

What's the outlook?

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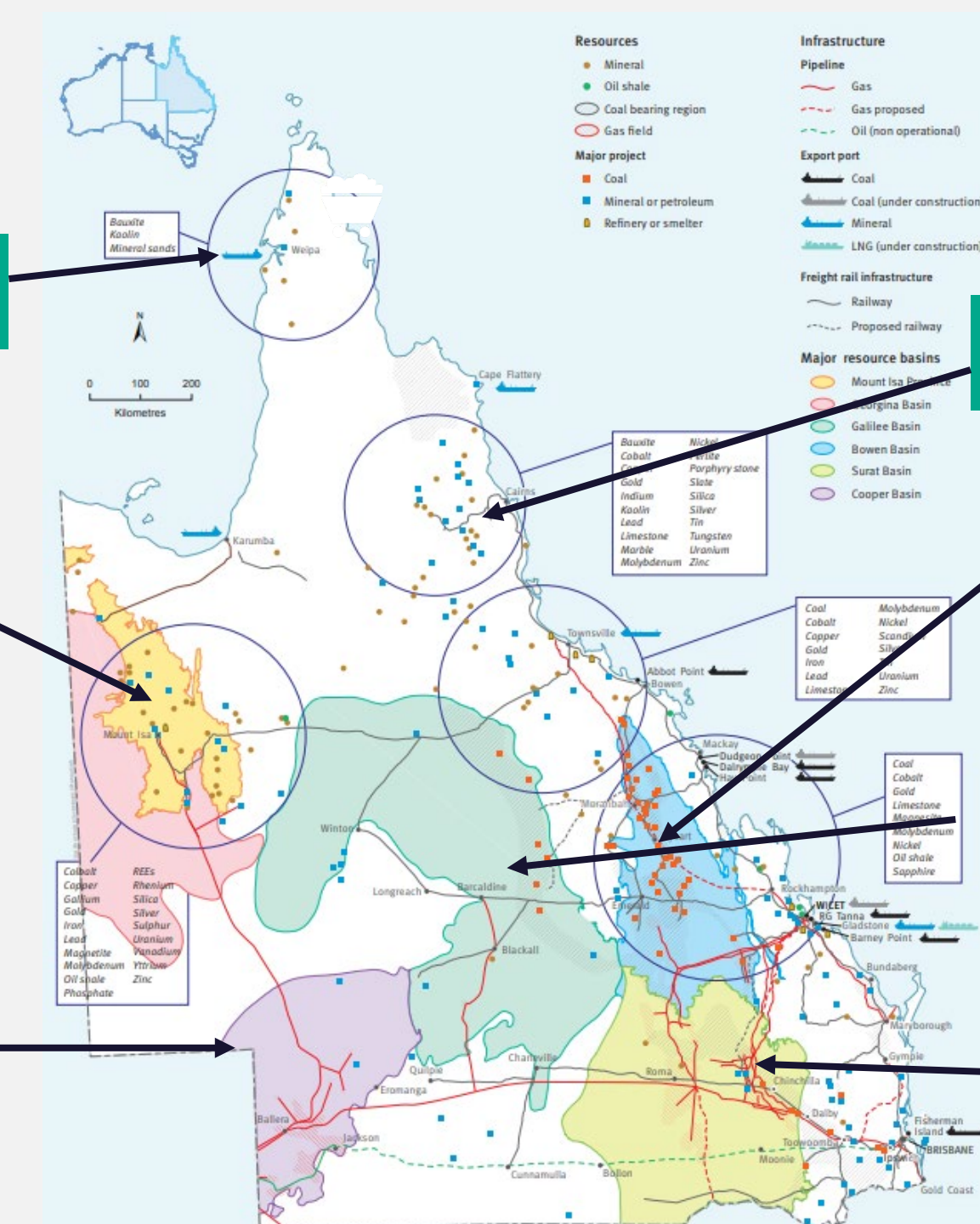


