



**energia**  
minerals limited

ABN 63 078 510 988

ASX Code: EMX

# Developing a high-grade zinc project in Italy

Alexander Burns, Executive Chairman – 2 December 2015



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# Company Highlights

- Experienced Board led by Alexander Burns (Sphere Minerals) and Kim Robinson (Kagara/Forrestania Gold)
- 100% ownership of “company-maker” Gorno Zinc Project, northern Italy
- Well-funded exploration program
- Potential rapid payback in a mining-friendly jurisdiction
- Underground resource definition drilling underway at Gorno – initial JORC Resource and Scoping Study due in March Quarter, 2016
- Leveraged to zinc and uranium



# Projects Overview

## ZINC – Italy

- **Gorno (100% owned)**
- Predil (application)
- Salafossa (application)

## BASE METALS (Australia)

- Paterson
- McArthur

## URANIUM (Applications)

- Nyang (Australia)
- Val Vedello (Italy)





# Board & Management Team



## Alexander Burns – Executive Chairman

- Former MD of Sphere Minerals Ltd from 1998-2010 - focused on large scale iron ore projects in Mauritania; acquired by Xstrata PLC in Nov 2010 for \$514M cash
- Former Chairman of Shield Mining Ltd from 2006-2010 - Gold and base metals exploration in Mauritania; acquired by Gryphon Minerals Ltd in 2010 for \$26M scrip



## Kim Robinson – Managing Director

- Past Executive Chairman of Forrestania Gold NL and Kagara Ltd, past Chairman of Carbon Energy and Apex Minerals and past Director of Jubilee Mines
- Part of the team that developed the Bounty and Mt McClure gold mines; Kagara's numerous copper and zinc mines in North Queensland; the Wiluna gold mine; Cosmos and Lounge Lizard nickel mines
- Part of the team that discovered the Bounty gold deposit, Maggie Hays nickel deposit, Emily Ann nickel deposit, Cosmos nickel deposit and the Lounge Lizard nickel deposit



## Max Cozijn - Finance Director

- Over 30 years' experience in the administration of listed mining and industrial companies, as well as various private operating companies
- Current director of Oilex Ltd and Jacka Resources Ltd



## Marcello Cardaci - Non-Executive Director

- Partner of Gilbert & Tobin's Corporate Advisory Group. Advises on a range of corporate and commercial matters including public and private equity fund raisings and public and private mergers, acquisitions and divestment



## Graeme Collins – Director of Operations

- Former Chief Operating Officer of Kagara Ltd from 1999-2010
- Developed Mt Garnet Zinc Project; growth from a junior to a \$1.2 billion multi-mine base metals producer
- Former General Manager of Operations of Wolfram Camp Mining Pty Ltd to 2014 - managed a wolframite mine in Queensland

# Corporate Information

## Capital Structure

Share Price (as at 30 November 2015)	<b>\$0.034</b>
Shares on Issue	<b>609M</b>
Market Capitalisation	<b>\$20.7M</b>
Cash at Hand (as at 30 September 2015)	<b>\$4.3M</b>
Listed Securities at Market Value (as at 30 November 2015)	<b>\$7.7M</b>
Enterprise Value	<b>\$8.7M</b>
Unlisted Options ( \$0.05 - \$0.30 Exercise Price )	<b>40.5M</b>



## Top 10 Shareholders

Shareholder	Million Shares	% of Total
*Alexander Burns <small>(direct and indirect)</small>	139.8	23.0
Zero Nominees Pty Ltd	71.8	11.8
*Marcello Cardaci <small>(indirect)</small>	25.3	4.2
Jetosea Pty Ltd	22.1	3.6
*Kim & Jennifer Robinson <small>(direct and indirect)</small>	20.2	3.3
SHL Pty Ltd	17.0	2.8
J P Morgan Nom Aust Ltd	13.6	2.2
John Barry Roberts	11.7	1.9
Cairnglen Inv Pty Ltd	9.5	1.6
Rentier Inv Pty Ltd	8.0	1.3
<b>Total Top 10 Shareholders</b>	<b>339.0</b>	<b>55.7</b>

\*Total directors and associates holdings – 185.3M shares (30.5%)

