**Workshop Summary: Assessing the impact of climate variability and change on mining in South Australia**

**CSIRO Climate Adaptation Flagship and Outback Communities Authority (OCA)**

20th June 2014, The Science Exchange, Adelaide

**Participants:**
The workshop enjoyed the participation of a broad range of mining stakeholder organisations including: mining companies (Santos, BHP Billiton, Oz Minerals and Adelaide Resources), utilities and infrastructure providers (Altona Energy, Flinders Ports), industry services (SACOME, Regnan), State Government/regulators (DMITRE, DEWNR, OCA), regional planning organisations (SA Arid Lands NRM, EPICCA, RDA) and climate adaptation specialists (CSIRO, SEED Consulting).

**Presentations**
Valuable information was provided by the following speakers:

**Nigel Long, Director, Corporate Social Responsibility, South Australian Chamber for Minerals and Energy (SACOME):** provided an overview of recent growth in the SA mining industry and the need to expand the mining infrastructure supply chains across the state, particularly rail and port.

**Catherine Way, Industry Development Manager, RenewablesSA, Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE):** gave an insight into renewable energy sources currently being taken up and of potential value to mining operations in SA in the future.

**Mark Howden, Chief Research Scientist, Climate Adaptation Flagship, CSIRO:** provided an overview of climate change projections for South Australia, what this may mean in practical terms for the mining industry, and the business case for proactive adaptation action.

**Rohan Hamden, Manager Climate Change Partnerships, Dept of Environment, Water and Natural Resources (DEWNR):** described the South Australian Government’s highly awarded Climate Change Adaptation Framework, which has a regional planning focus, involves high levels of community ownership, co-investment and shared risk between State and regional communities, and utilises a whole-of-government and adaptive management approach.

**Paul Claydon, Carbon Commercial Adviser, Carbon and Sustainability, Santos:** provided an overview of Santos’s approach to climate change adaptation including gas as a transition fuel, managing climate risks through an integrated governance approach, and practical case-studies of heat stress and flood risk management.

**Alison George, ESG Engagement Manager, Regnan:** explained the perspective of financial institutions – traders/hedge funds, lenders and ratings agencies, institutional investors such as super funds, and insurers. They are highly focussed on climate risk and adaptation management by companies. Poor performance in this area will result in an imputed cost to the company whether through higher interest rates and insurance premiums, discounted share price, or derivative trading
on projected losses. Alison also provided helpful information on what mining companies can do to manage their climate risk to not only improve business resilience but to satisfy the probing questions of financiers.

**Mark Siebentritt, SEED Consulting Services, Sustainability and Adaptation**: presented an empowering methodology, called ‘Adaptation Pathways’, that diverse organisations and communities can use to manage climate change adaptation.

**Small and large group discussions**
A range of Sector tables (mining companies; infrastructure/utilities/mining services; governance) and later, mixed-sector tables, were convened to discuss issues around management of past and future climate risks and adaptation options. Whole-group discussions were then held on future system planning and emerging lessons.

Some interesting points to come out of these discussions included:

- Extreme heat events and flooding appear to be the principal risks, with bushfires, lightning strikes, high winds, storm surge and drought also mentioned.
- Due to minimal infrastructure in rural/remote areas there can often be reliance on only a single ‘service line’ (road, railway line, power line, gas or water pipeline) that when cut can have severe impacts over large geographic areas, take months to repair and thus incur significant costs across the supply chains of numerous organisations.
- Adaptation options suggested to reduce climate change impacts on the South Australian mining industry include:
  - dry processing of mineral ores
  - investment in technology and infrastructure
  - upgrading infrastructure design standards
  - improved management (monitoring, modelling of scenarios, workforce planning)
  - greater community/stakeholder engagement to understand resource competition and potential for sharing/co-investment
  - more alternatives/redundancy/duplication in infrastructure in case the main line gets cut
  - requiring that climate change risk and adaptation options be considered in development applications
  - greater integration between different agencies and levels of government, particularly around:
    - land-use planning, and
    - cumulative impacts of multiple developments/operations
- There is a great need for leadership in this space, however this may not come from government; rather, leadership may need to come from within the ‘system’ – mining companies, other industry stakeholders, local/regional bodies.
- Leaders of industry, the various supply chain participants and regional communities, working collectively, can have quite a powerful influence on government.
- The market (financial institutions, consultants), technology leaders and the legal system (litigation) will also be major drivers of change.

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