QLD'S EXTRAORDINARY RESOURCE ENDOWMENT

Bauxite -
Cape York

Metals, uranium –
North West
Minerals
Province

Conventional oil
& gas – **Cooper
Basin**



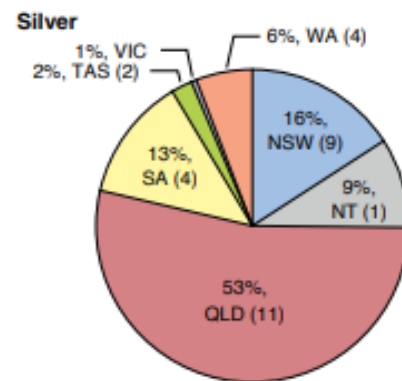
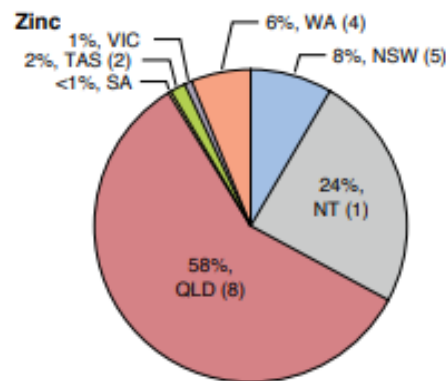
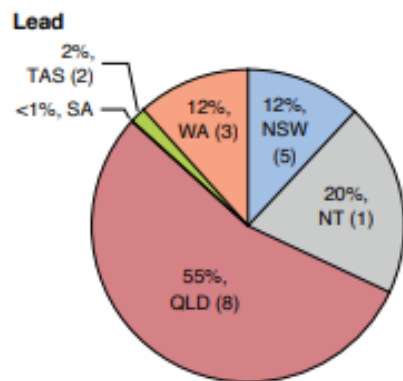