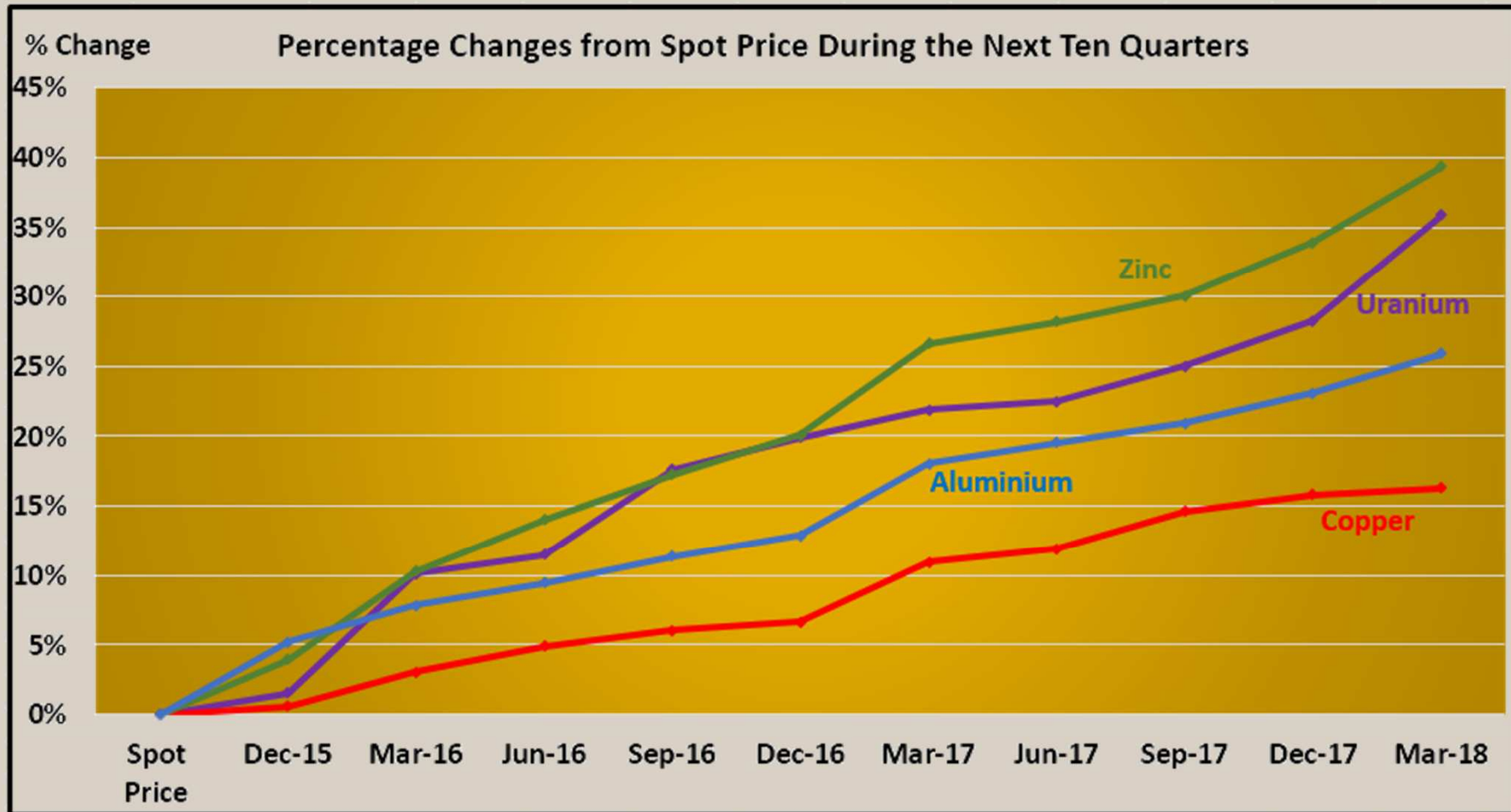
# Strong Zinc Market Fundamentals

- Zinc market in deficit to the tune of 250,000 tonnes in 2014
- Additional 3.0 - 3.5Mt of zinc-in-concentrates needed for the next 5 years to meet forecast demand and balance current deficit
- Century and Lisheen mine closures to remove 600-700kt per year with Skorpion zinc oxide mine (250kt) closure due in 2017
- Current low prices expected to result in more closures or reduced production (e.g. Glencore's recent announcement of a 500kt reduction and other industry commentary)
- Market can only be balanced by higher Chinese mine production (highly unlikely because of more stringent environmental and safety requirements together with increasing costs), further draw-downs from metal stocks and yet-to-be-approved new mining projects
- To meet demand, Chinese mine production would need to increase by 2.0 - 2.5Mt of zinc over next 5 years (450-500kt per year on average)
- Zinc market fundamentals remain strong and continue to improve





