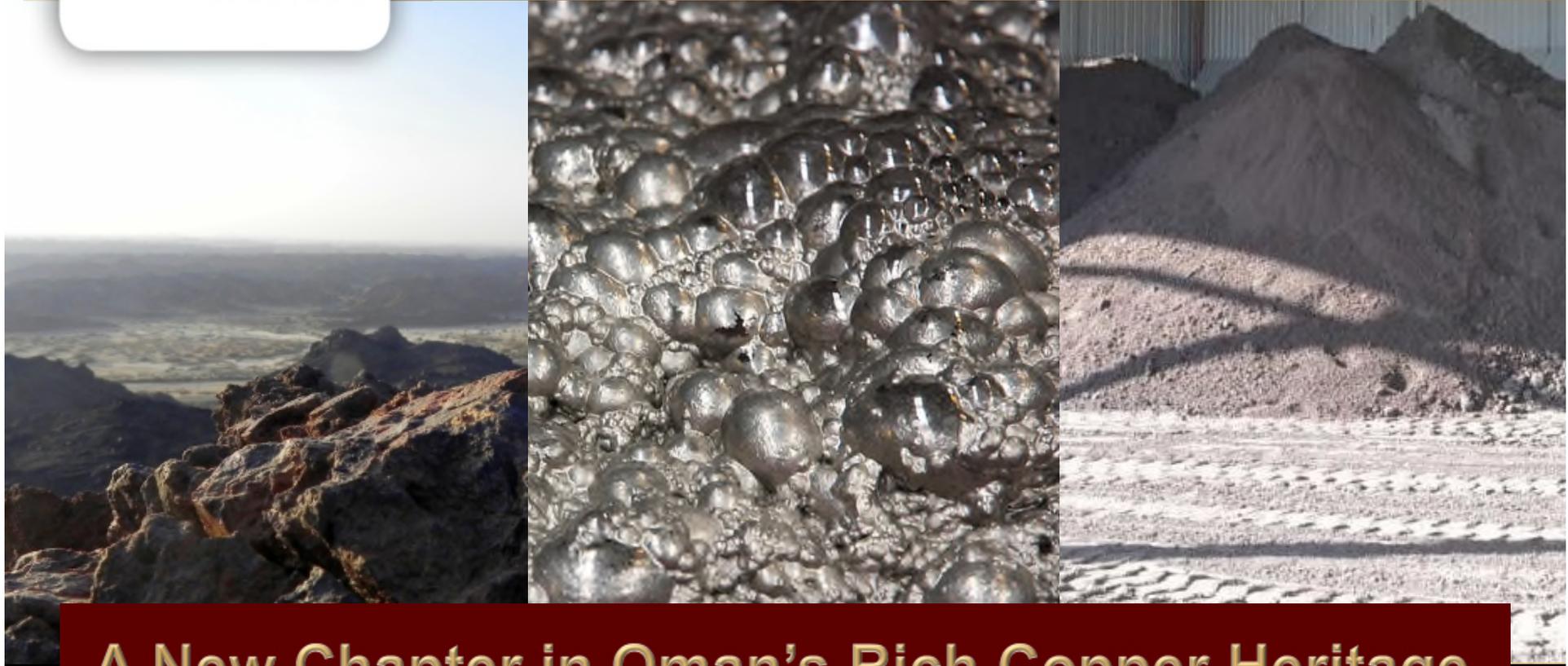


**Alara**  
Resources



## A New Chapter in Oman's Rich Copper Heritage

**OMAN MINING EXPO**

15-17 APRIL 2019

OMAN CONVENTION & EXHIBITION CENTRE

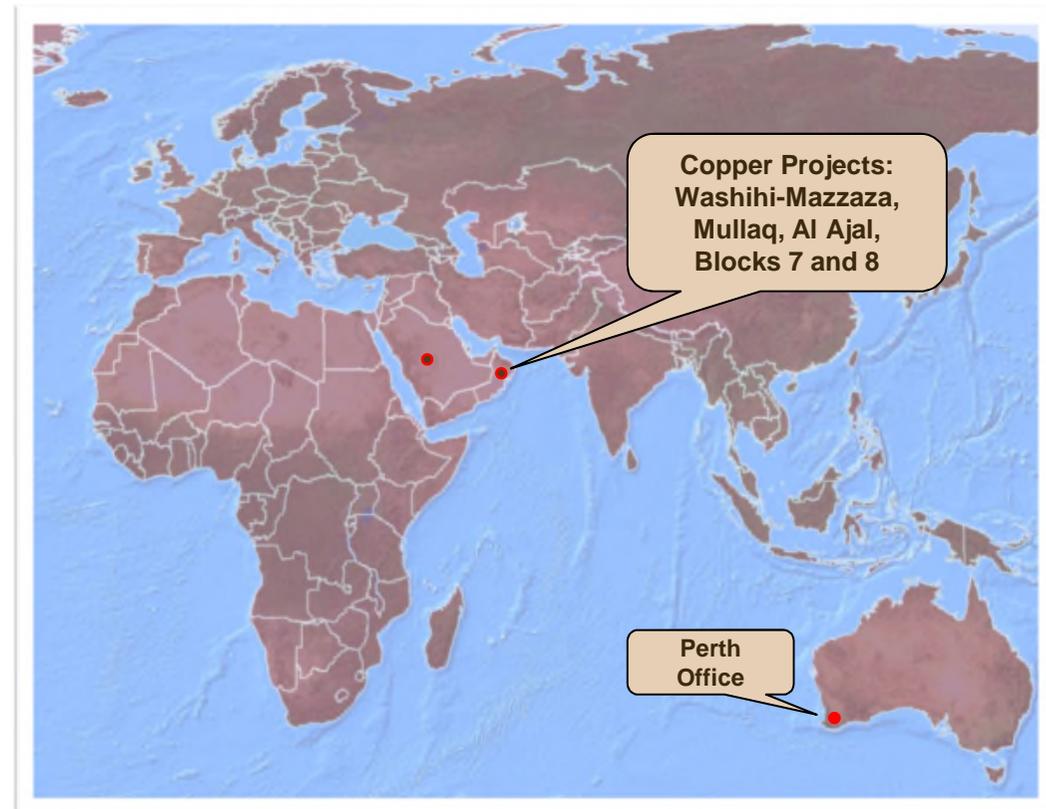
الحدیثة للمصادر  
**AHR**  
AL HADEETHA RESOURCES

## Mineral Exploration & Resource Development to Mine Production

Alara is a public company listed on the ASX. For the past eight years Alara has focused on mineral exploration and resource development in Oman and Saudi Arabia.<sup>1</sup>

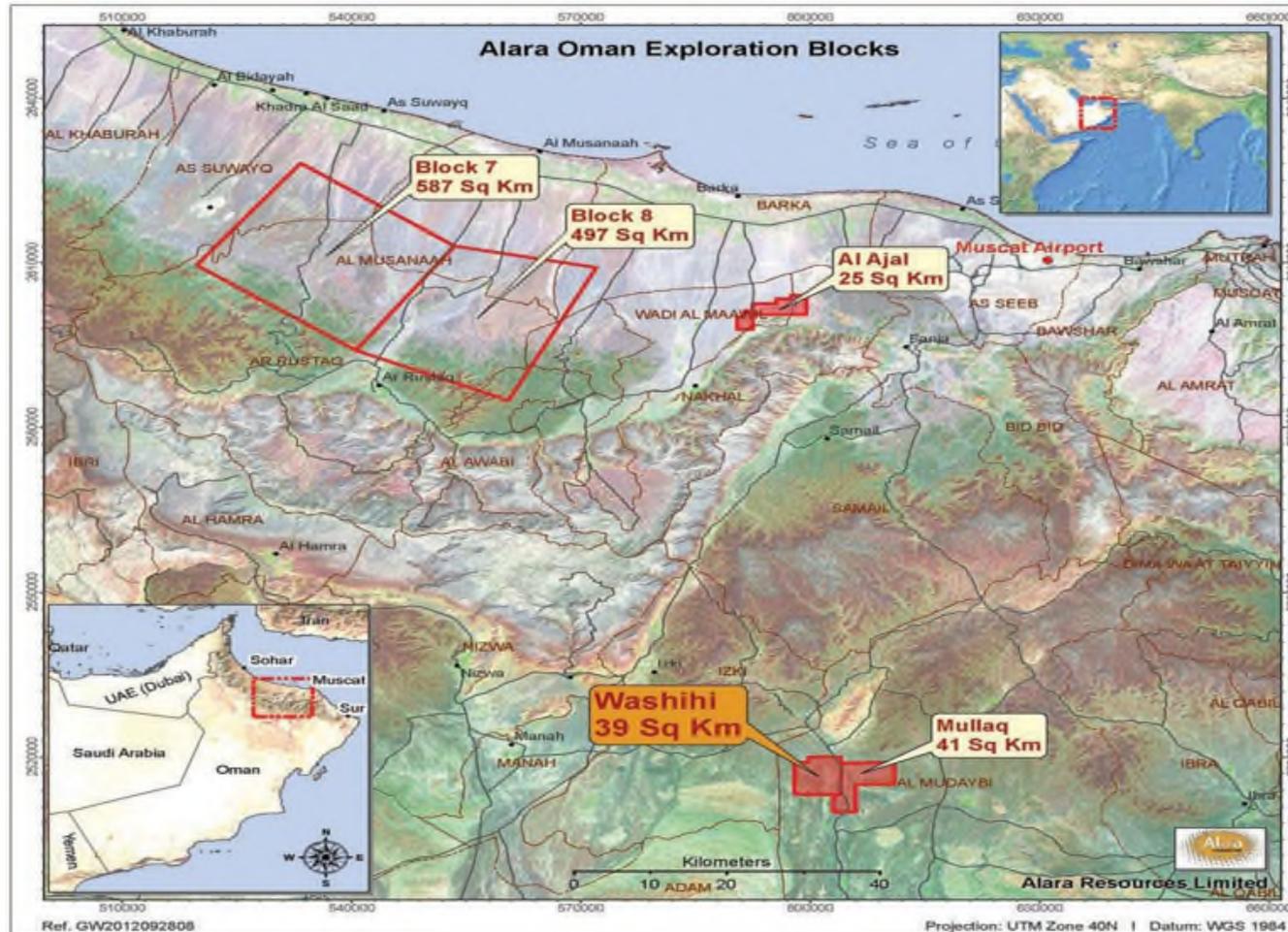
With its JV partners, the Company has established a portfolio of copper projects, providing a pipeline from exploration through to feasibility studies for mine development and production.

