

DO THE BEST DAYS FOR AUSTRALIA'S RESOURCES SECTOR STILL LIE AHEAD?

THE 46TH SIR GEORGE FISHER LECTURE

HOSTED BY THE AUSTRALIAN INSTITUTE OF MINING AND METALLURGY
(NORTH QUEENSLAND BRANCH)

RYDGES SOUTHBANK, TOWNSVILLE

21ST AUGUST 2026



SAUL ESLAKE

CORINNA ECONOMIC ADVISORY
INDEPENDENT ECONOMICS

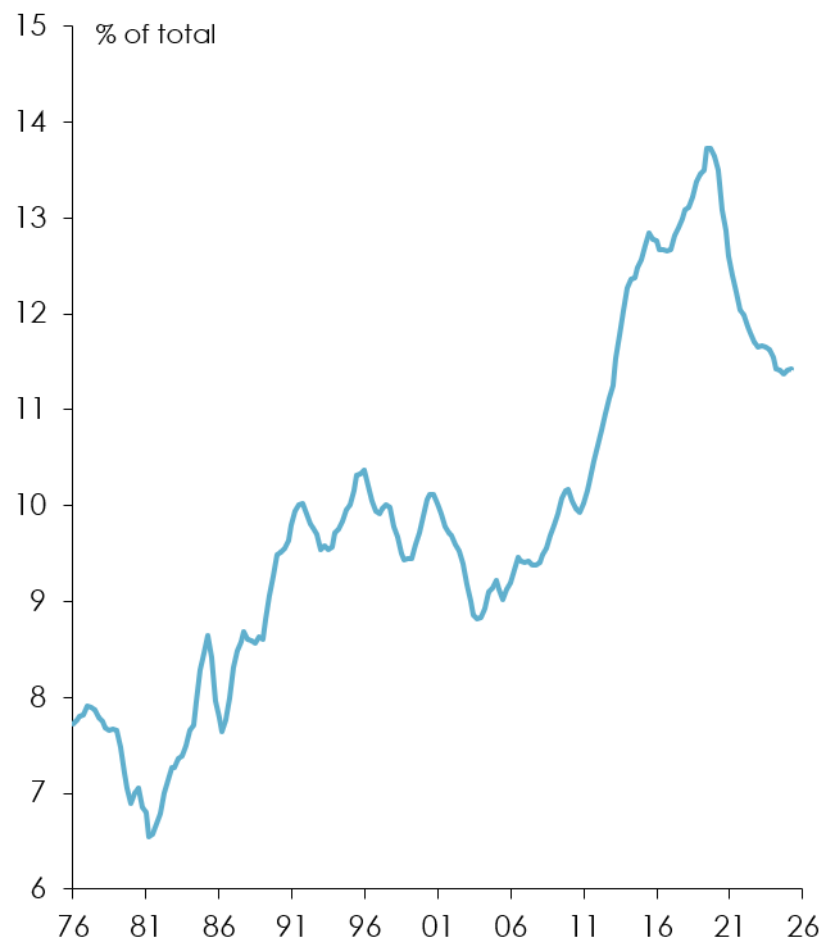
Sir George Fisher



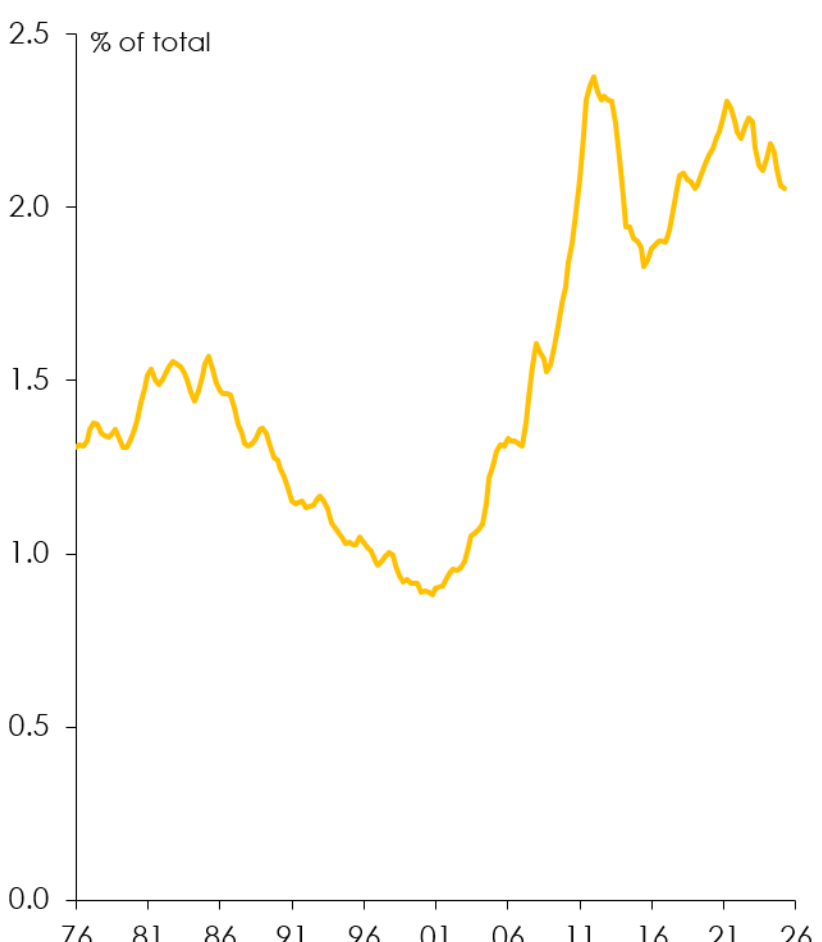
- ❑ Born in Gladstone, South Australia in 1903
- ❑ Graduated in mining engineering from the University of Adelaide in 1925
- ❑ Began his career at the Zinc Corporation in Broken Hill, as a surveyor, rising to become General Manager in 1945
- ❑ In 1952 became the Managing Director of Mount Isa Mines, and Chairman in 1953, remaining in those positions until 1973
