

The New Mineral Exploration Cooperative Research Centre

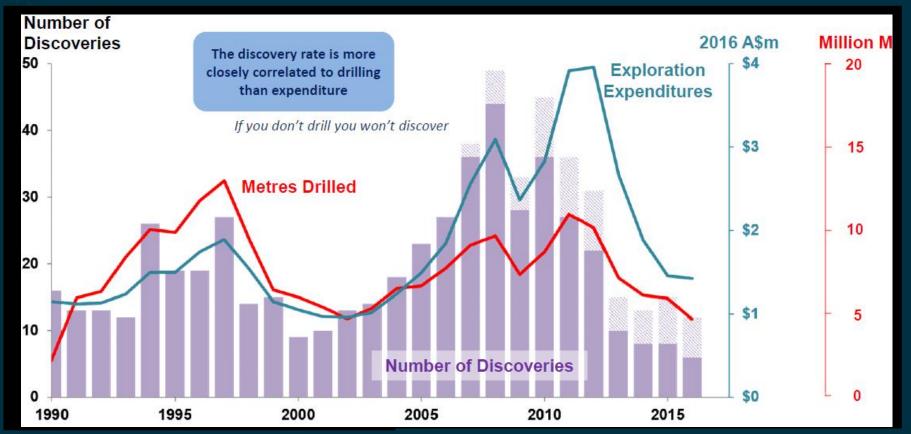
Dr. Chris Pigram
Chairman
MinEx CRC

SMFDG



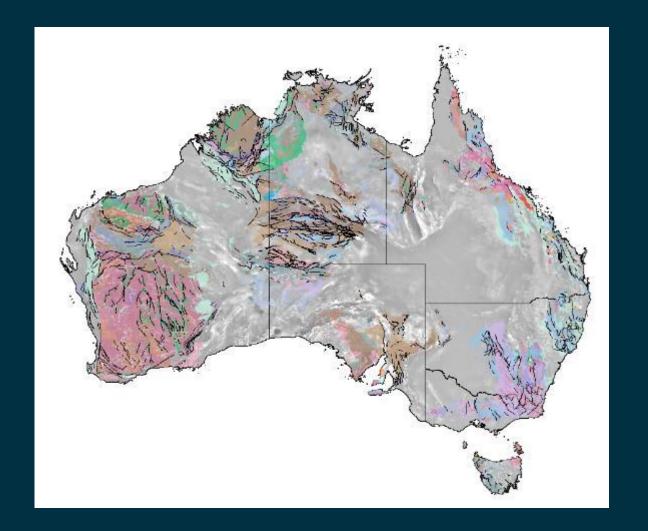
Australian Exploration

Number of discoveries versus exploration spend and metres drilled



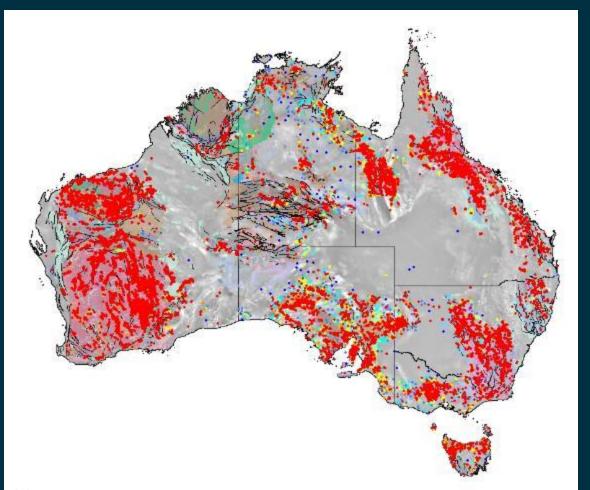