<sup>1</sup> Alara and its JV partners have committed over >\$110m to mineral exploration and mine development in the region. Around \$30m already invested here in Oman with another \$50m being spent on a 1mtpa copper concentration plant and related mine infrastructure at the Washihi-Mazzaza project site.



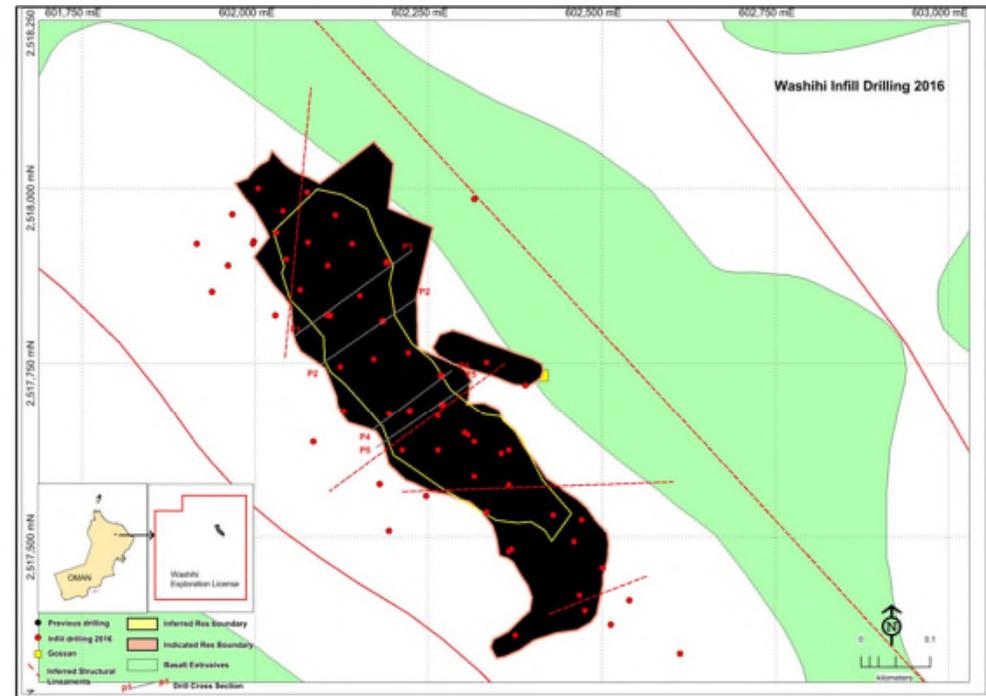
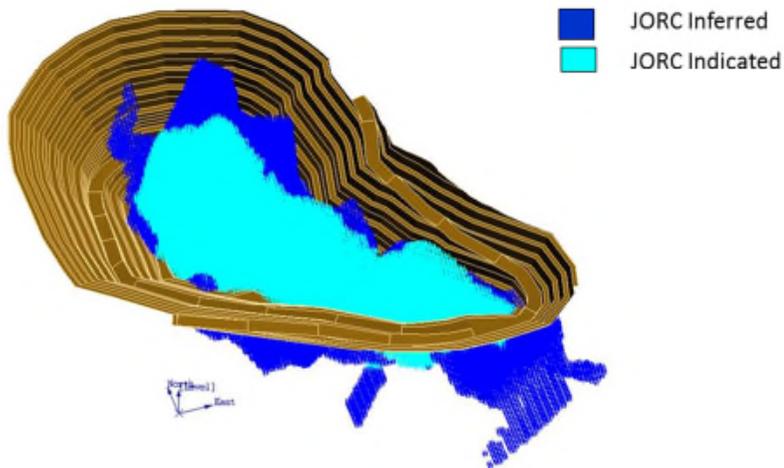
Project	Resource	Interest	Location	JORC Code Status
Washihi-Mazzaza	Copper-Gold	51%	Oman	Reserve
Mullaq	Copper	51%	Oman	Exploration
Al Ajal	Copper	51%	Oman	Exploration
Block 7	Copper-Gold	(50% - 70%)	Oman	Resource
Block 8	Copper	(10% - 70%)	Oman	Exploration
Khnaiguiyah	Zinc-Copper	TBA	Saudi Arabia	Reserve

All JV Copper Licences are located in a region with many examples of VMS Copper Deposits and within reasonable proximity to the Sohar Port<sup>2</sup>



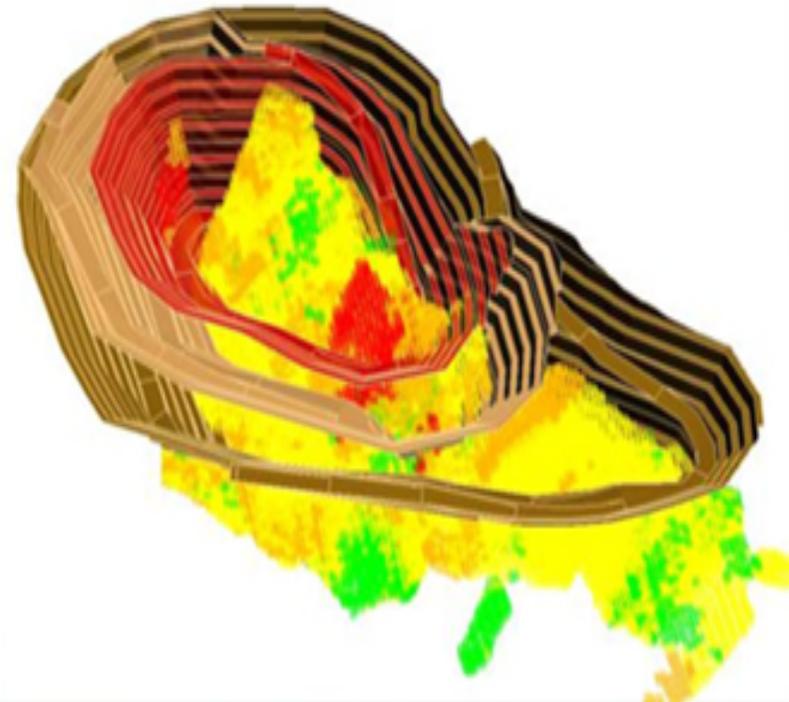
<sup>2</sup> The Washihi-Mazzaza site is one of three exploration licences held by AHRL and will become the first of many new copper mines in Oman, inshallah. The adjoining Mullaq licence to the east includes tracts of copper slag showing clear signs of earlier mining activity.

