



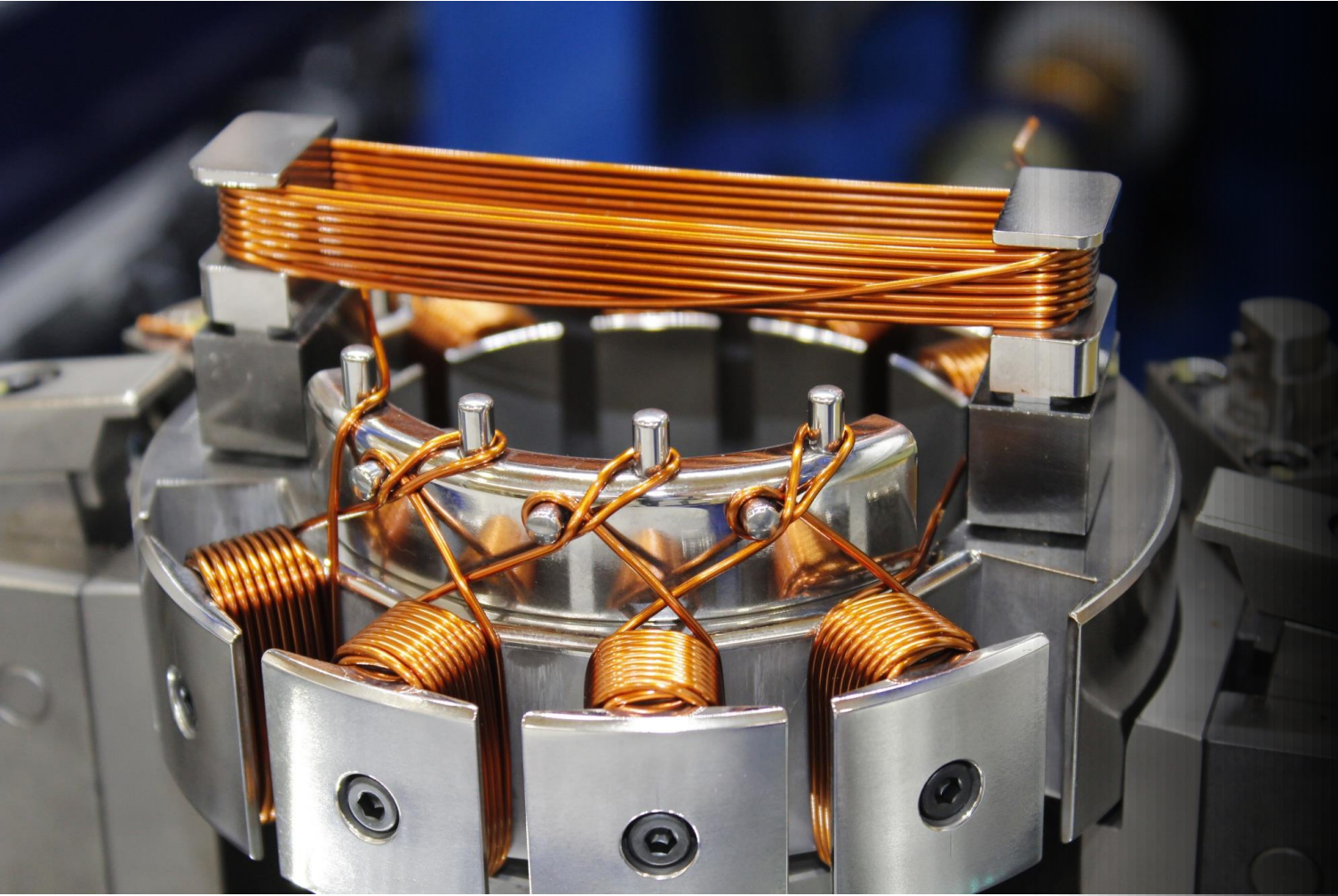
SENSOR TECHNOLOGY FOR
SUSTAINABLE COPPER PRODUCTION