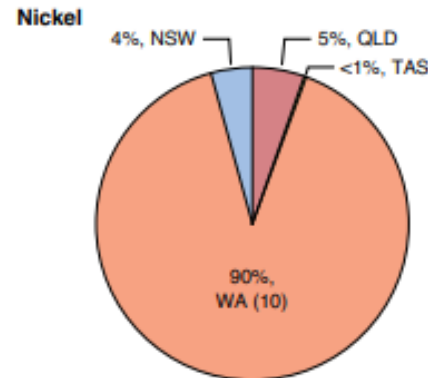
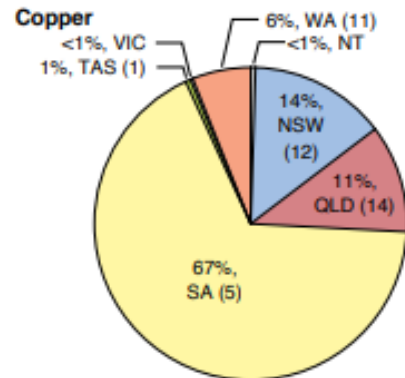
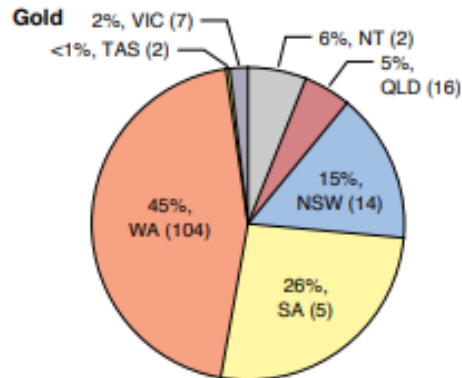
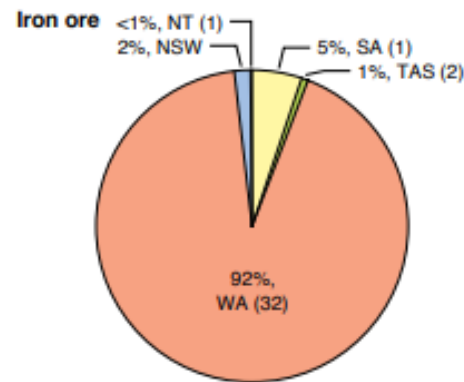
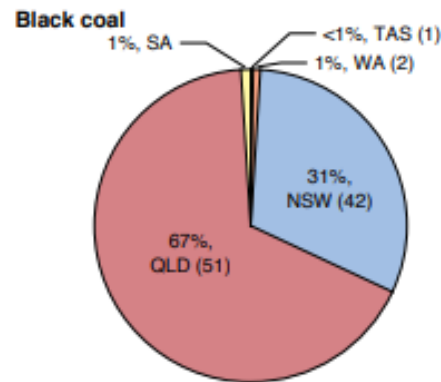
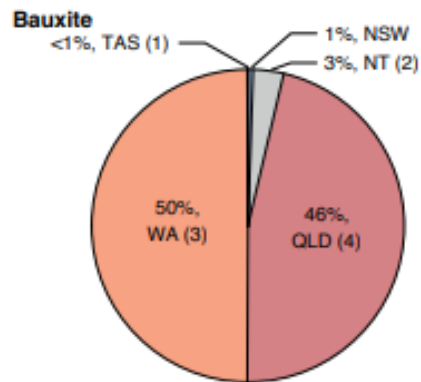
Base & precious metals –
Far North Queensland