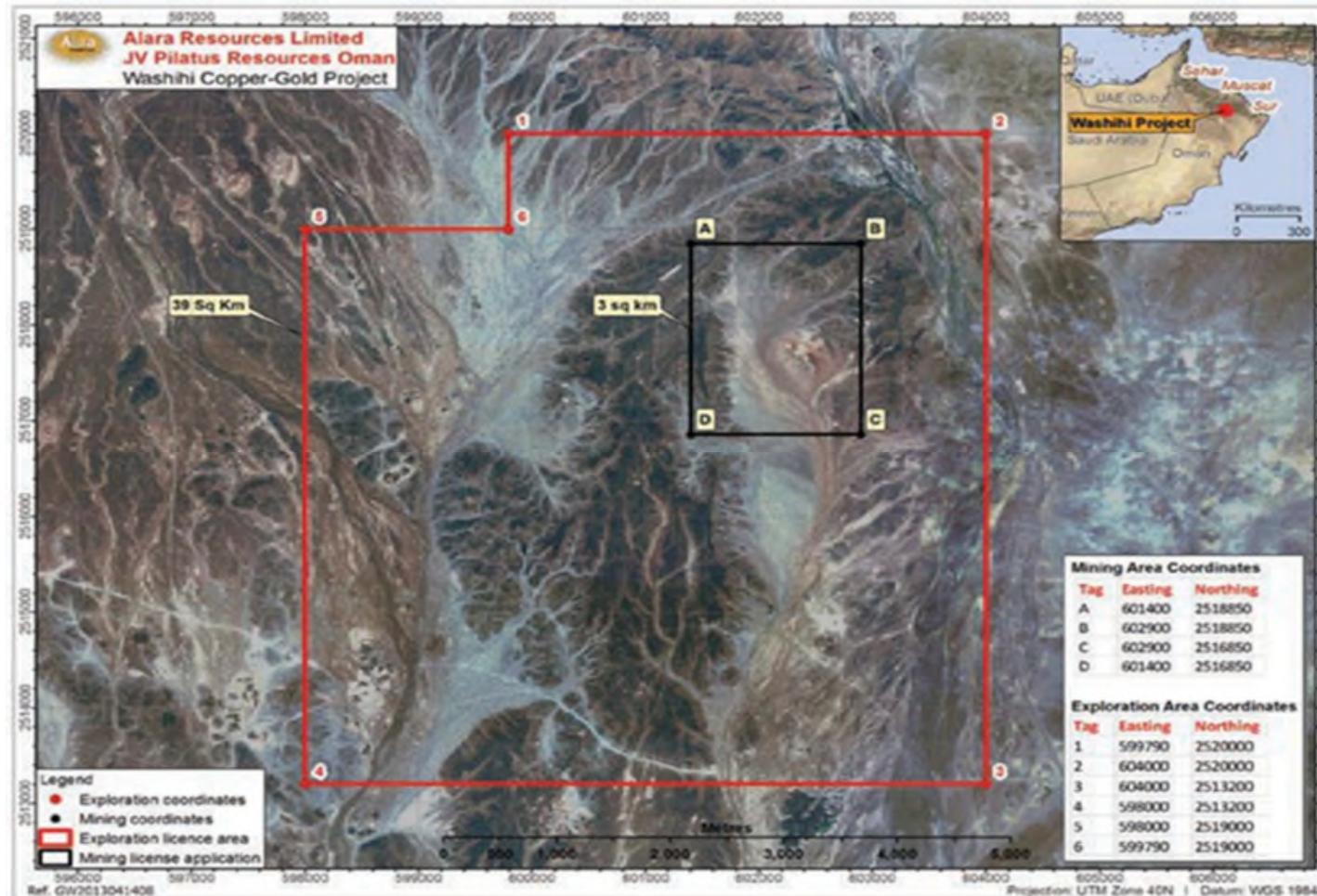
Complete Resource	Tonnes millions	Cu %
Indicated	12.4	0.89
Inferred	3.7	0.79
<b>Total</b>	<b>16.1</b>	<b>0.87</b>



**Washihi-Mazzaza deposit is currently the single largest JORC copper resource in Oman. The total resource sits at 16.1Mt and remains open at depth and to the north.**

In Pit Resources JORC 2012 Category	Tonnes millions	Cu %	Au g/t
Probable Reserves	9.70	0.88	0.22
Inferred Resource	0.35	0.65	0.22
<b>Total</b>	<b>10.05</b>	<b>0.87</b>	<b>0.22</b>





The Washihi - Mazzaza ML shown here (marked black) covers 3 sq km within the 39 sq km exploration licence marked in red. This was the first Copper Mining License issued by PAM since 2004.



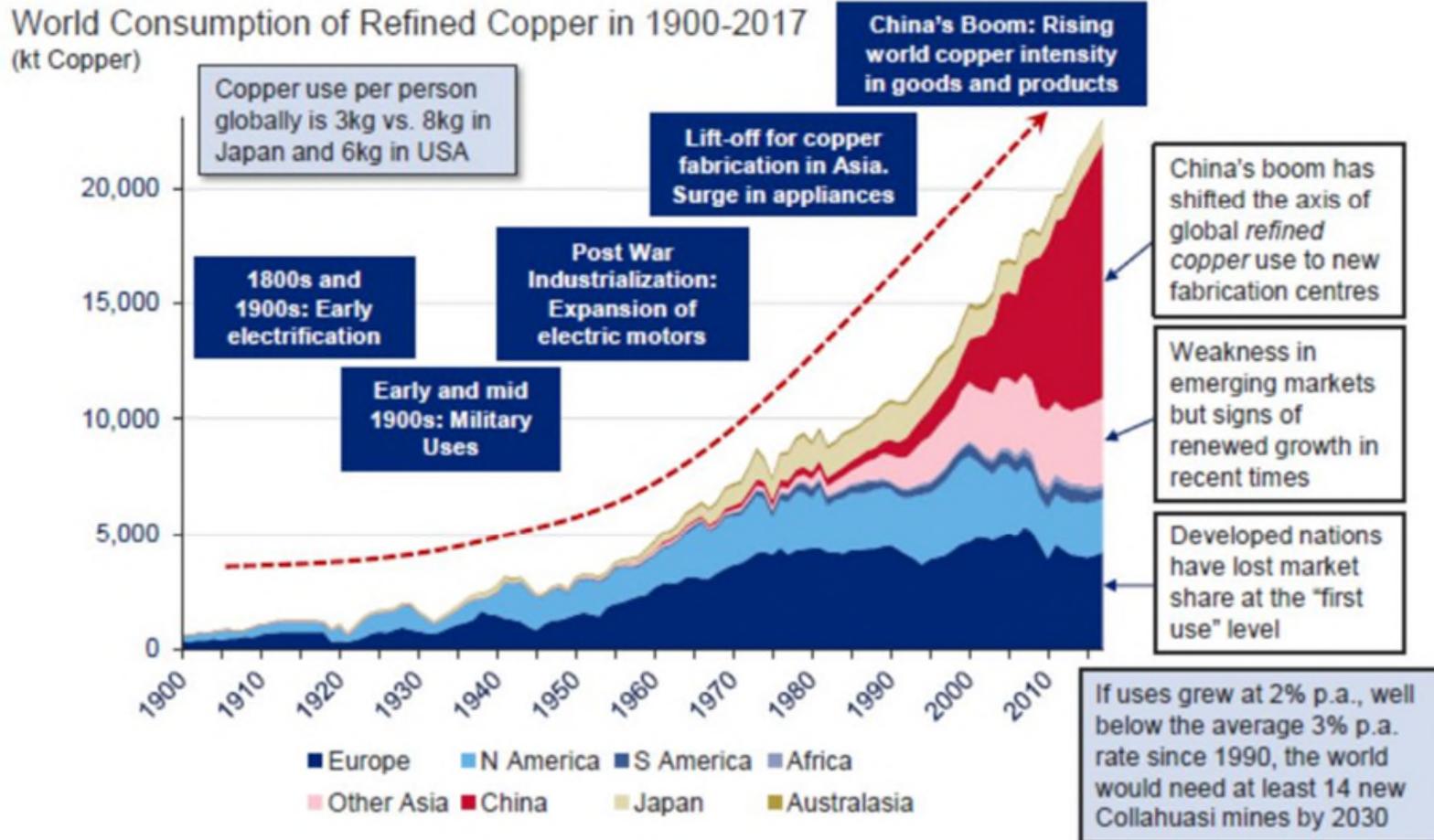
- Project Revenue: \$561M
- Capex expenditure : \$70 million, including \$11m already spent
- Project NPV: \$90m
- Project IRR of 34%
- Production of 321,000 dmt copper concentrate in first 10 years



Resource remains open at depth and to the north and adjoins the Mullaq licence to the east providing good prospects for further mineral inventory. Fastmarkets reported Rio Tinto estimates copper consumption over next 25 years will equal that the last 500 years.

Alara's ASX Announcement dated 24 January 2017 contains the information required by ASX Listing Rule (LR) 5.16 regarding the stated production target and LR 5.17 regarding the forecast financial information. All material assumptions underpinning the production target and forecast financial information as announced on that date continue to apply and have not materially changed.

