South Australia on the world stage

Paul Heithersay
Deputy Chief Executive
Department of the Premier and Cabinet
Mineral and petroleum resources continue to deliver as one of the State’s major export sectors.

Contributing $3.6 billion (33%) to the State’s $10.9 billion exports in 2016.

Copper is the State’s major export commodity - worth $1.9 billion (17%) in 2016.
Mineral scorecard

**MINERAL & ENERGY RESOURCES**
Direct Measures 2016

- **Exploration Expenditure**: $170 million
- **New Capital Expenditure**: N/A 2016
- **Mineral & Petroleum Production**: $5.2 billion
- **Exports**: $3.6 billion
- **Royalties**: $208 million
- **Employment**: 10,598 people
- **GSP**: $3.7 billion

**MINING, EQUIPMENT & TECHNOLOGY SERVICES**
GSP Modelled FY2015

- **Exports**: $0.35 billion
- **Employment**: 12,510 people
- **GSP**: $2.8 billion

**TOTAL MER & METS IMPACT**

- **Exploration Expenditure**: $170 million
- **New Capital Expenditure**: N/A
- **Mineral & Petroleum Production**: $5.2 billion
- **Exports**: $3.95 billion
- **Royalties**: $208 million
- **Employment**: 24,108 people
- **Gross State Product**: $6.5 billion
Commodity Price Turning

Source: Aussie Mine 2016 - PWC

Aggregated market capitalisation of the MT50 Index 2007-2016

Source: Aussie Mine 2016 - PWC
Economic Priority: Unlocking the full potential of South Australia’s resources

Readiness for commodity cycle upswing – Cu, U, Fe, oil/ gas

Discovering Resources

Giving Confidence

Transforming Resources

Innovation for complex challenges

Urgent/ critical response to industry and community needs
Discovering
- Strategic global, local agreements, partnerships
- Investment Attraction
- PACE Copper and PACE Gas
- Copper Strategy and Magnetite Strategy
- South Australia Drill Core Reference Library

Giving confidence
- Consistent regulatory framework
- Mining Act review
- Energy Plan
- Business environment – tax reforms

Transforming
- PACE Supply Chain Development Program
- Mining Services Centre of Excellence
- Advanced Modular Solutions
- Resources Infrastructure T/F

Innovating
- Steel Task Force
- Port Pirie Transformation
International engagement and recognition

International Engagement

- Sernageomin, Chile
- Saskatchewan, Canada
- CGS, CNNC, China
International engagement and recognition

International Recognition

- Fraser Institute Survey of Mining Companies

- South Australian Resource Information Gateway – SARIG
  A modern digital platform delivering South Australian geoscientific and geospatial data
South Australia’s Copper Strategy

Vision
By 2030, South Australia will be the major contributor to Australia’s position as the world’s third-largest copper producer.

Objective
More than triple South Australian copper production to 1 million tonnes per annum (mtpa) by 2030.
Action Themes

- Accelerate exploration, **discovery** and information
- Develop **innovative** infrastructure, services and research
- **Engage** to build industry and community capacity
SA’s Copper Outputs 2016

290,862t
Production worth $1.84 billion

$20.2 million spent on Exploration activities

14Mt Reserves
91Mt Resources

contained Copper

Poland
Bulgaria
China
India
Vietnam
Taiwan
Thailand
Malaysia
Indonesia
Accelerate Exploration, Discovery and Information

Contained copper for major global copper deposits (calculated for resource).

South Australia, unlike other locations, has a huge gap between the largest and second-largest known copper deposit implying there is a good opportunity to find more giant deposits there.

Source: Data for Chile, Peru & USA; source SNL Metals & Mining. Data for South Australia; source Mineral Resources Division, DSD, Government of South Australia.
**Accelerate Exploration, Discovery and Information**

**PACE Copper**

"Once again SA is leading the way with the nation's the most innovative and industry-engaged government geoscience initiative."

Dr Richard Hills, Chief Executive, Deep Exploration Technologies Cooperative Research Centre

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**South Australia Drill Core Reference Library**
Copper Development Road Map / Proposed International Copper Technology and Research Hub
South Australia is leading globally significant R&D to reduce cost, improve operations and drive operational excellence.

Local researchers and suppliers are collaborating with local and international mine operators to commercialise technology which unlocks value.
Innovative Infrastructure, Services and Research

WEARLIFE PERFORMANCE CRC - boosting exploration and mine productivity through surface engineering and applied material science

Scantech and Consilium Technology - collaboration to improve mineral processing through Advanced Sensors and process optimisation utilising Machine Learning techniques
Copper Strategy Success Seminars

- Understanding social acceptance for mining
- Mineral development – government insights and tips
- Future of work
- Decision making for miners and explorers
- Leading your organisation in an age of disruptive technologies
To allow for the modernisation of the Mining laws to ensure South Australia stays a leader in adopting modern and efficient practices for exploration and mining activities.

Progress to date

- September 2016, Review commenced
- November 2016 - January 2017, Discussion Papers circulated
- March 2017, Community Consultation completed
- June 2017, Submissions made available to public
- June 2017, Government’s response to submissions
  - Fast Facts
  - 20 Policy Direction documents
Creating Future Opportunities

**PACE Copper Discovery**
Drilling 2016-17 successful proponents

**+400 Exploration Licences**
for copper

**2016**
290,862 t
$1.84 billion

**$20.2 million**
potential capital expenditure

**$2 billion**
2016

**1 Mtpa COPPER**
by 2030

**TARGET**

**Major Mines**
(producing and exporting copper cathode & copper in concentrate)

- Prominent Hill
  - 100,000 tpa in conc.

