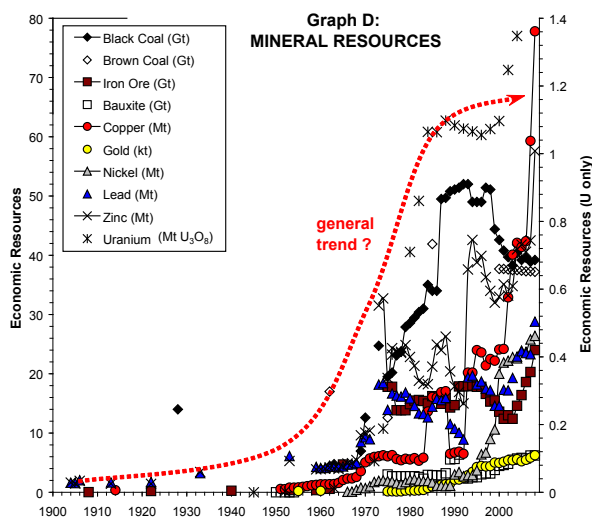
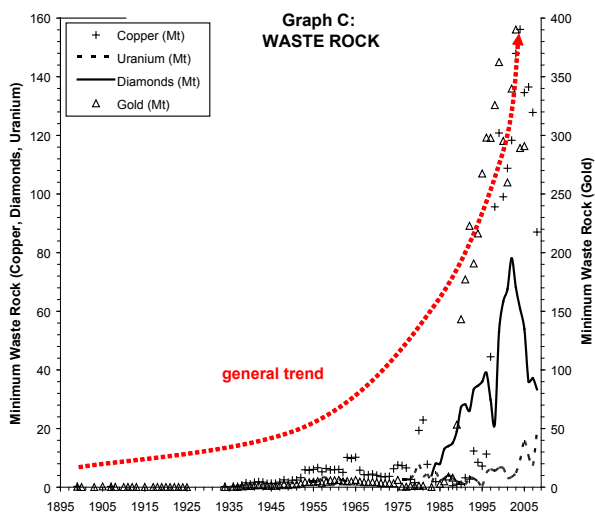
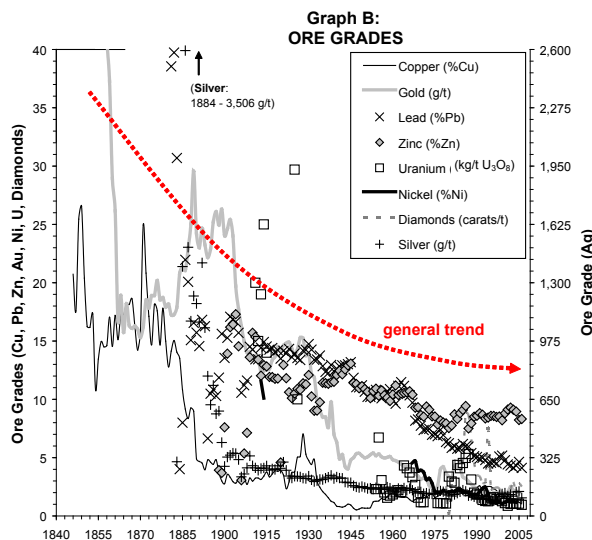
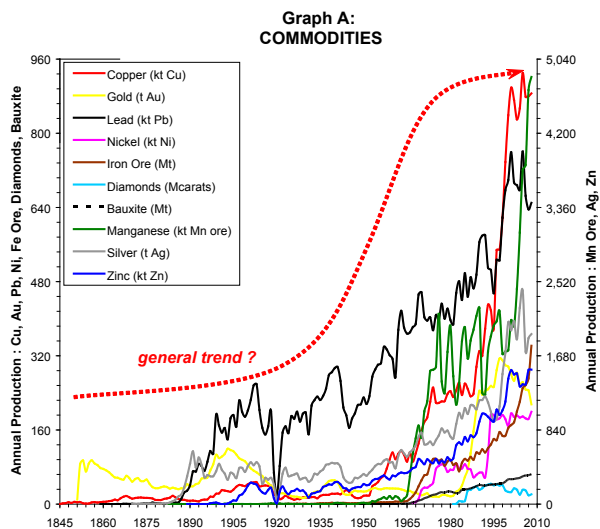


Mega-Trends in the Australian Mining Industry

Recent Australian research has shown that while mineral production continues to grow strongly for almost all commodities (graph A), key 'mega-trends' underpinning this include declining ore grades (graph B), exponentially increasing waste rock (graph C), and variable success in expanding economic mineral resources (graph D). Collectively, these point to significant environmental challenges for the future of mining and mineral processing, such as potentially increased unit energy, pollutant, waste and water costs, and subsequently higher production costs (especially as environmental costs become internalised).

This will impact not only the demand for minerals and metals, but also drive the search for alternative technologies across exploration, mining, milling, smelting and refining. In the long term, it will increase the need for greater material efficiency and recycling. There is perhaps more synergy between the concept of 'peak oil' and 'peak minerals' than people are yet to realise – and requires very careful research to understand and transform the delivery of minerals and the services they provide.



The full report is available at: <http://civil.eng.monash.edu.au/about/staff/muddpersonal/rr5/>

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