# Consensus Forecasts

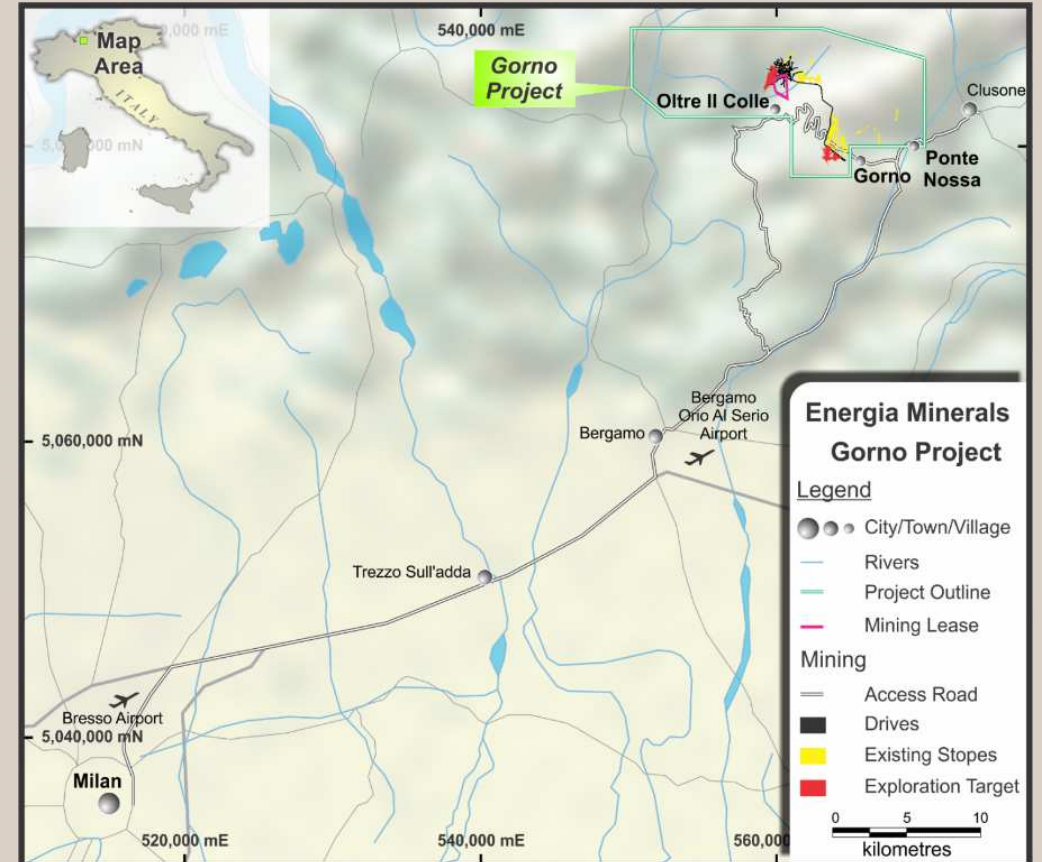


Source: Energy & Metals Consensus Forecasts, Survey Date – 19 Oct 2015



# Gorno Zinc Project – Location

- One hour drive from Bergamo and two hours from Milano
- Historical mining region in Northern Italy (+2,000 years)
- Gorno is the “Sister City” of the town of Kalgoorlie



# Gorno Zinc Project – Historical Exploration

- Historical high-grade zinc mine dating back to Celtic days with established access to unmined areas with near-term development potential
- Italian multi-national corporation ENI was preparing to mine the Colonna Zorzone deposit before closing down its worldwide base metal and uranium operations in the early 1980's





