

*TOOLS FOR MANAGING RESOURCES FOR SUSTAINABLE
DEVELOPMENT*

EXPERT GROUP ON RESOURCE MANAGEMENT 10TH SESSION

Resourcing Future Generations

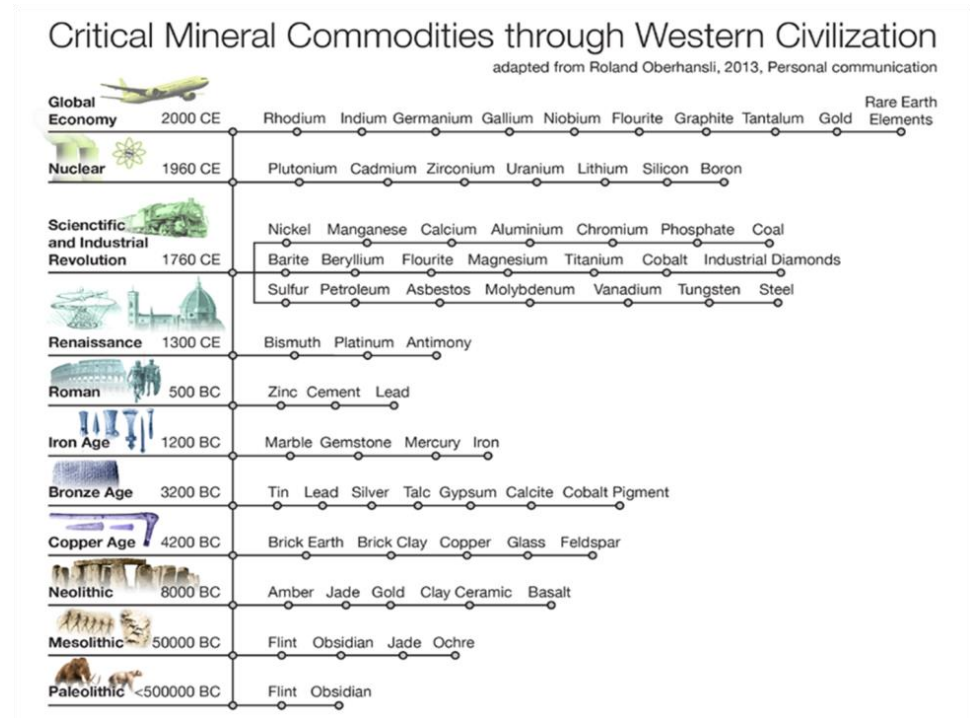


Edmund Nickless, Chair, International Union of Geological Sciences , New Strategic Implementation Committee

The last 50 years

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- Improvement in the standard of living of many of the world's poorest has been driven in large measure by technological development
- That development has depended on the use of an increasingly wide range of metallic elements



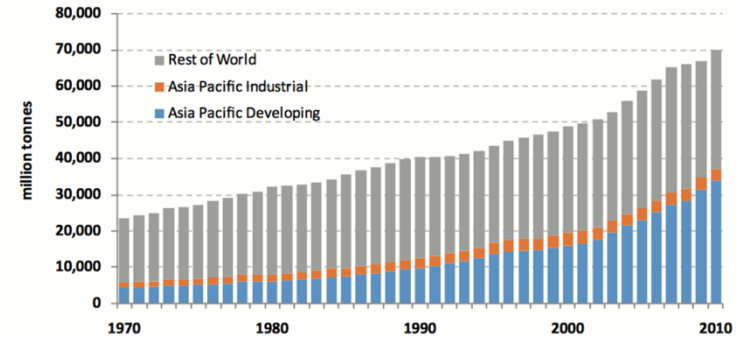
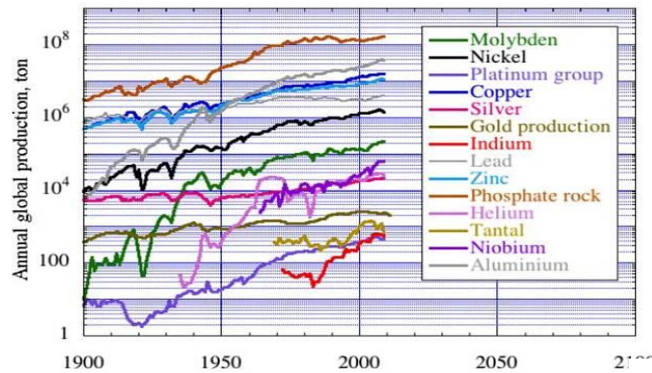
Is there a problem?