## AVERAGE COPPER USE PER PERSON SET TO RISE

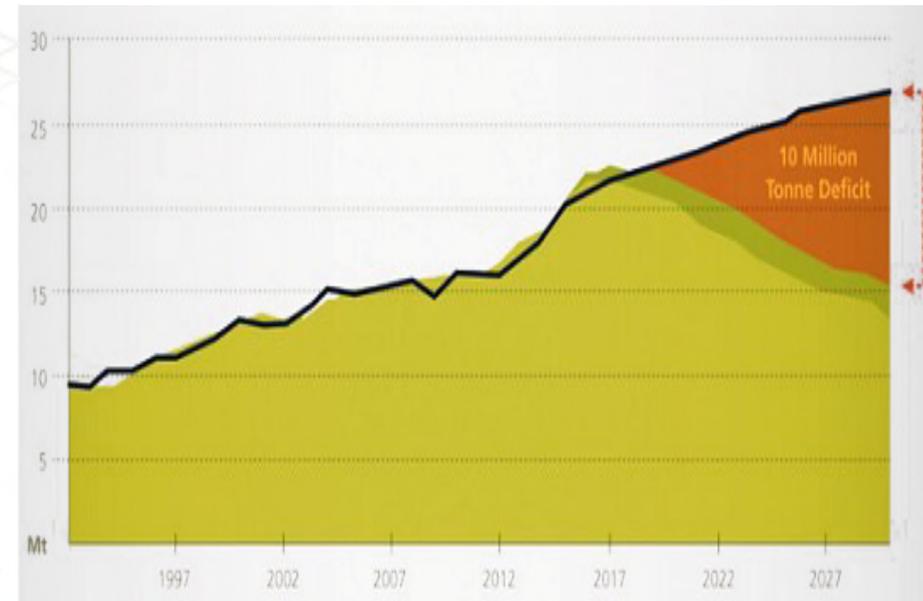
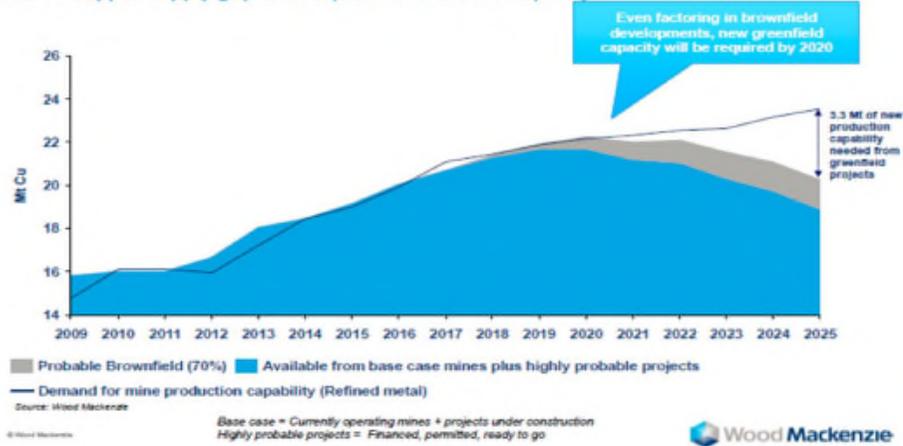


Copper is central to the green revolution and the transition to high-tech economies.

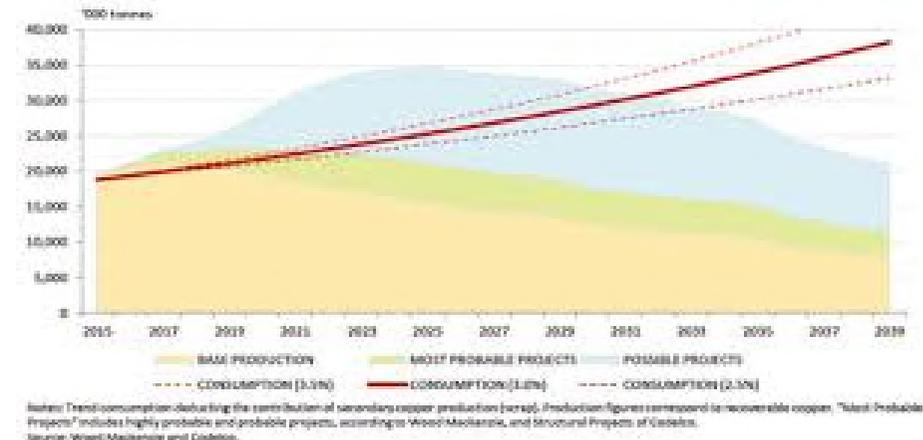
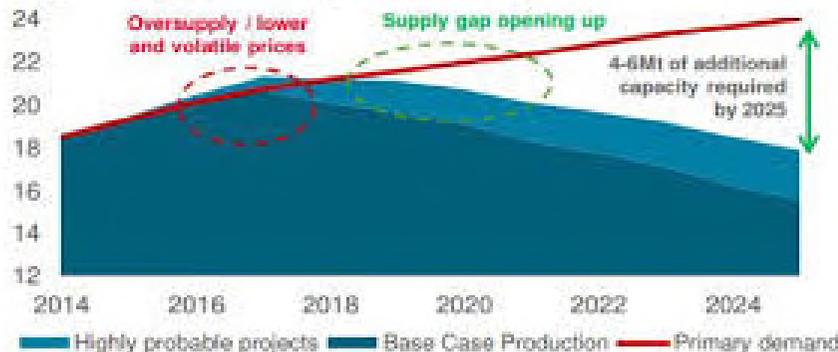
Source: CRU, Wood Mackenzie, Anglo American

Within three years, new supply will be required to match growing demand

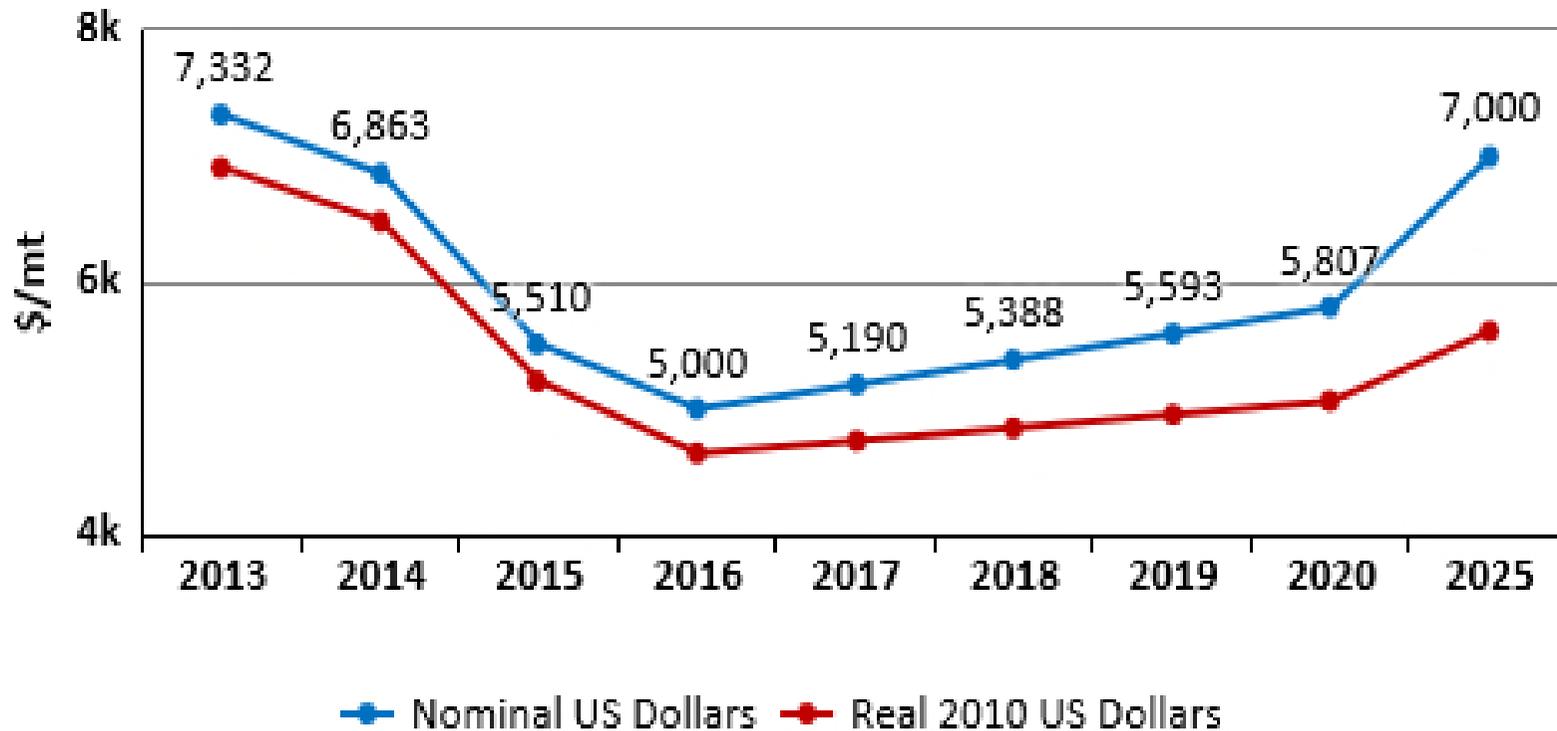
Mined copper supply gap and requirement for new capacity



Copper supply/demand (million tonnes)