# Gorno Zinc Project – Historical Exploration

- Access via 230km of underground development to “walk-up” underground drill targets
- Unmined grade control percussion intersections in area of current drilling including:
  - 11.5m @ 13.0% Zn+Pb; 21m @ 10% Zn+Pb; and 9m @ 11.1% Zn+Pb
- Deepest intersections on Colonna Zorzone at 600 level of:
  - 11m @ 6.6% Zn+Pb; 11m @ 10.5% Zn+Pb; and 9m @ 11.1% Zn+Pb





# Gorno Zinc Project – Pathway to Restart

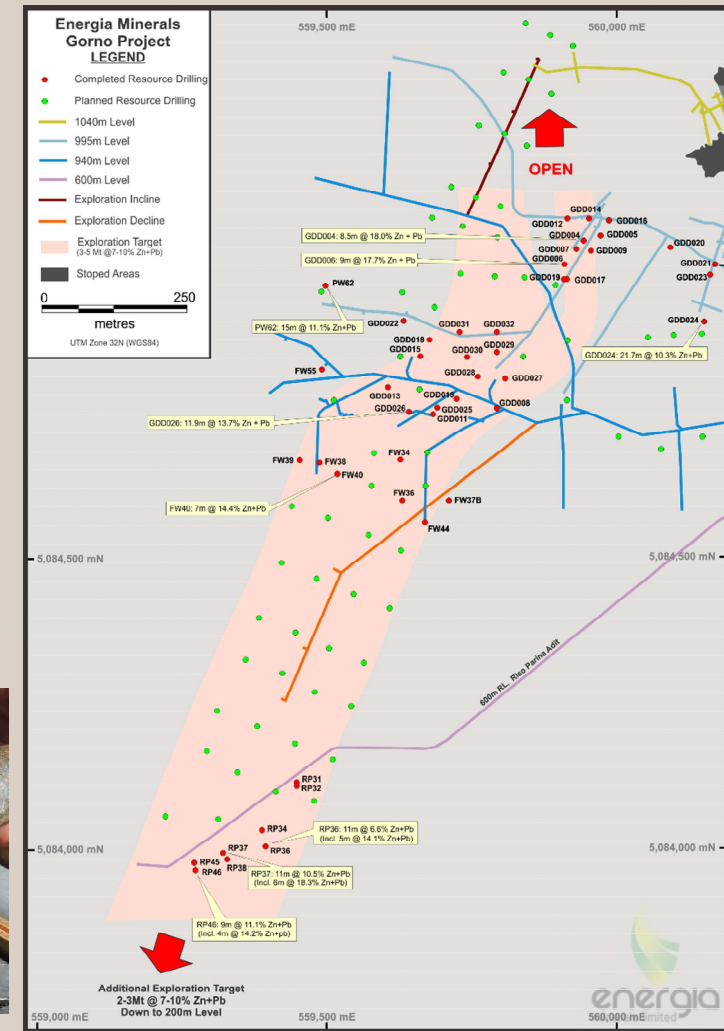
- Extensive high-grade MVT mineralisation:
  - Extensive mineralised system
  - 6Mt of ore averaging 14.5% Zn+Pb mined historically since the 1890's compared with global average of 3-4% for MVT deposits currently being mined
  - Initial Exploration Target<sup>1</sup> of 3-5Mt at 7-10% Zn+Pb at Zorzzone
- Accelerated development strategy assisted by
  - Granted Mining license
  - Strong regional and local support
  - Low capital costs given historical operations
  - Minimal ground water and no uphill haulage required
  - Well-established haulage routes
  - Excellent metallurgical characteristics



<sup>1</sup>An exploration target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if future exploration will result in a Mineral Resource Estimate being defined. Largely based on 4 historical holes at the 940RL averaging 5.6m @ 8.6% Zn+Pb and 5 drill holes at the 600RL averaging 5.6m @ 10.9% Zn+Pb with no drilling as yet between the two levels.