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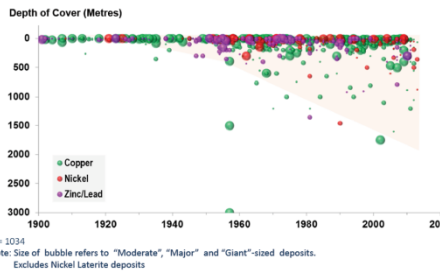
- Demand for all raw materials has risen dramatically
- Delivery of Agenda 2030, decarbonising the global economy as envisaged by the Paris Accord Projections, increasing urbanisation and economic growth will increase by 2 to 3-fold demand for all raw materials
- Substitution, recycling and usage efficiency improvements will not be enough on their own
- The more obvious deposits have been discovered and lower grade deposits are being worked from increasing depths
- The rate of new discovery is not keeping pace with exhaustion of deposits

Some trends

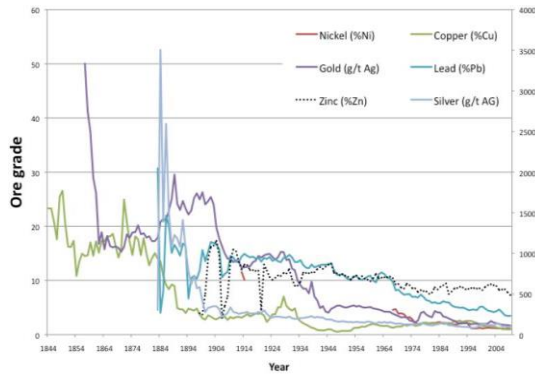
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Progressively exploring under deeper cover
Base Metal deposits found in the World between 1900-2013



MinEx Consulting Strategic advice on mineral economics & exploration 14



Western World exploration spend and discoveries



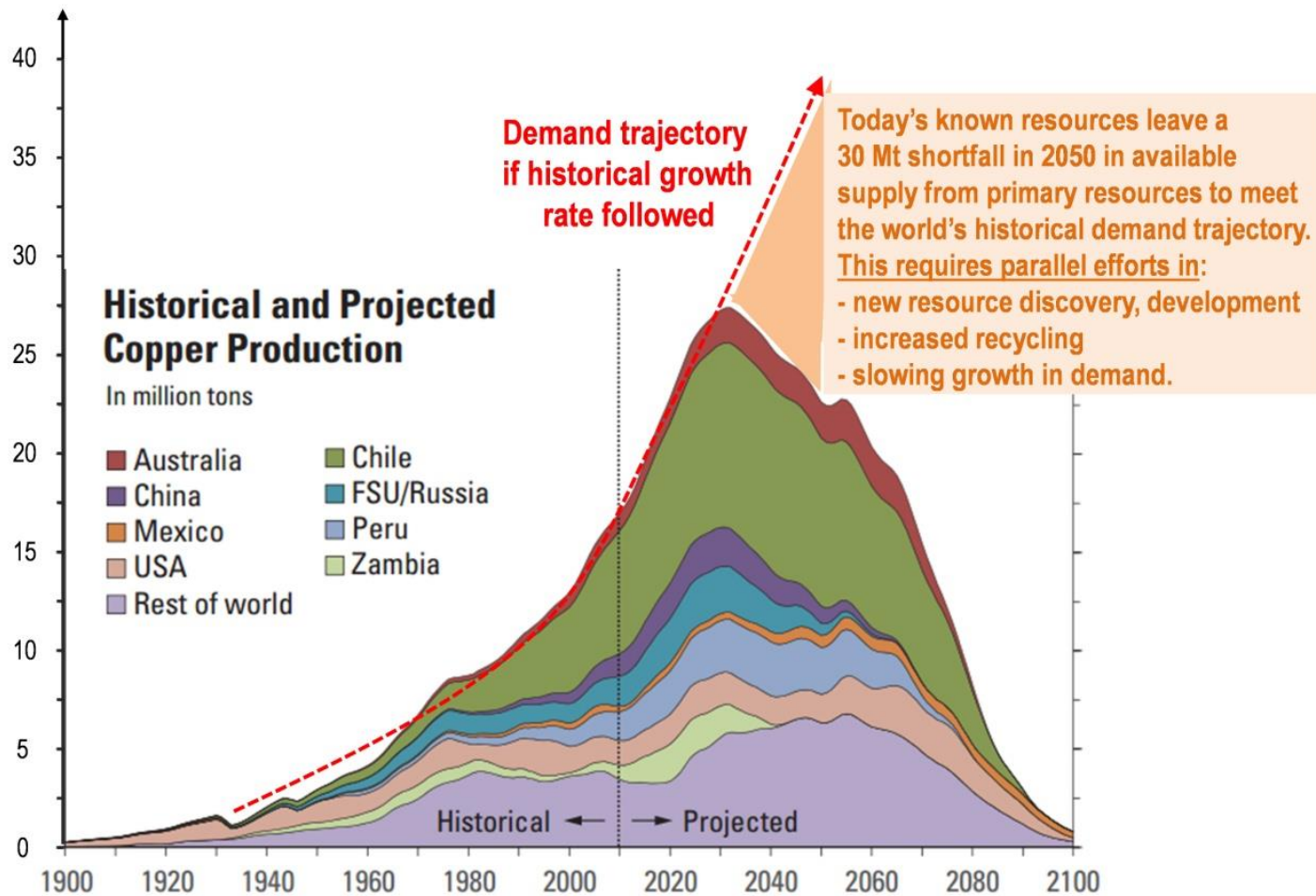
Need to adjust the data to capture unreported discoveries