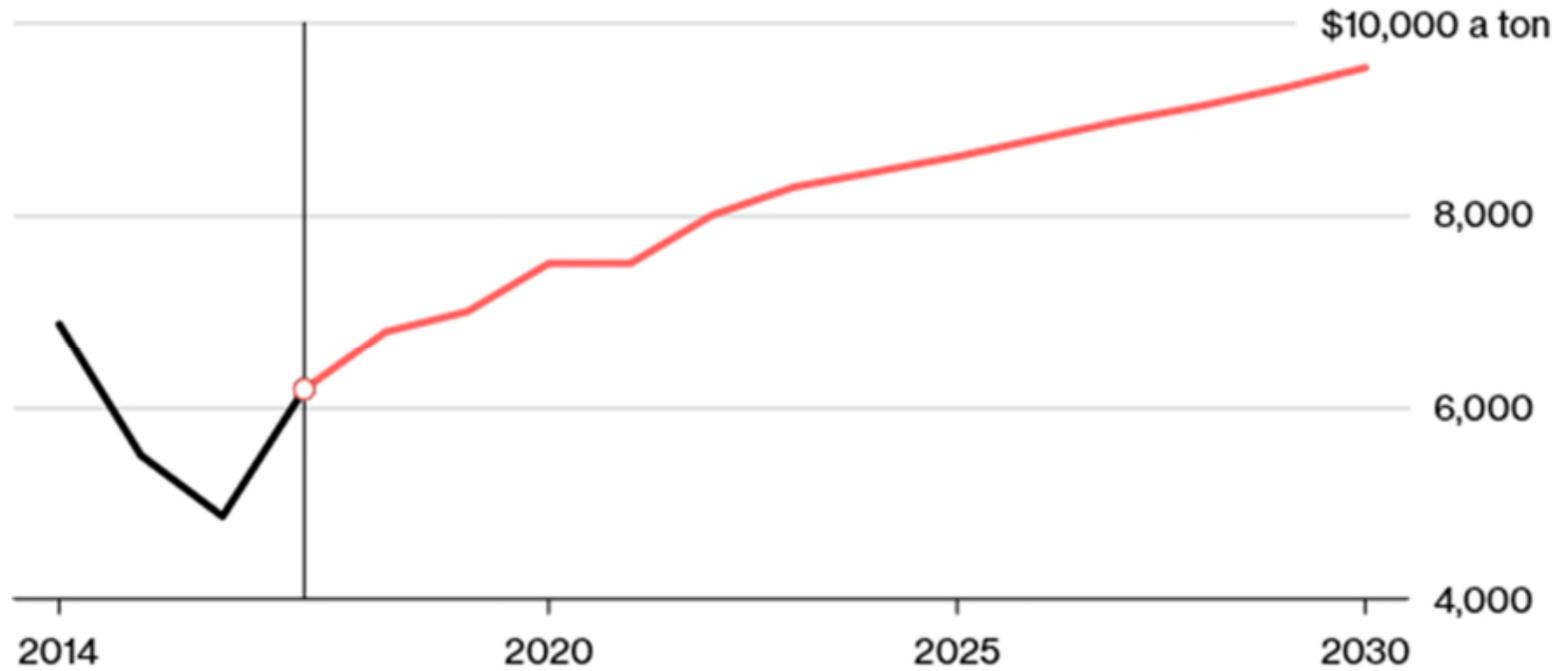


Some analysts are forecasting 4 – 6Mt deficit by 2025, others a 10Mt deficit by 2030. While the size of the gap may vary, all of the graphs consistently show a supply deficit opening up.



**Source – World Bank Commodity Forecast Price Data, January 2016<sup>3</sup>**

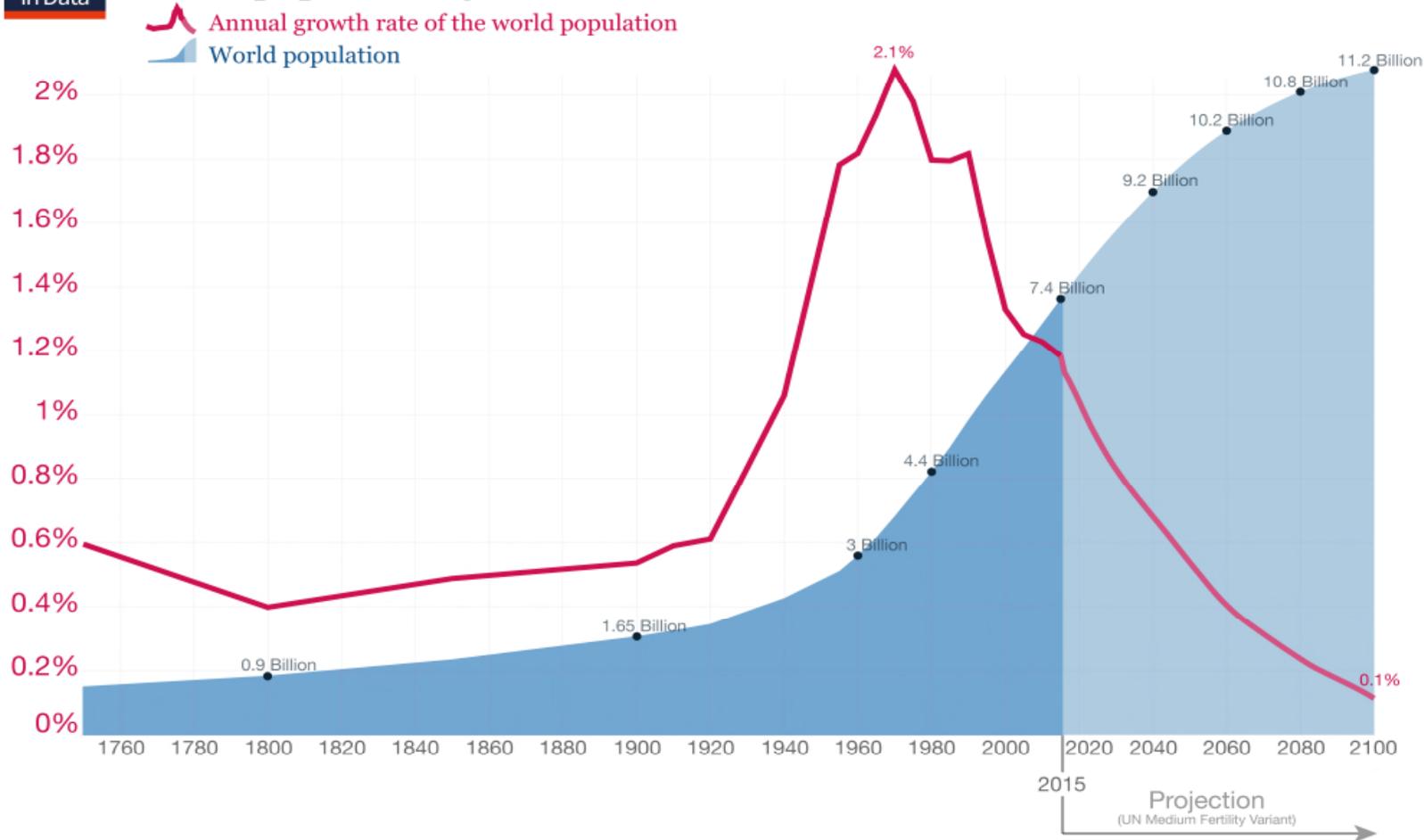
<sup>3</sup> As it turned out, the World Bank had been overly conservative in their price estimate with Copper prices rising more quickly than forecast. today (~\$6400 -6500/t). In April last year, the World Bank revised its price forecast to show average copper prices of between \$6,800 - \$7,000 for the foreseeable future.