Prospective rocks continue under cover





We have only explored the exposed provinces

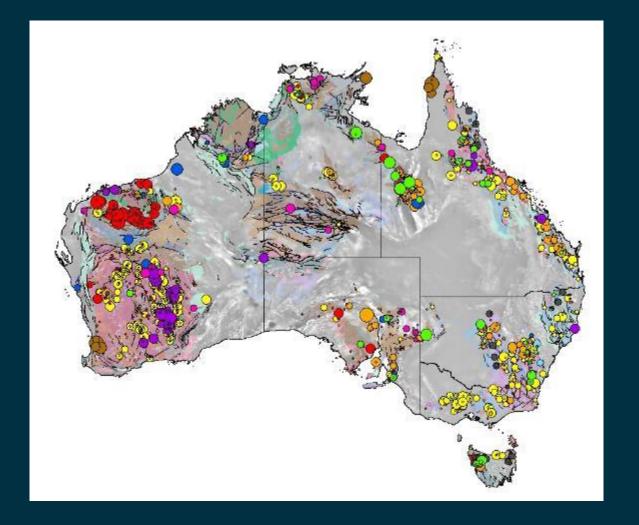


Open file drilling

Coloured for proximity to nearest neighbour

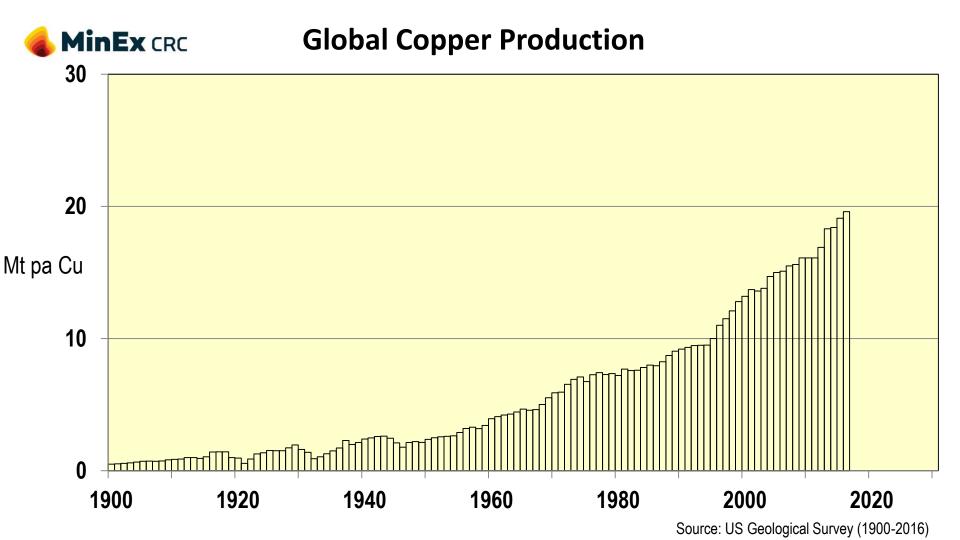


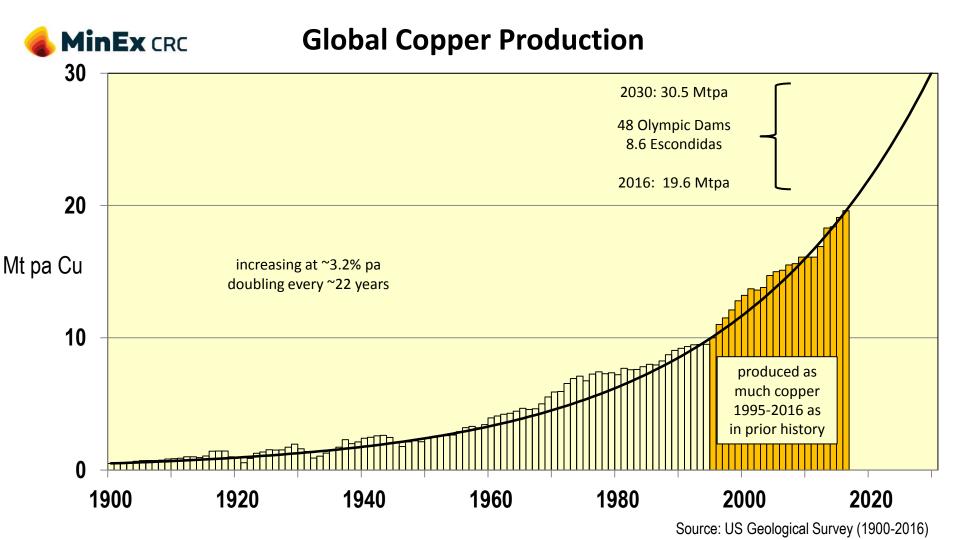
Where we drill we discover!