CHRIS BEAL | NEXT ORE CEO

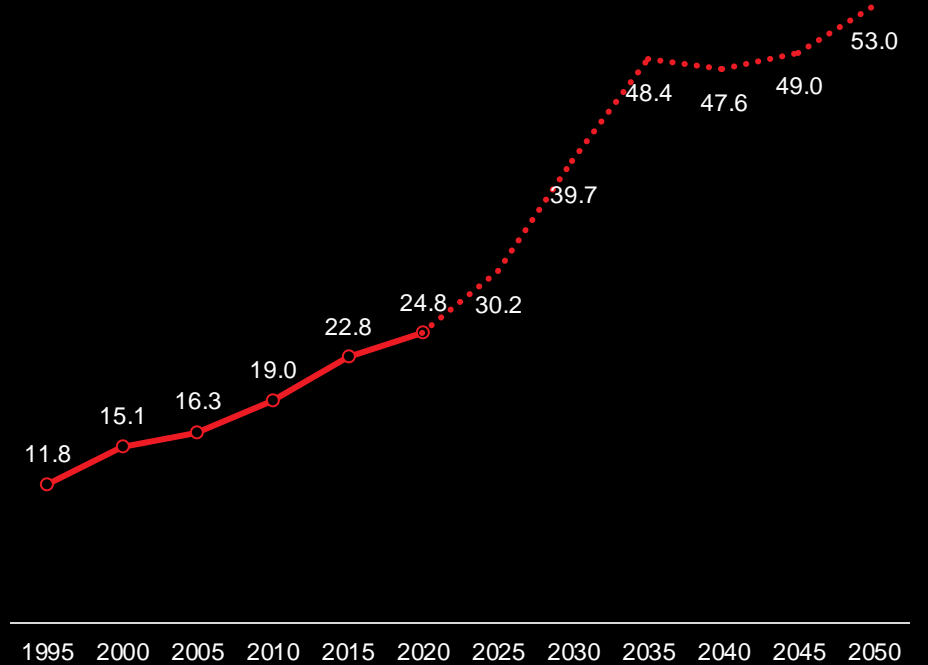
Resources, Energy and Industry
Innovation Forum