Metallurgical, thermal coal,
coal-seam gas – **Bowen Basin**

Thermal coal - **Galilee Basin**
(under development)

Thermal coal, coal
seam gas – **Surat
Basin**

Distribution of economic demonstrated resources in Australian jurisdiction as at December 2019



QLD'S MAJOR DEPOSITS

Queensland's is home to much of Australia's mineral wealth. By economic demonstrated resources, Queensland has a majority of Australia's:

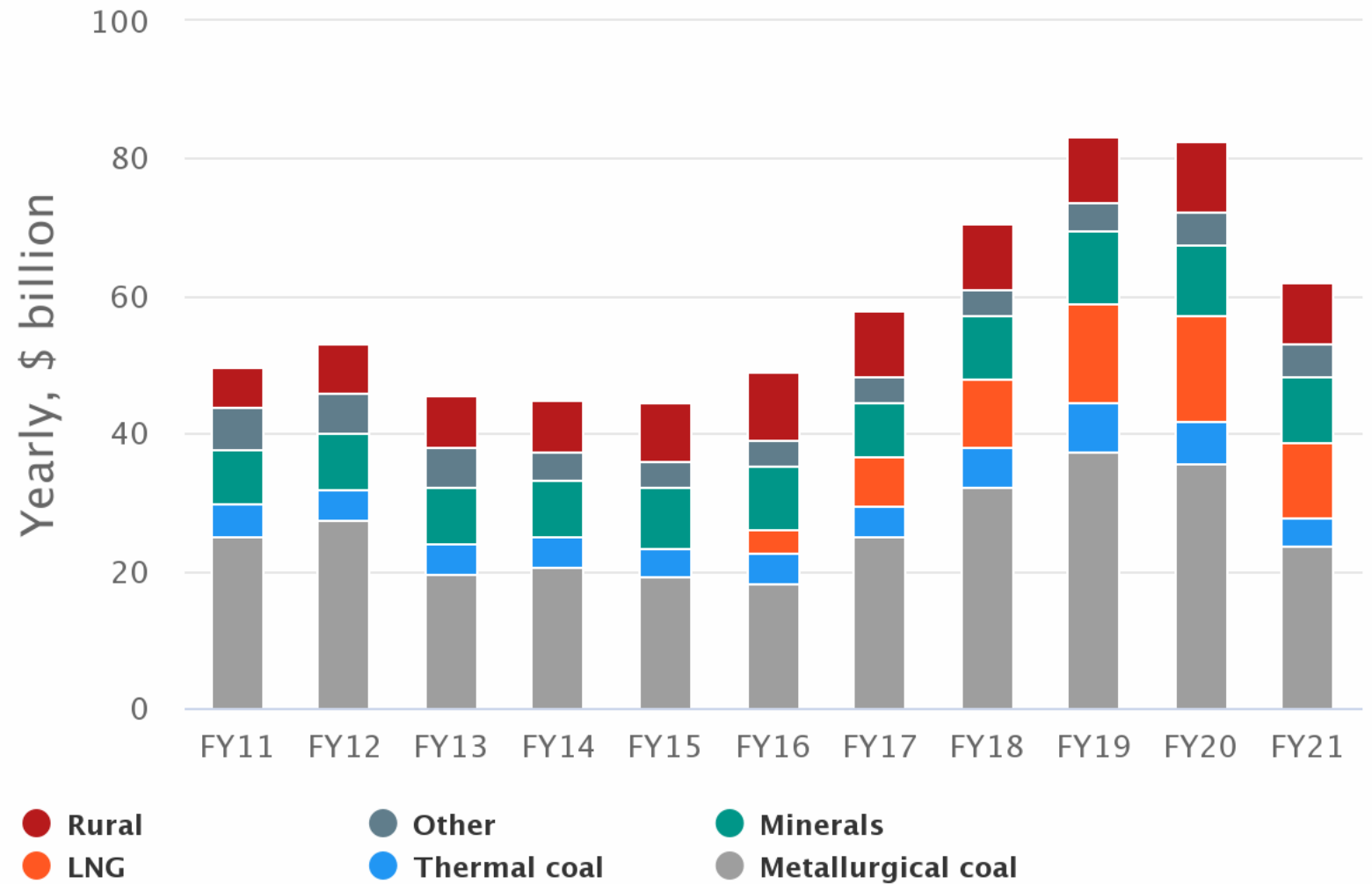
- **Coal** – 67% and 51 operations
- **Lead** – 55% and 8 operations
- **Zinc** – 58% and 8 operations
- **Silver** – 53% and 11 operations
- **Bauxite** – 46% and 4 operations