# Gorno Zinc Project – Exploration & Resource Drilling

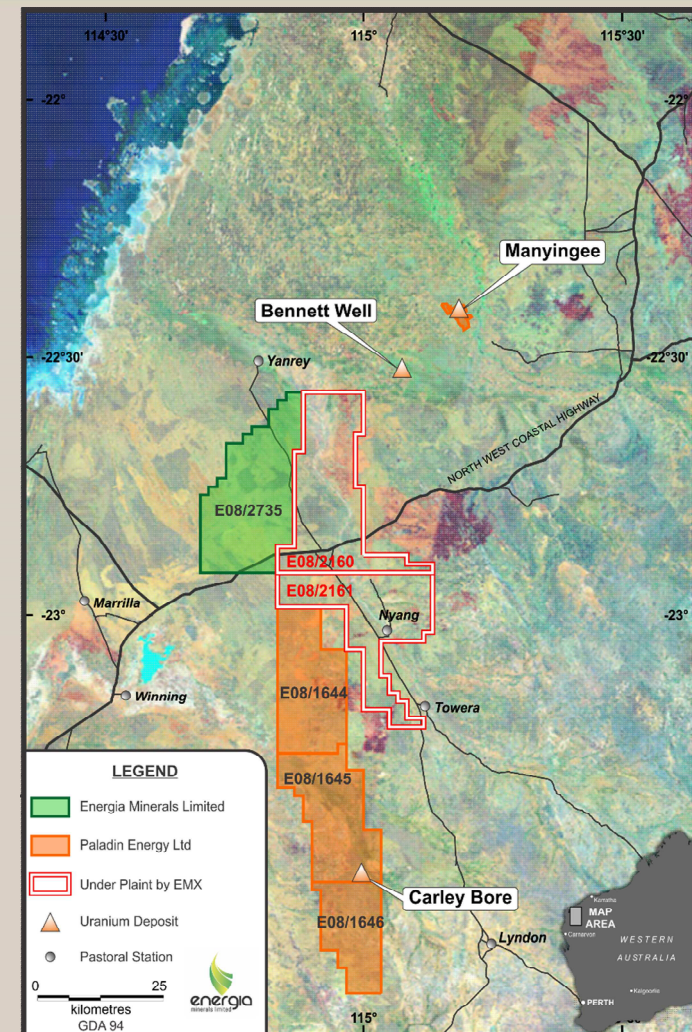
- Underground refurbishment well advanced
- Exploration and resource diamond drilling underway:
  - 24 diamond drill holes completed in Colonna Zorzzone
  - Drilling program expanded to in excess of 10,000m to elevate resource to Indicated status between 900 and 990 levels
  - Potential extensions to Zorzzone identified in GDD024 with recent intersection of 21.7m grading 8.13% Zn, 2.2% Pb, 51g/t Ag
- New Exploration Decline to access additional drill-sites commencing shortly
- Initial JORC Resource and Scoping Study to be completed in Quarter 1 / 2016