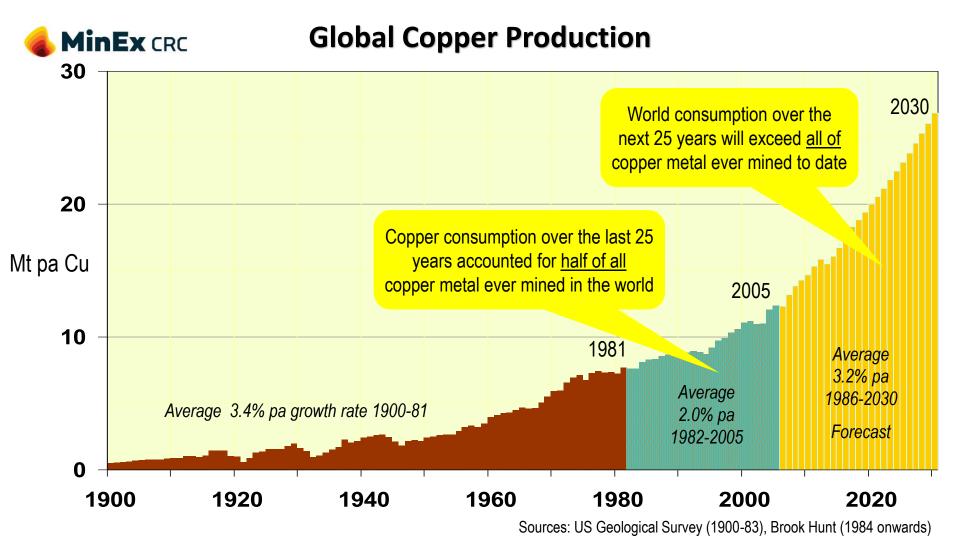


Known mineral deposits

By size and commodity

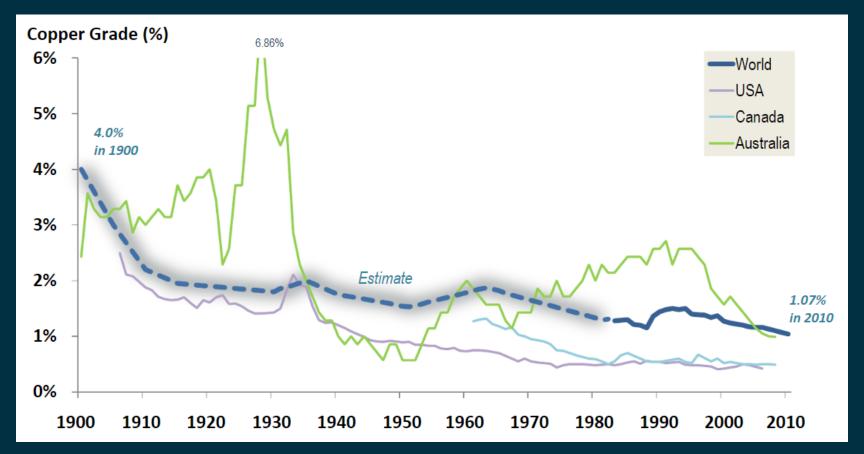








Copper Grades





Industry Led Agenda

- More efficient drilling technologies to drill more holes
- Collect and interrogate data while drilling to inform decisions
- Drilling deployments to optimise technologies and uncover new mineral provinces