CONTRIBUTION TO EXPORTS

Resources account for ~80% of Queensland's goods exports (by value).





In the 12 months to January 2021, Queensland's top three exports by value were:

- **Metallurgical coal** (~\$24 billion)
- **LNG** (~\$11 billion)
- **Minerals** (~\$10 billion)



Source: QLD Treasury

Commodity market scoreboard

Sector	Drivers	Bearish-Neutral-Bullish				
Energy	<ul style="list-style-type: none"> Improving mobility data Refiners' oil utilisation OPEC+ production increase US shale oil production Inventories drawdown 	Weak		Neutral		Strong
Precious metals	<ul style="list-style-type: none"> US 10-yr yield Inflation expectations USD movement ETF flows Improving physical demand 	Weak		Neutral		Strong
Industrial metals	<ul style="list-style-type: none"> Industrial activity Exchange metal inventories Improving supplies from S. America 	Weak				Strong
Bulks	<ul style="list-style-type: none"> China steel profitability and production Steel inventories destocking Australian and Brazilian iron ore exports 	Weak		Neutral		Strong

ANZ IS UPBEAT

Given the times, ANZ's global commodity scorecard is quite positive.

For Queensland, ANZ's analysis calls out:

- LNG exports strong
- Chinese coal stocks falling
- Aluminum supply tightening

BULL(ish) IN A CHINA SHOP

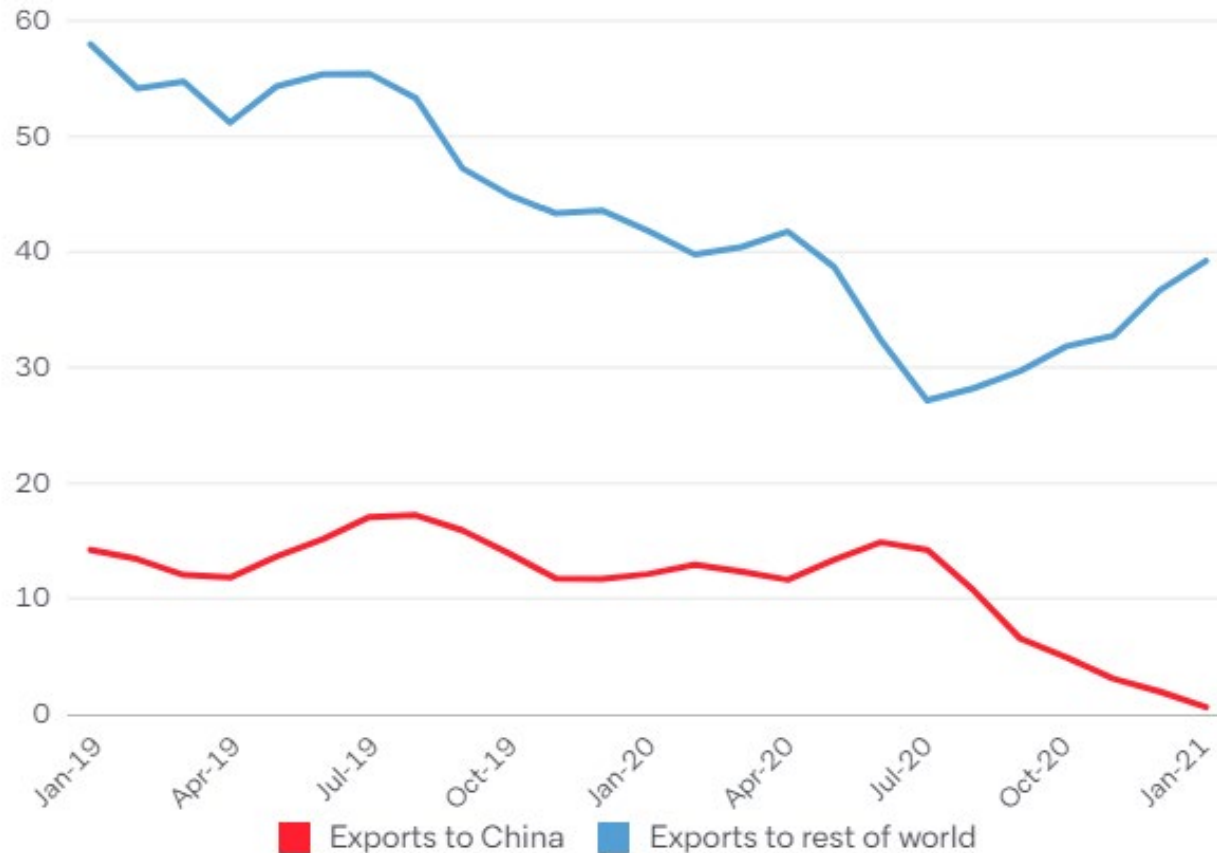
China's focus on Australian coal exports have disrupted seaborne markets.

High quality Queensland coal is finding new markets – often replacing coal cargos diverted into China.

The Commonwealth's five-year outlook is relatively upbeat on coal values. (March 2021)