# Nyang Project

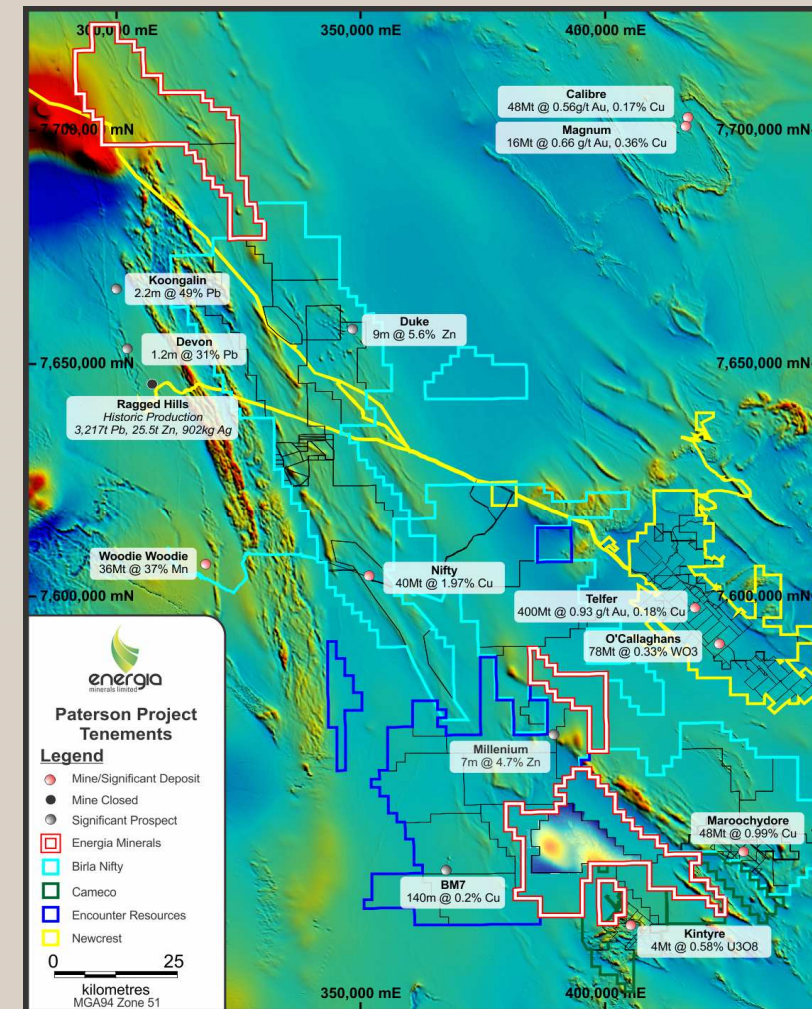
- Strategic tenement application E08/2735 located between Paladin Resources' Manyingee and Carley Bore ISR uranium deposits in the Carnarvon Basin uranium province in WA
- As a result of EMX's sale of Carley Bore to Paladin Energy, the economics of a combined Manyingee and Carley Bore project containing 41Mlb  $U_3O_8$  have improved significantly – potentially bringing forward production
- E08/2160 and E08/2161 are currently under plaint by EMX for serious under-expenditure:
  - An Expenditure Exemption applied for by Cauldron Energy has been refused by the Warden's Court
  - Cauldron have appealed the Warden's decision and the appeal is currently being considered by the Minister of Mines and Energy





