper mine
Chris Stevens, Chief Executive Officer, CODA Minerals	Exploring IOCG and Zambian style copper targets at Elizabeth Creek
Session three: Innovation to unlock copper value	
Chair: Kelly Keates, Managing Director, Zonge Engineering	
John Fennell, Chief Executive Officer, International Copper Association Australia	Innovation across the copper value chain - water, energy and emissions
Burkhard Seifert, Transformation Entrepreneur, OZ Minerals	Innovation driving value
Philipa Faulkner, Business Development Manager, EnviroCopper Ltd	Can innovations in ISR unlock the value of standard copper assets?
Flavia Tata Nardini, Chief Executive Officer and Co-founder, Fleet Space Technologies	Unearthing copper from space
Helen Kim, Production Support Metallurgist, BHP	Shredding through copper scrap stockpiles - a new recipe for success at Olympic Dam
Session four: Collaborate for our copper future	
Chair: Holly Bridgwater, Principal Industry Engagement, Unearthed	
Katie Hulmes, General Manager, Transformation and Readiness, OZ Minerals	It takes a village - industry perspectives for copper
Florence Drummond, Chief Executive Officer, Indigenous Women in Mining and Resources Australia	The complexity of Indigenous engagement and how we can build towards meaningful and sustainable practices together
Renee Hakendorf, National Innovation Hub Lead, CORE Innovation Hub	The hottest 30 technologist and entrepreneurs driving innovation in Australia



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The logo for the Copper to the World Conference, featuring a stylized white circular graphic with concentric lines and a central dot.

COPPER to the WORLD CONFERENCE

REGISTER AT energymining.sa.gov.au/C2TW

UPCOMING EVENTS

23-24 November 2021

Sedimentary Copper Workshop

25 November 2021

Discovery Day 2021

26 November 2021

South Australian Exploration and Mining Conference 2021 (SAEMC)

FOR FURTHER DETAILS energymining.sa.gov.au/events