Australian coal exports sanctioned by China shift to other markets

AUD BILLIONS, ANNUALISED 3-MONTH MOVING AVERAGE



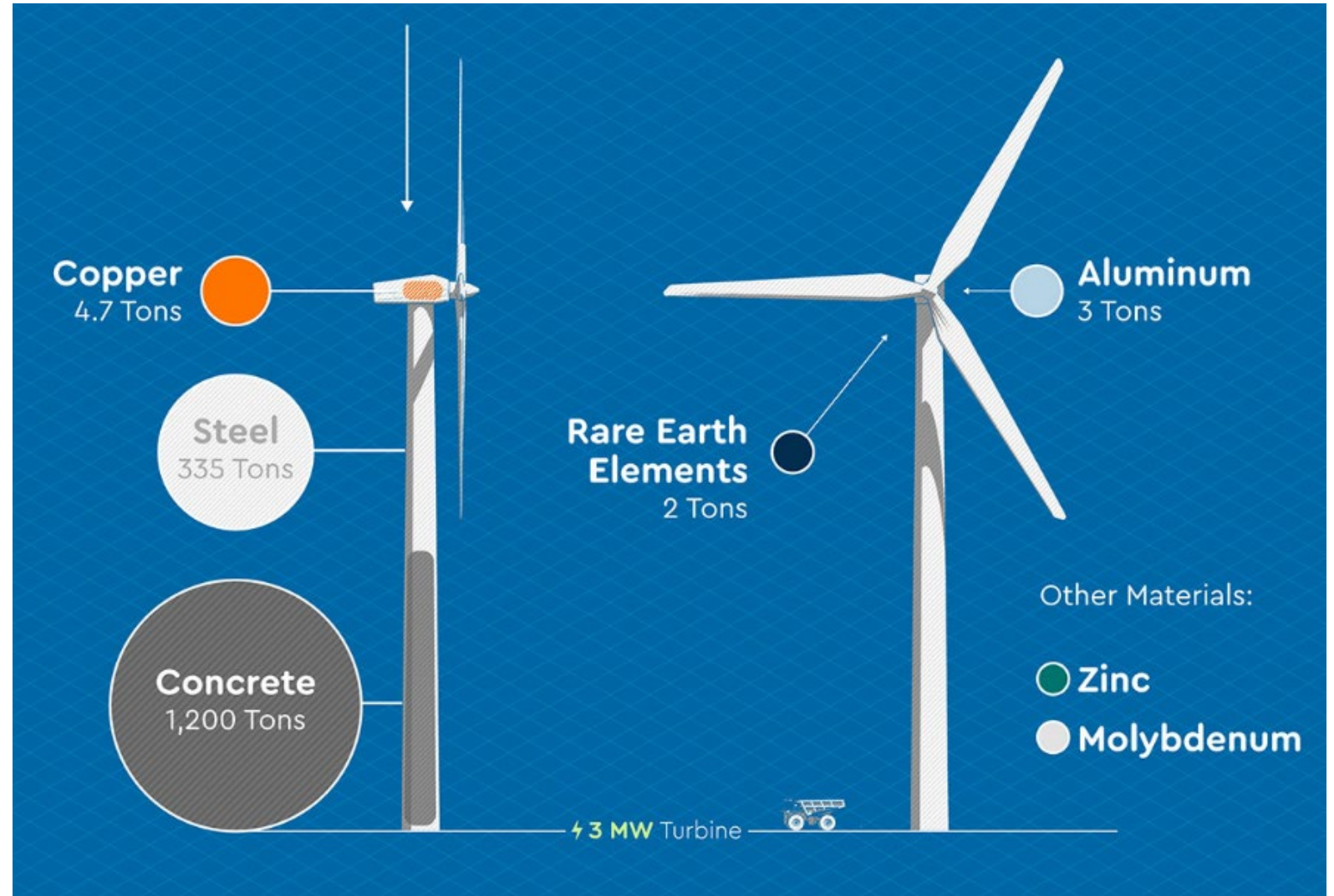
Source: Lowry Institute (8 April 2021)

WIND TOWER

Wind towers don't grow on trees.

A typical 3 MW wind tower needs plenty of mined and manufactured components.

Good news for steel demand (iron ore & coking coal), copper, aluminum, zinc, and new economy minerals.