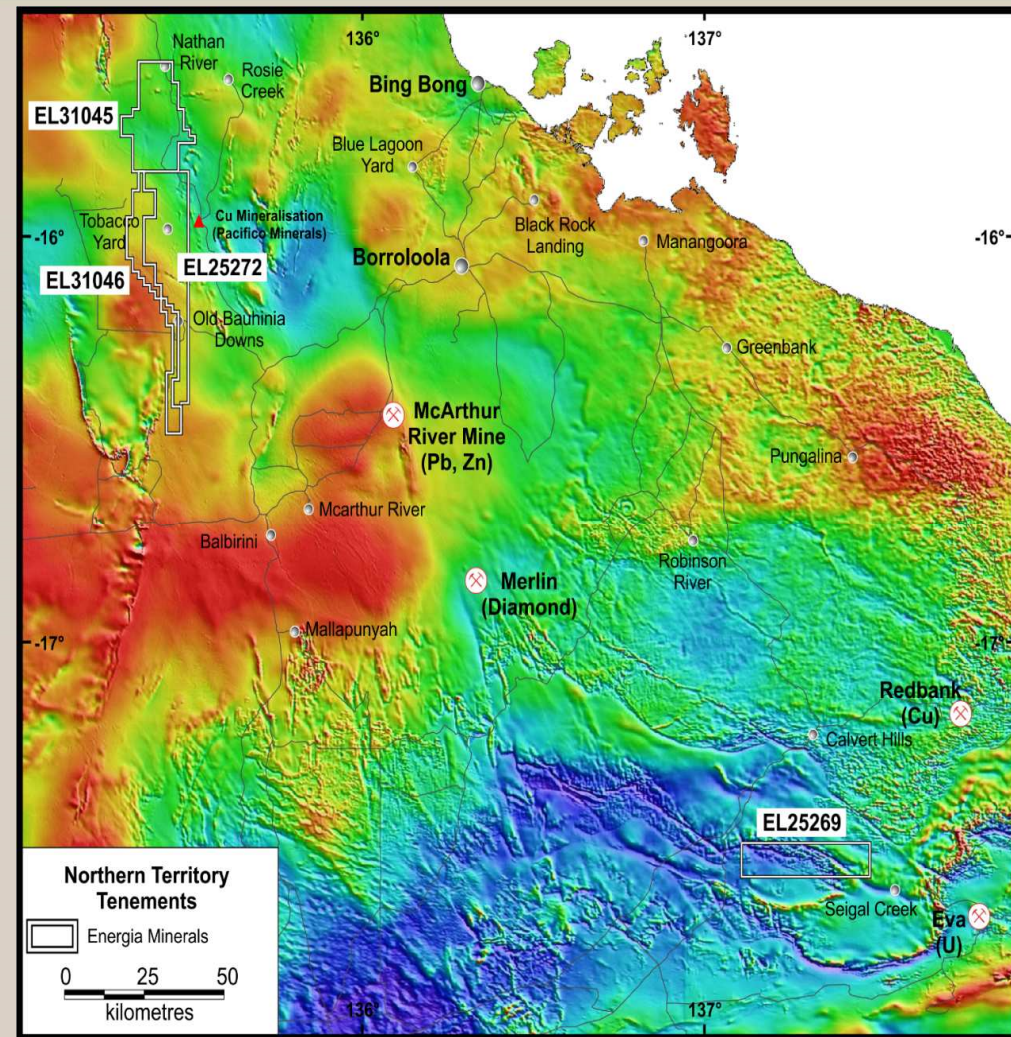
# Paterson Project

- Strategic initiative in the emerging Paterson Province in the Eastern Pilbara region of Western Australia
- One granted tenement and six applications totalling 1,422km<sup>2</sup> – prospective for base metals and uranium
- Area contains several world-class deposits – Telfer, Nifty and Kintyre
- Recent zinc discovery (70m @ 2.3% zinc) by Encounter Resources at Millennium



# McArthur Project

- Three tenement applications totalling 1,244km<sup>2</sup> covering the western margin of the McArthur Basin in the Northern Territory over a 100km strike length
- The Barney Creek Formation, which hosts Glencore's McArthur River Mine and Teck's Teena zinc deposit, dips to the west at shallow depth beneath EMX's tenements
- Area contains numerous small historical mines with grab samples up to 41% Cu, 668g/t Ag
- Historical intersections of 8.3m @ 2.66% Pb, 18g/t Ag and 6m @ 0.27% Pb from very limited drilling
- Pacifico Minerals' Coppermine Creek copper discovery (4m @ 4% Cu) is located 3km to the east of the tenements