Source: Bloomberg – Citibank Analyst Report 2018

Our World  
in Data

## World population growth, 1750-2100



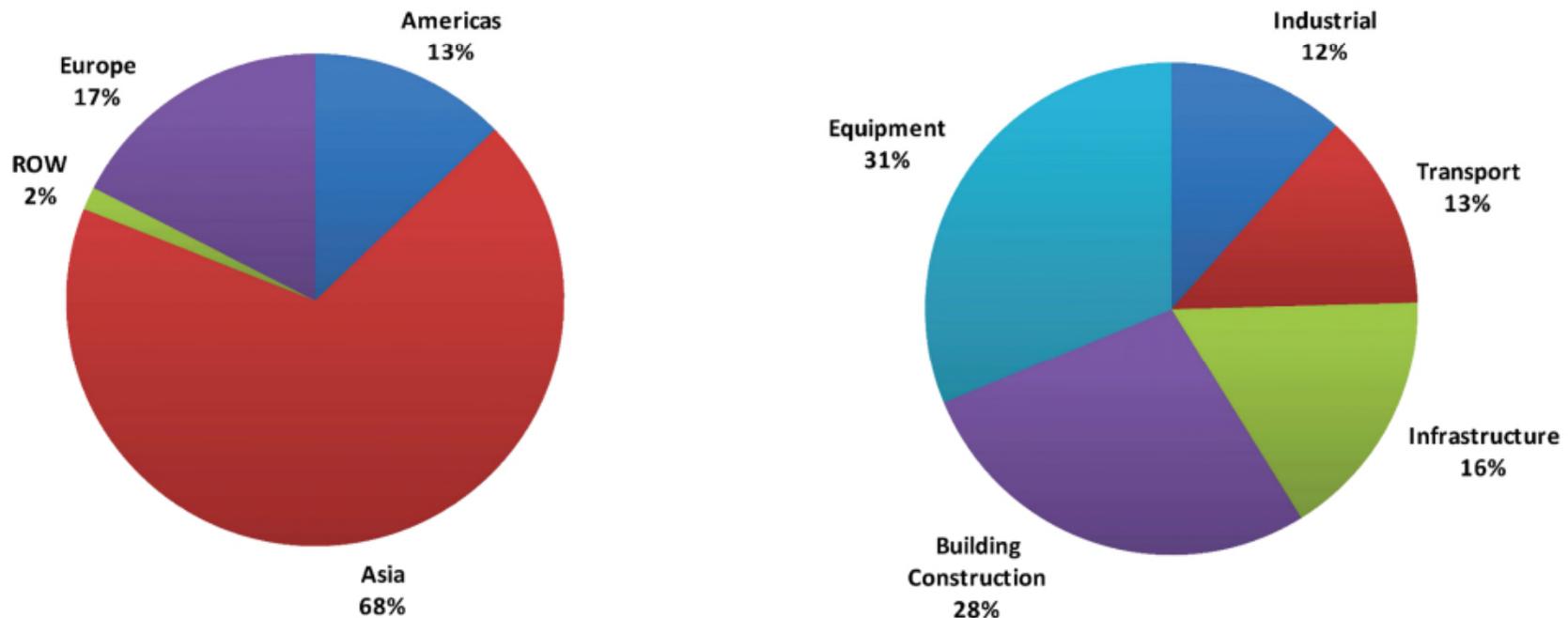
Data sources: Up to 2015 OurWorldInData series based on UN and HYDE. Projections for 2015 to 2100: UN Population Division (2015) – Medium Variant. The data visualization is taken from [OurWorldInData.org](https://ourworldindata.org). There you find the raw data and more visualizations on this topic.

Licensed under CC-BY-SA by the author Max Roser.

On average everyone on the planet is using 3kg per year. Even without the consumption rate rising to 6kg or 8kg in some developed countries as we see increased urbanisation, even without taking into account additional demand from renewable energy and other growth sectors, consumption will increase as global population, almost 7.7 B today, continues to rise.

## Major Uses of Copper: Usage by Region and End Use Sector, 2017

Source: International Wrought Copper Council (IWCC) and International Copper Association (ICA)



13% of copper is used in transportation. All major forms of transportation: air, sea, rail, cars and buses rely on copper. Technology advancements are increasing demand: EVs use up to four times the amount of copper as ICE cars. Fast chargers use up to 8kg of copper. Focus on EVs because of remarkable growth. There were 3m EVs on the road in 2017.

## Route map



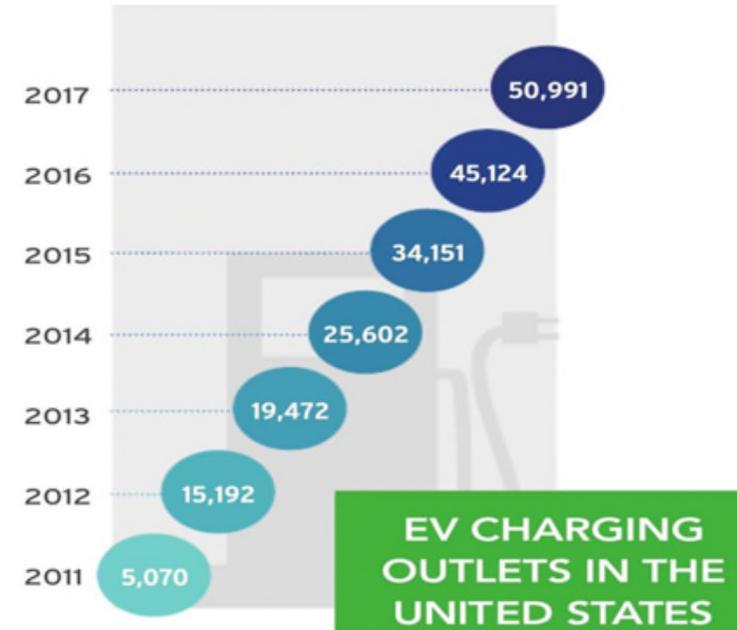
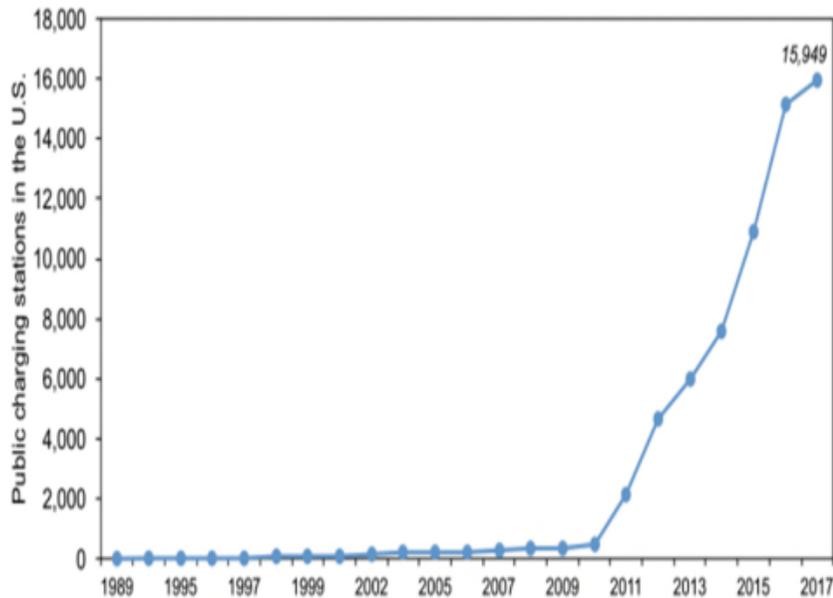
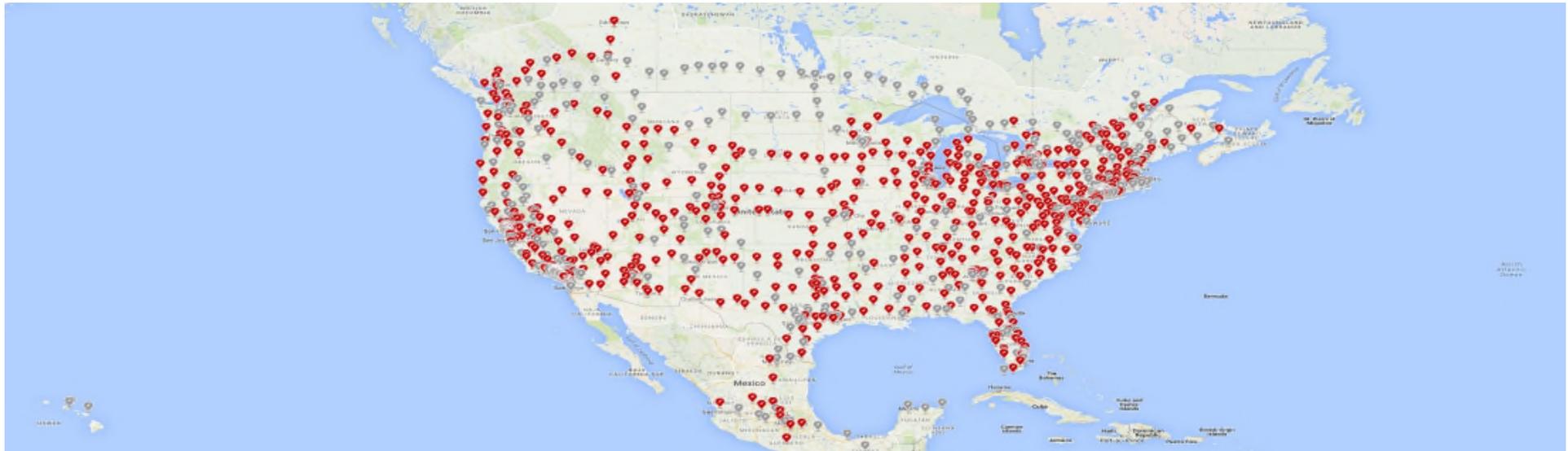
Source: Organisers