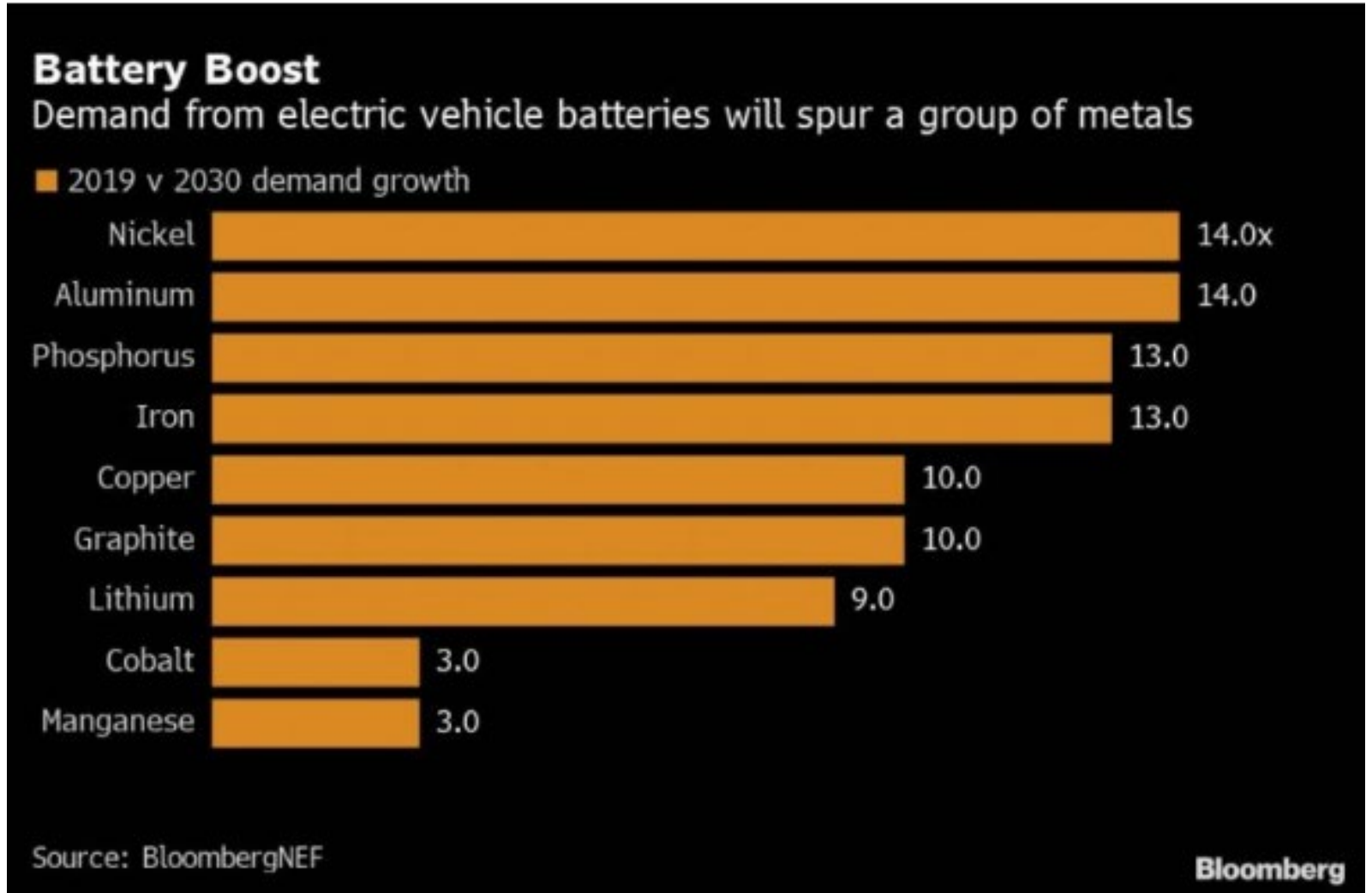
Source: Visual Capitalist

BATTERY BOOST

Bloomberg estimate the growth in demand for key battery minerals out to 2030.

- **14x** the demand in aluminum
- **10x** the demand for copper
- **10x** the demand for graphite
- **3x** the demand for cobalt

All good news for Queensland



IS COPPER THE NEW OIL?

Goldman Sachs say a copper supply crunch is looming as demand soars.

They are bullish on price to rise by up to 60% by 2025.

Robert Friedland is predicting “**psychedelic demand**” as copper underpins the renewable energy revolution.

Groovy!



LME COPPER HISTORICAL PRICE GRAPH



Source: LME - April 2016 – April 2021

THE METALLURGY OF RECYCLING



Constructing a smart phone requires gold, silver, palladium, platinum, aluminum and copper.

Are there opportunities in the deconstruction of e-waste?

One tonne of recycled iPhones could deliver up to:

- 300 times more gold than a tonne of gold ore and
- 6.5 times more silver than a tonne of silver ore

Source: BBC



To address fuel shortages during World War Two, the Queensland Government authorised the construction of a hydrogen plant designed by Australian engineer J.S. Just.