Broad base, significant size

33 Participants contributing:

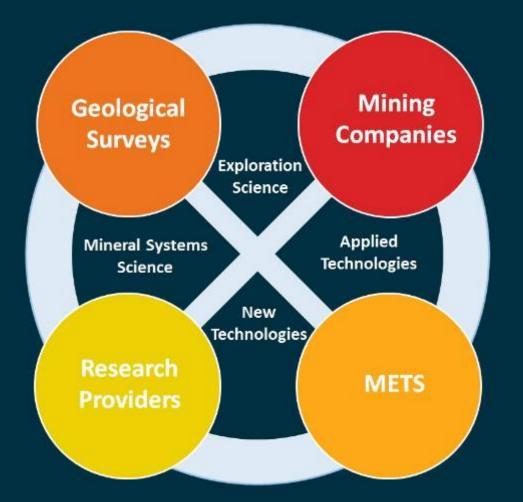
- \$41.1M cash
- \$49.2M non-staff in-kind
- 311 FTE (\$77.6M equivalent)

\$50.0M CRC Program funding*





MinEx CRC
Internal Stakeholders





Majors, Mets and Survey Participants (16)





































































Research Participants and Affiliates (16)



Participants and Affiliates





Providing for the Future

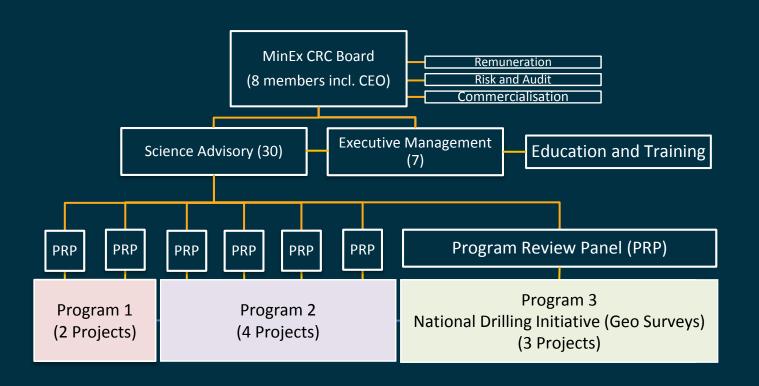
Unique mix of Post grad training and Vocational & Educational Training (VET)

- 50 PhD's
- 200 VET
- 7.5% of budget





Governance and Structure





Programs and Projects

Program 1 **Drilling Technologies**

Project 1

Drilling Optimisation

and Automation

Project 2

Coiled tubing drilling for definition of mineral deposits

Program 2 **Data from Drilling**

Project 3

Real-time downhole assay

Project 4
Petrophysical logging while drilling

Project 5
Seismic in the drilling
workflow

Project 6
Automated 3D modelling

Program 3

National Drilling Initiative

GA GSSA

GSNSW

GSWA

Project 7

Maximising the value of data and drilling through cover

Project 8/9 **Geological architecture and evolution**

Project 10

Targeting Mineral Systems in covered terranes



New Technology

CT rig video



Budget Summary

| Head Office (\$1.25Mpa): | \$12.5M |
|---|---------|
| Opportunity Fund (7.5% CRC Prog. Funds) | \$3.75M |
| Education (7.5% CRC Prog. Funds) | \$3.75M |
| Drilling and Program Co-ordination | \$2.5M |
| | |

\$22.5M \$68.6M **Balance for Programs**

TOTAL CENTRAL COSTS



10-Year Goals

- Australia re-established as the preferred destination for mineral exploration investment
- METS sector thriving taking uncover exploration tools and techniques to the world
- Next generation of professionals and drilling experts trained



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Budget Summary

For Program 1 and 2

Participants nominate involvement at \$500K per project

Minimum 4 projects for major miner, no minimum for METS

CRC Program cash leveraged @ 71% of participants cash

Projects budgeted over 9 years (3 x 3 year projects) aiming to commenced 1 Jan 2019



Budget Summary

For the NDI (Program 3)

GA, GSSA, GSNSW, GSWA and GSV contribute \$23.5M Managed by the surveys in "NDI Implementation Projects"

CRC Programme cash leveraged into "NDI Research Projects" @ 71% participants cash = \$16.7M

Research projects budgeted over 9 years (3 x 3 year projects) aiming to commenced 1 Jan 2019

Annual budget of \$1.856 Mpa