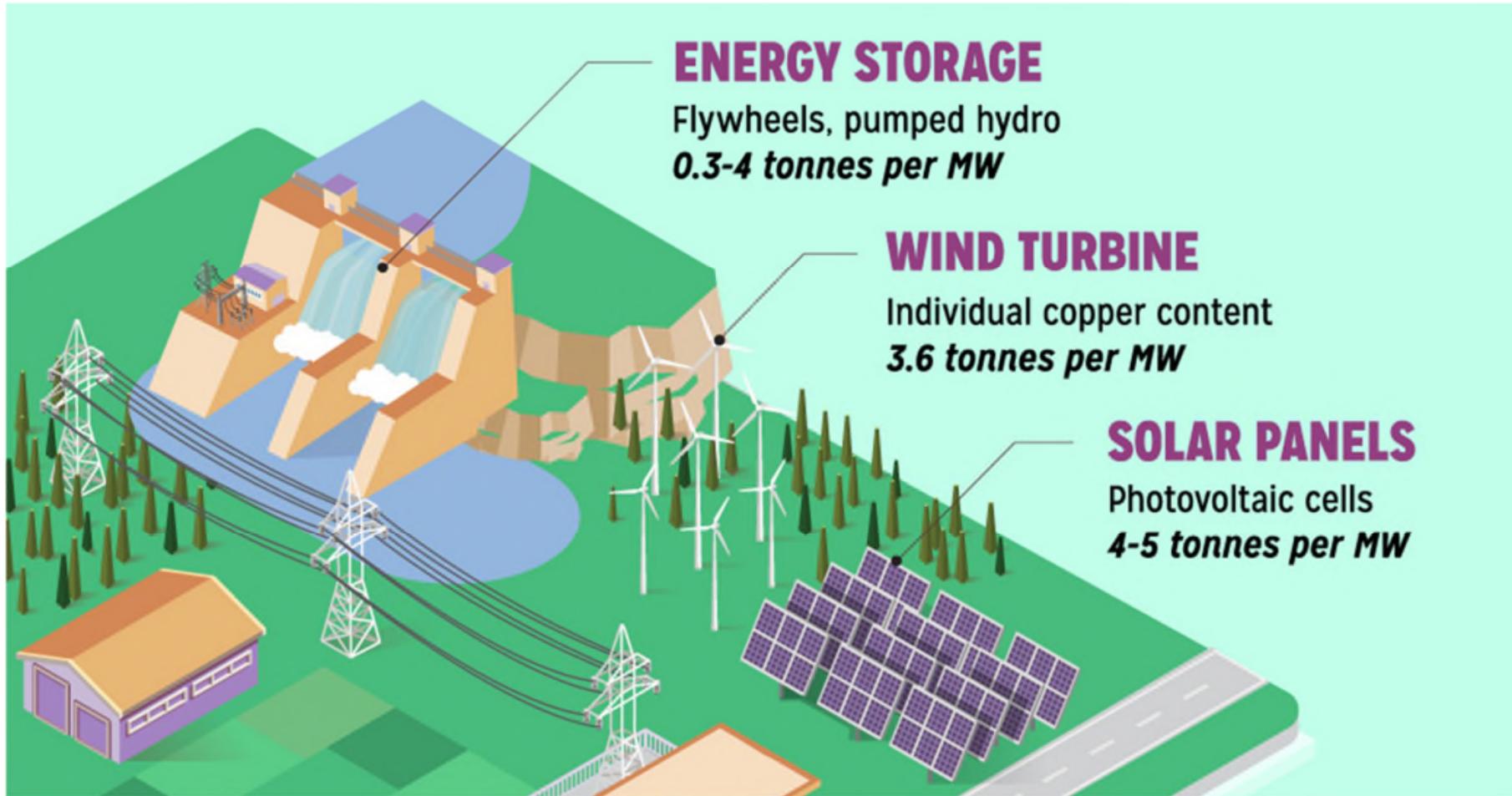
©Gulf News

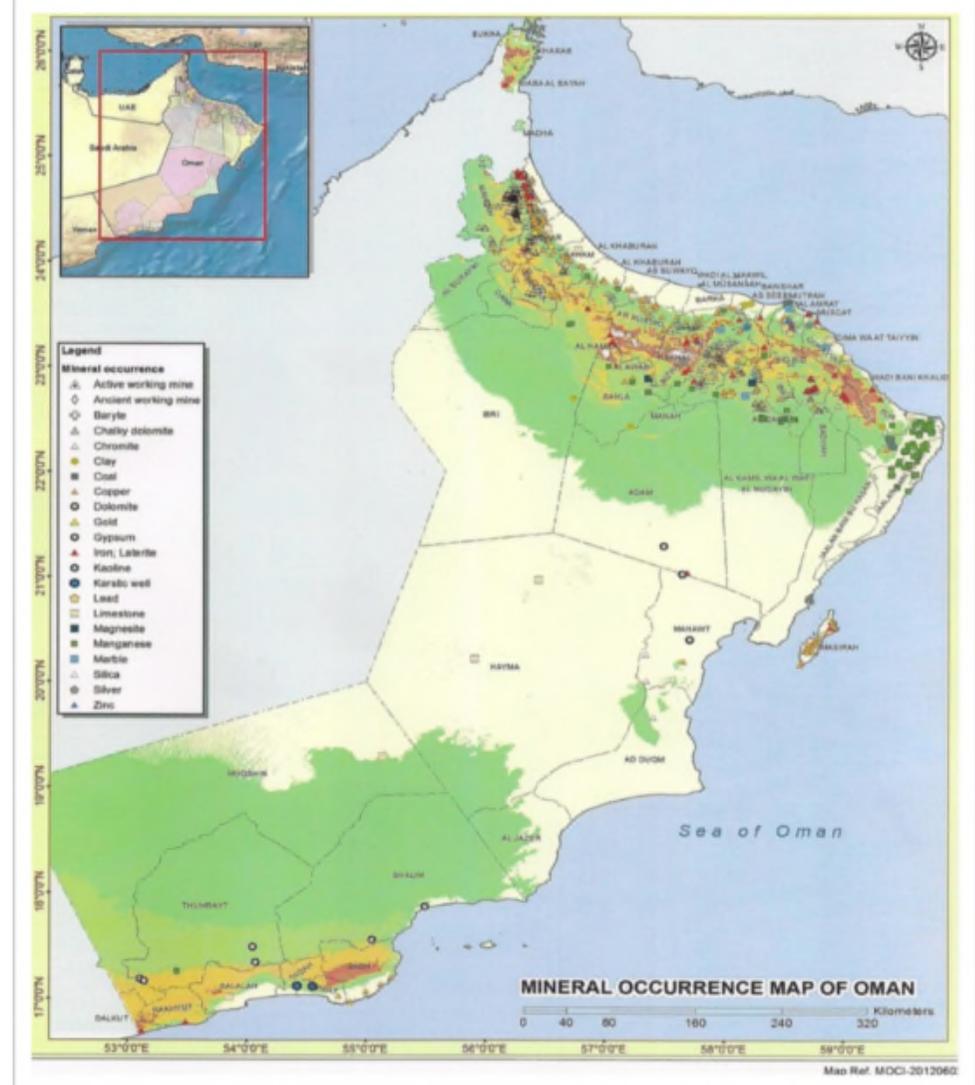
## EV Sales & Required Cu



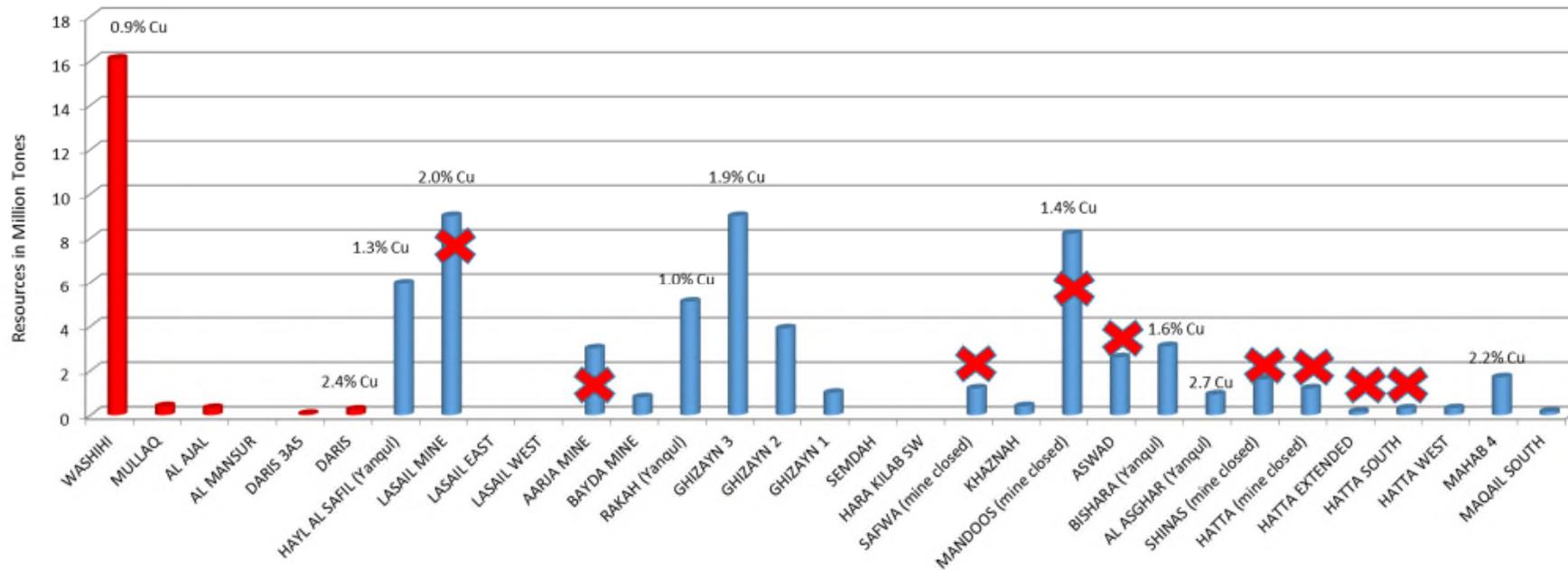
In 2016, Japan already had more electric charging stations than gas stations. US is still far from that point, while the number of public charging sites continues to grow every day.