Electrification and technology is driving up copper demand

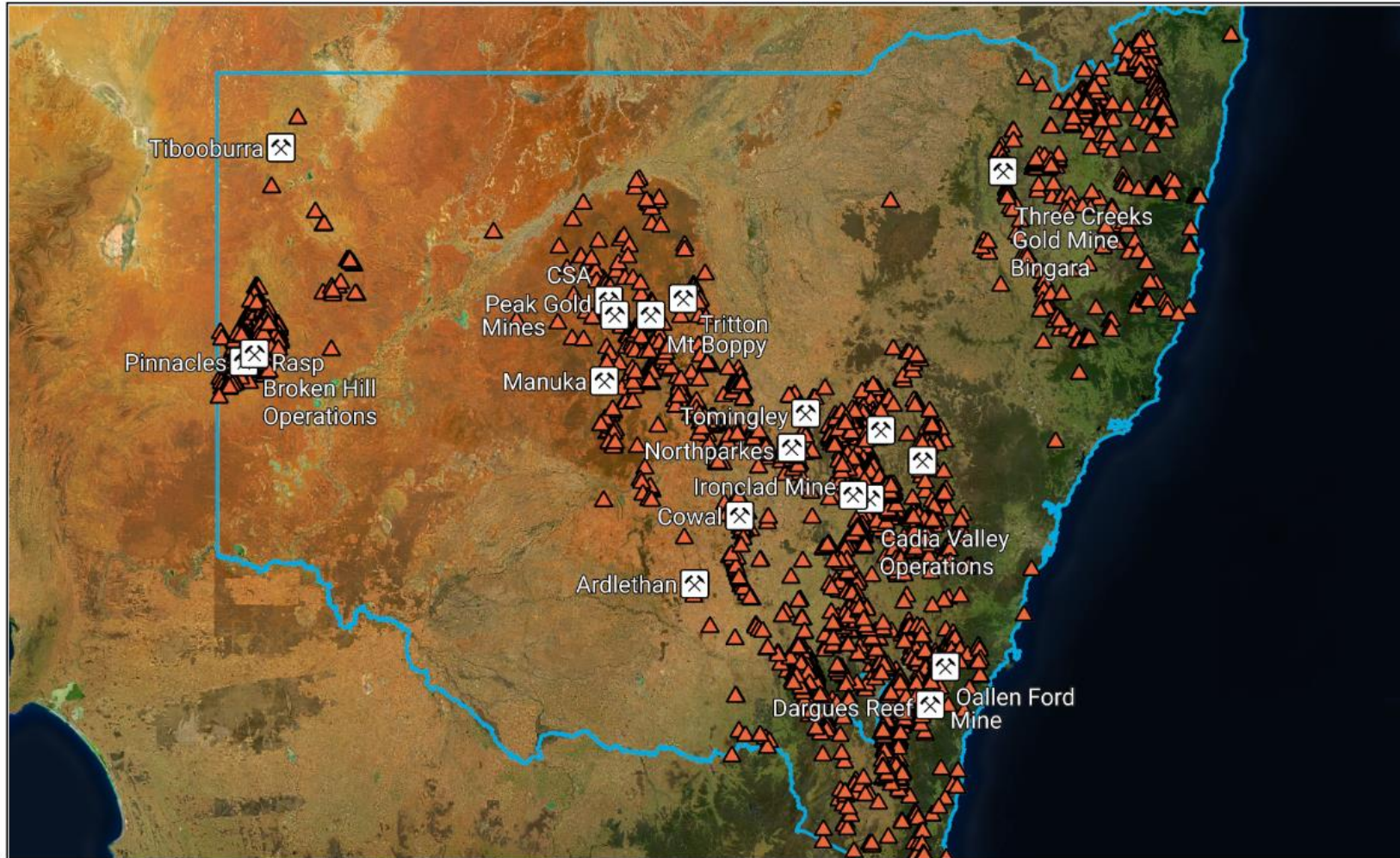


Historical and Forecast Global Copper Demand (billions of kg)



SOURCE: S&P Global, Accenture Strategy

NSW is a significant copper producer, and has been for a long time



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Mining consumes electricity, water, and fuel