- Olympic Dam
  - 205,000 tpa cathode

**Advanced Projects**
(JORC resource, feasibility studies underway)

- Khamsin
- Kalkaroo
- Hillside
- Mutooroo
- Carrapateena

**Exploration**
(actively explored, positive drilling intercepts)

- Brownlow
- Mount Sarah
- Prospect Hill
- Arcona
- Mawson Copper
- Callabonna
- Yerelina
- Fowler
- Blue Well Dam
- Mount Denison
- Kallioota
- Kellira
- Woodmara
- Central Plains
- Coonaning
- Mount Woods
- Millers Creek
- Oak Dam
- 1000 East
- Oolongma Hill
- Caroline
- Vulcan
- Punt Hill
- Wirrina
- Acropolis
- Fremantle Doctor
- Titan
- Wirra Well
- Emmie Bluff
- Mars Aurora Tank
- Champion
- North Portia
- Hummocks

**Drilling 2016 - 2017 successful proponents**

22/03/2017-20/06/14
## Achievements to June 2017

<table>
<thead>
<tr>
<th>ACTION THEME 1: Exploration, discovery and information</th>
<th>2017 ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PACE Copper</strong></td>
<td>Complete PACE Copper airborne surveys and drilling programs and report results to industry and the geoscience community</td>
</tr>
<tr>
<td>✓ PACE Copper Discovery Drilling 2016-17 with 18 successful proponents targeting copper</td>
<td></td>
</tr>
<tr>
<td>✓ Gawler Craton Airborne Survey (34% complete) – one of the world’s largest high-resolution airborne geophysical programs aimed at regenerating mineral exploration in the Gawler Craton</td>
<td></td>
</tr>
<tr>
<td>✓ Coompana drilling (in progress) and gravity survey (released) to determine prospectivity of basement geology beneath the Nullarbor</td>
<td></td>
</tr>
<tr>
<td>✓ Other geoscientific data releases for exploration targeting (ongoing)</td>
<td></td>
</tr>
<tr>
<td><strong>World-class information exchange</strong></td>
<td></td>
</tr>
<tr>
<td>✓ The new release of the South Australian Resource Information Gateway (SARIG) won the South Australian Premier’s iAward 2017 for Public Sector Transformation (June 2017)</td>
<td></td>
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<tr>
<td><strong>Promote the new South Australia Drill Core Reference Library (SADCRL) at Tonsley</strong></td>
<td></td>
</tr>
<tr>
<td>✓ 200,000 metres of drill core material viewed by 900 explorers in the past year</td>
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<tr>
<td>✓ 63 events and industry forums including all Copper Strategy Success Seminars and International Copper Technology and Research Hub workshops</td>
<td></td>
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</tbody>
</table>
# Copper Scorecard

## Achievements to June 2017

<table>
<thead>
<tr>
<th>ACTION THEME 2: Developing innovative infrastructure, services and research</th>
<th>2017 ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic approach to copper research</strong></td>
<td>Develop opportunities identified in the Road Map</td>
</tr>
<tr>
<td>✓ International Copper Technology and Research Hub (ICTRH), Concept Report released (February 2016)</td>
<td>Finalise discussions with industry and researchers to establish ICTRH</td>
</tr>
<tr>
<td>✓ Copper Development Road Map to deliver Copper Strategy Theme 2 released (June 2017)</td>
<td>Implement program to improve collection of water information for resources sector</td>
</tr>
<tr>
<td>✓ Copper related programs at Institute for Mineral and Energy Resources, University of Adelaide, and Future Industries Institute, University of South Australia continue to be supported</td>
<td></td>
</tr>
</tbody>
</table>

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<th>National mining services</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>✓ Copper Strategy and South Australia Minerals and Energy Services Strategy linked to support development of a world class services supply chain for the copper industry</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Innovative infrastructure</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>✓ Workshops identified ideas to improve the collection and delivery of water information for the mineral resources sector</td>
<td></td>
</tr>
<tr>
<td>✓ Economic analysis of potential Gawler Craton Railway (completed)</td>
<td></td>
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</table>
## Achievements to June 2017

### ACTION THEME 3: Building industry and community capacity

#### Copper Strategy Success Seminars (CS³) delivered
- Social Acceptance and Mineral Development – CSIRO (May 2016)
- Government Insights; Tips for Mineral Resource Development (July 2016)
- The Future of Work (in conjunction with RESA September 2016)
- Better Decision Making (January 2017)
- Leading Your Organisation in an Age of Disruptive Technologies (in conjunction with RESA, March 2017)

#### Strengthening community engagement
- South Australian Museum copper exhibit (June/July 2017)
- Supported Stronger Partners Stronger Futures – Aboriginal engagement program and visits

#### Copper promotion campaign
- Presented at the CRU World Copper conference Chile (April 2016 and April 2017)
- Hosted Chilean Minister for Mineral Resources and re-signed the MoU (April 2016)
- Copper to the World Conference, Adelaide (June 27, 2017)

#### Addressing land access
- Leading Practice Mining Acts Review announced September 2016 and progressing

### 2017 ACTIONS

- Continue to build international profile and develop opportunities in South Australia’s copper industry
- Deliver four Copper Strategy Success Seminars
Disclaimer

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