Oman's mining history dates back millennia. Prior to 2000BC copper was being mined here and sent to Mesopotamia and all over the known world. Sumerian and Akkadian tablets refer to a country called Magan and Makan, names which link to Oman's ancient copper resources. Bottom left graphic highlights copper mineralisation specifically. It shows copper mineralisation identified along the Northern Coast, and also in the southeast. Over 100 earlier copper mining sites have been identified.



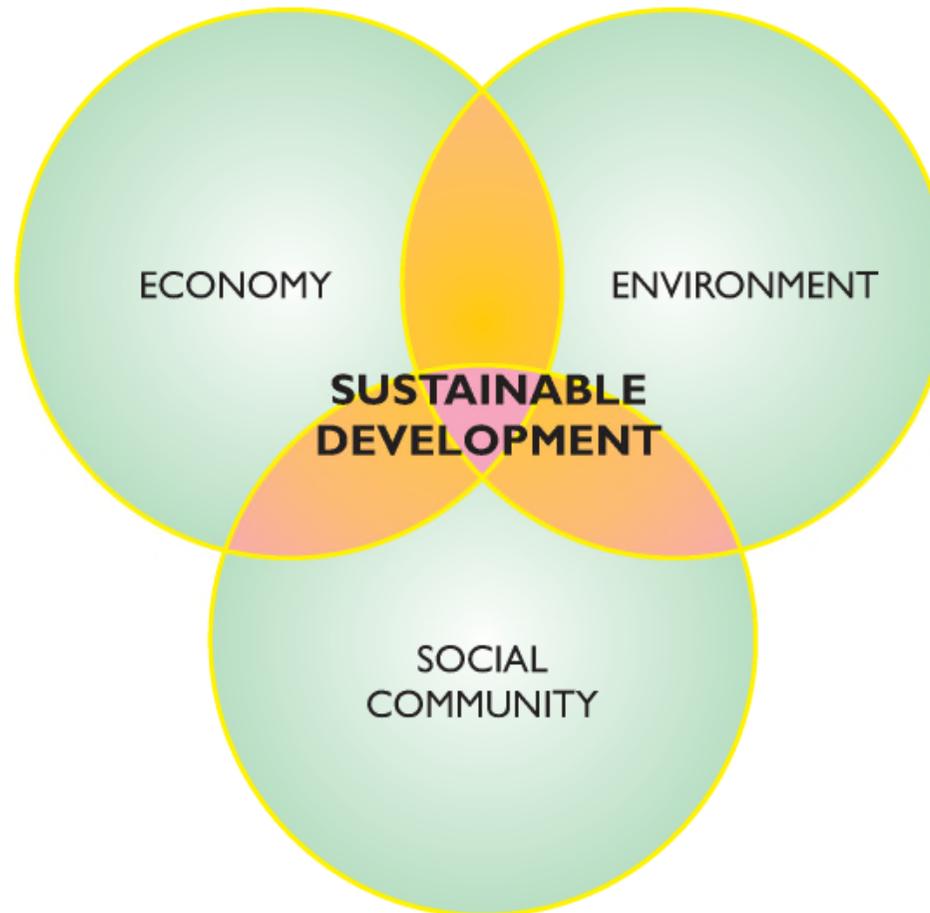
Despite this rich heritage, today the Sultanate of Oman is still sitting on a "gold/copper-mine" of largely untapped mineral resources, with only a relatively small number of deposits having been mined in recent times. The graph shows the size and grade of some specific copper projects, including the Washihi–Mazzaza resource on the left and projects which have been previously mined marked with an X. Of all the copper occurrences shown in the slide, only a handful of copper projects have been mined in recent decades, with many still to be developed. There is a pipeline of copper projects to come.

As we look to the future:

1. Growing global demand for copper;
2. Rich, long history and current perspectivity for copper mining in Oman; and
3. New legal framework and other government initiatives aimed to support foreign investment into the mining sector.

The stage is set for a vibrant new chapter in Oman's rich copper heritage.

“I am putting a Khalifa on Earth.” (Quran 2:30)



Islam's emphasis on mankind being God's Khalifa (custodian upon the earth) is readily apparent. Al Hadeetha's approach to CSR leverages on the enlightened notion of khalifah (which is also reflected in other religious texts inc. Genesis 2:15). Khalifa is sometimes translated as 'viceregent', but an alternative English term may be "trustee" or "steward", conveying an ethic that embodies responsible planning, development and management of resources which belong to another. Why would a company choose to act in this way? Ongoing success requires companies to operate at the nexus of what may sometimes seem to be competing objectives. When considered from the perspective of a wise steward or Khalifa, all of these areas can be given due care and consideration to the benefit of all stakeholders.

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Resources



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الحديثة للمصادر  
**AHR**  
AL HADEETHA RESOURCES

# Mineral Exploration & Resource Development to Mine Production

**ABN: 27 122 892 719**



ASX Code: AUQ

[www.alararesources.com](http://www.alararesources.com)

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## COMPETENT PERSONS' STATEMENTS

*The information in this report that relates to the feasibility study of the Al Hadeetha Copper-Gold project, particularly production targets and forecast financial information, is based on information compiled by Mr Atmavireswar Sthapak, who is a Member of the Australasian Institute of Mining and Metallurgy and is an executive director of Alara Resources. Mr Sthapak has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking to qualify as a Competent Person as defined in the JORC Code, 2012 edition. Mr Sthapak consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*The information in this report that relates to Ore Reserve of the Al Hadeetha Project was compiled by Mr Harry Warries, who is a Fellow of the Australasian Institute of Mining and Metallurgy. He is employed by Mining Focus Consultants Pty Ltd. Mr Warries has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.' In assessing the appropriateness of the Ore Reserve estimate, Mr Warries has relied on various reports, from both internal and external sources, in either draft or final version, which form part of or contribute to the Al Hadeetha Project Feasibility Study. These reports are understood to be compiled by persons considered by Alara to be competent in the field on which they have reported. Mr Warries consents to the inclusion in the report of the information in the form and context in which it appears.*

*The information in this report that relates to JORC Resources of the Al Hadeetha Copper-Gold Project (Oman) is based on, and fairly represents, information and supporting documentation prepared by Mr Ravi Sharma, who is a Chartered Member of The Australasian Institute of Mining and Metallurgy, Registered Member of The Society for Mining, Metallurgy and Exploration. Mr Sharma was a principal consultant to Alara Resources at the time he prepared his report of that information and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking to qualify as a Competent Person as defined in the JORC Code, 2012 edition. Mr Sharma approves and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

## ASX & JORC CODE CAUTIONARY STATEMENTS

*Alara confirms that all material assumptions underpinning the production targets and forecast financial information derived from production targets in its feasibility study ("Study") as announced on ASX on 24 January 2017 continue to apply and have not materially changed. The Study is based on low level technical and economic assessments and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Study will be realised. The mining inventory under the Study is partly based on Inferred Resources (42.3% under the Base Case and 41.3% under the Enhanced Base Case) and an Exploration Target (2.3% under the Enhanced Base Case). The mining process schedule assumes the following approximate relative sequence – in Years 1 and 2 (Washihhi Indicated Resource and Mullaq Exploration Target), Years 3 and 4 (Washihhi Indicated and Inferred Resources), Year 5 (Washihhi Indicated and Inferred Resources and Daris-East Indicated and Inferred Resources), Year 6 (Washihhi Indicated and Inferred Resources) and Years 7 to 9 (Washihhi Inferred Resources, included stockpiled material after Year 7). There is a lower level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration will result in the conversion of Inferred Mineral Resources to Indicated Mineral Resources or that the production target (under the Study) will be realised. The potential quantity and grade of an Exploration Target is conceptual in nature, there has been insufficient exploration to determine a JORC Mineral Resource and there is no certainty that further exploration work will result in the determination of JORC Mineral Resources or that the production target (under the Study) will be realised.*