1,000 L of water



1 Tonne ore
0.3%Cu



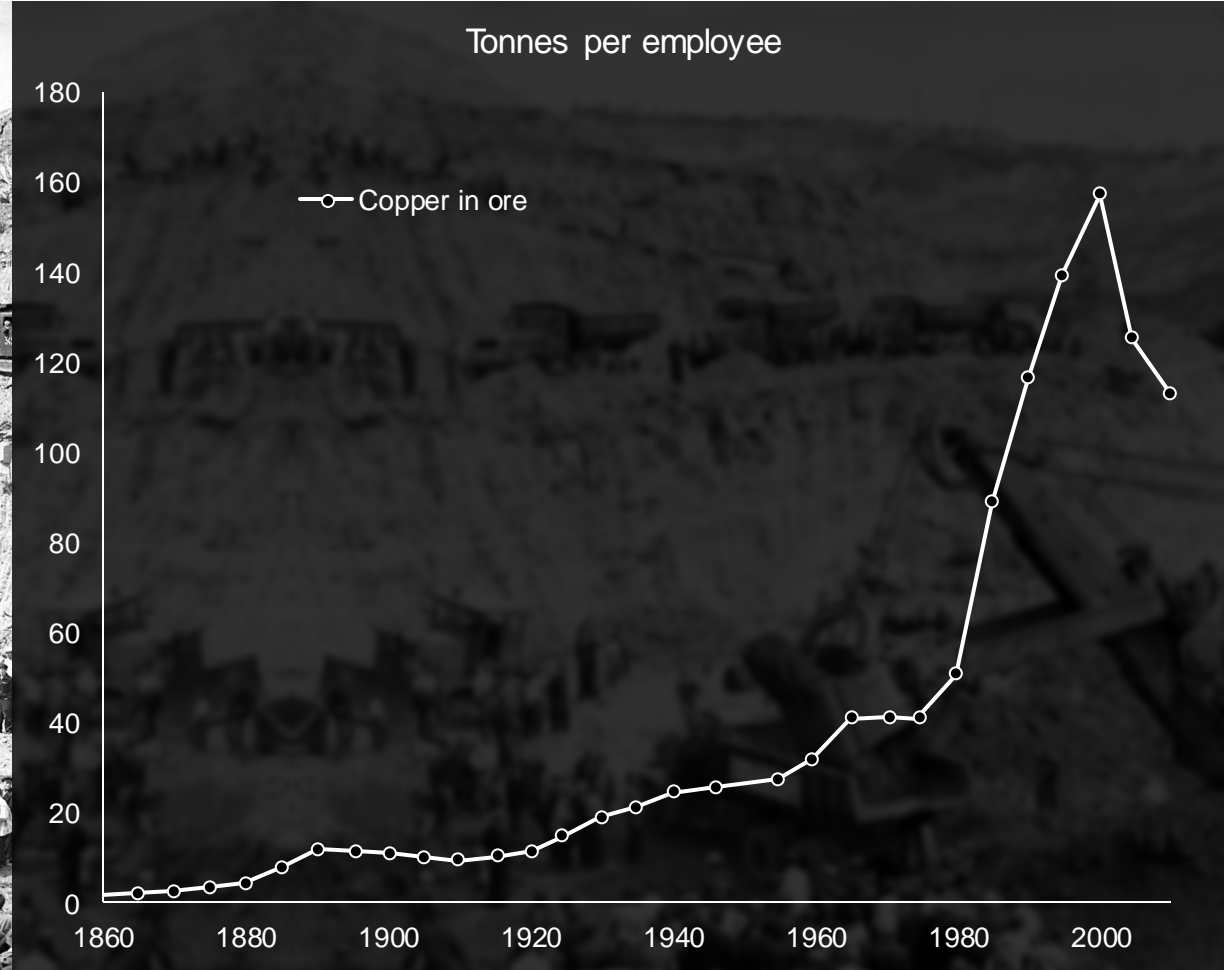
2.7 kg copper



Mining previously relied on economies of scale, but it no longer can

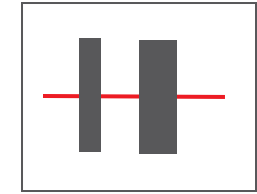


Mikhailovskoye iron mine (~1960)
PHOTO: <https://kpravda.ru/>

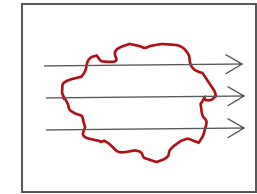


Humphreys, D. Mining productivity and the fourth industrial revolution. *Miner Econ* 33, 115–125 (2020).

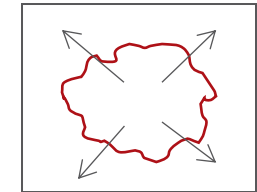
Sensing using magnetic resonance



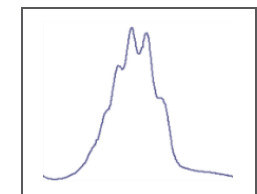
RF Pulse



Sample Penetration



Echo Response



Measurement

Bulk sorting is a way of identifying and eliminating waste from downstream processes



NextOre's sensors are growing each year and there are more exciting things to come



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