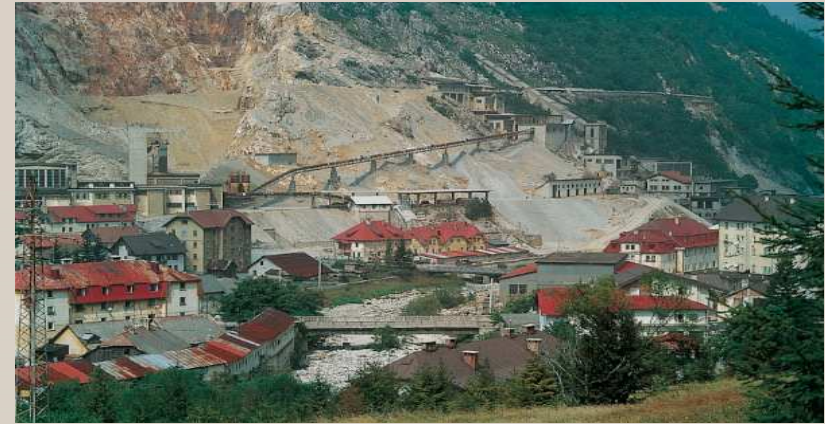
# Other Italian Projects





# Salafossa & Predil Zinc Deposits

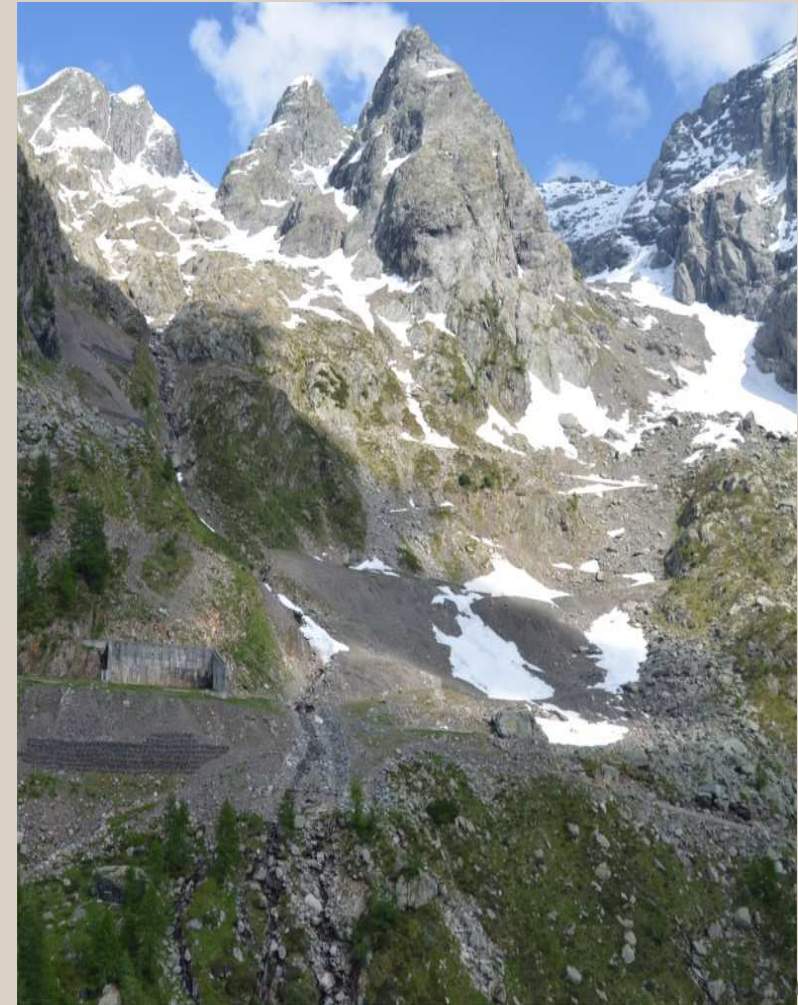
- Applications over two historical zinc-lead mines in the far north-east of Italy, ~400km by road from Gorno Zinc Project
- Predil (see top photo) is estimated to have produced 30Mt of ore grading 5.0% zinc and 1.2% lead (1.9Mt of contained Zn+Pb) and was producing approximately 50,000tpa of zinc and lead concentrates at the time of its closure:
  - Concentrates were transported to Gorno and treated through the Ponte Nossa Refinery which still operates today
  - Deposit remains open at depth
- Salafossa (see bottom photo) is located north of the town of San Pietro di Cadore and within 7km of the Austrian border and produced 10.95Mt of sulphide ore grading 5.0% zinc and 1.0% lead at an average production rate of approximately 500,000tpa over 22 years:
  - Production was from a single flat-lying deposit with dimensions of 750m by 200m and up to 30m wide which facilitated mining by low cost, large scale open stoping



# Val Vedello Uranium Deposit

- Largest uranium deposit in Italy – under application
- Developed but not mined on four levels by ENI subsidiary AGIP Nucleare between 1970 and 1983
- 11,000m of underground development and 60,000m of underground diamond drilling completed
- Exploration Target<sup>1</sup> of 15-30Mlb U<sub>3</sub>O<sub>8</sub> grading between 1,000 and 2,000ppm U<sub>3</sub>O<sub>8</sub>

<sup>1</sup>An exploration target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if future exploration will result in a Mineral Resource Estimate being defined. **Based on historical AGIP records quoting grades of between 949 and 1,496ppm U<sub>3</sub>O<sub>8</sub> from 4 levels of underground development over a vertical extent of 190m and 60,000m of underground diamond drilling.**





# Summary and Investment Highlights

## Experienced management team:

- Alexander Burns – led Sphere from A\$1M junior to \$514M takeover by Xstrata in 2010
- Kim Robinson – 45 years mining and exploration experience, developed many mines
- Graeme Collins – extensive experience in mine development and operations

## Low-risk mining locations:

- Italy – supportive local and federal government, historical mining site in an industrialised area, well-understood mining policies

## Zinc and uranium pricing upside:

- Zinc – supply crunch looming with several large mines reaching exhaustion

## Well-funded 2016 work program:

- A\$4.3M in cash at 30 September 2015 and A\$7.7M in listed securities
- Significant news flow from ongoing exploration and resource drilling at Gorno
- Initial JORC Resource and Scoping Study due March 2016





# Appendix - Community Support for Gorno Project







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