Note: Discoveries are Based on deposits > 100koz Au, >100 kt Cu, >250kt Zn+Pb, >10Mt Ni, >5 Mt U3O8 or equivalent size. Excludes Bulk Mineral discoveries and satellite deposits found within existing camps

Source: MinEx Consulting © February 2014

An example

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Resource governance

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- There are issues regarding natural resources, continuity of supply and sustainable development, intergenerational equity and resource husbandry
- Where does responsibility for use lie - with individuals (consumers), mining companies, national governments, the international community?
- We heard yesterday about the UNEP International Resource Panel report on Resource governance
- Unless we know better how much there is, how can we decide how best to use natural resources?

How much is left?

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- There are many resource classification and reporting schemes
- Unless there is a common system for reporting resource estimates or method of rationalising one with another, how do we know how much we have and husband them?
- Need for a common approach
- A key concern of IUGS is to promote standards
- How can IUGS help promote the UNFC/UNRMS?

International Union of Geological Sciences

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- One of 31 “Unions” under the umbrella of the International Council for Sciences (a UN body)
- An international, impartial, non-political NGO
- Scientific Union for all Earth scientists representing 90 member countries and over one million Earth scientists
- Serves almost 60 affiliated geoscientific organizations
- Promotes the development of the Earth sciences through scientific studies
- Applies the results of these and other studies to the wise use of all natural resources, to conserve Earth’s natural environment and improve the well being of society
- Resourcing Future Generations established 2013
- In February 2019 adopted Deep-time Digital Earth as a Big Science programme

Current RFG work programme

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- Week-long Summer School for 40 postgraduate geoscience and social science students in Dublin, Ireland, June 2019 <http://www.icrag-centre.org/news-and-media/conferences-and-events/restore-researchingsocialtheoriesresourcesandenvironmentsummerschool.html>
- Fringe event at COP25 Santiago, Chile, November/December 2019
- 36th International Geological Congress, New Delhi, <http://36igc.org/index.php>. Closing date for abstract submissions 31 August 2019

Some conclusions

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- Increasing human population, the aspirations of the developing world and a burgeoning middle class will increase demand for metals and minerals
- Mitigation of climate change and development of new energy generating and transmission technologies will add to that demand
- There are likely to be shortages in supply
- The current lack of investment in exploration could exacerbate the problem
- Social licence to mine cannot be assumed. There is a need for international agreement on a new form of resource governance to allow exploration and mining to continue in existing areas and to open up new frontiers

Resourcing Future Generations

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Information about RFG is available at

www.iugs.org/index.php?page=resourcing-the-future-initiative

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Thank you for your attention