 - during his tenure production of copper, lead, silver and zinc at MIM rose from 1,500 tons to 16,000 tons per day
 - and the population of Mt Isa rose from 6,000 to over 20,000
- ❑ In 1952 became the Managing Director of Mount Isa Mines, and Chairman in 1953
- ❑ He was the Foundation Chancellor of James Cook University in 1970, founding President of the Australian Mining Industrial Council, and three times President of the Australian Institute of Mining and Metallurgy
- ❑ He passed away in 2007 at the grand old age of 104

Mining is important to the Australian economy

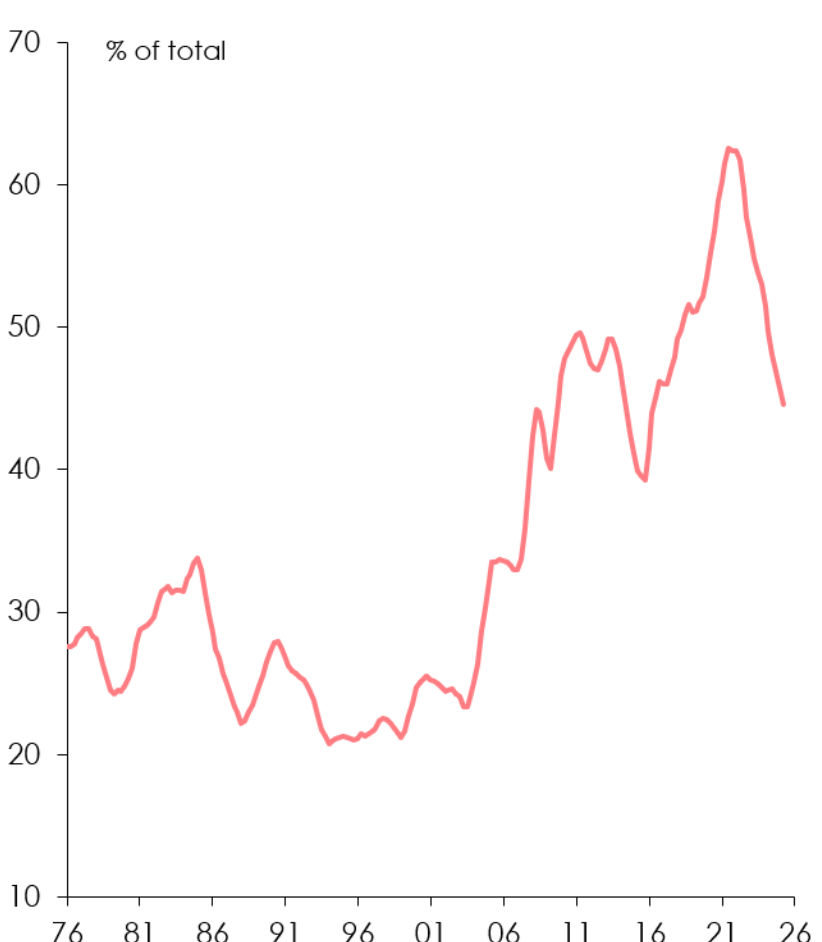
Mining gross value added as a share of Australia's GDP



Mining employment as a share of total Australian employment



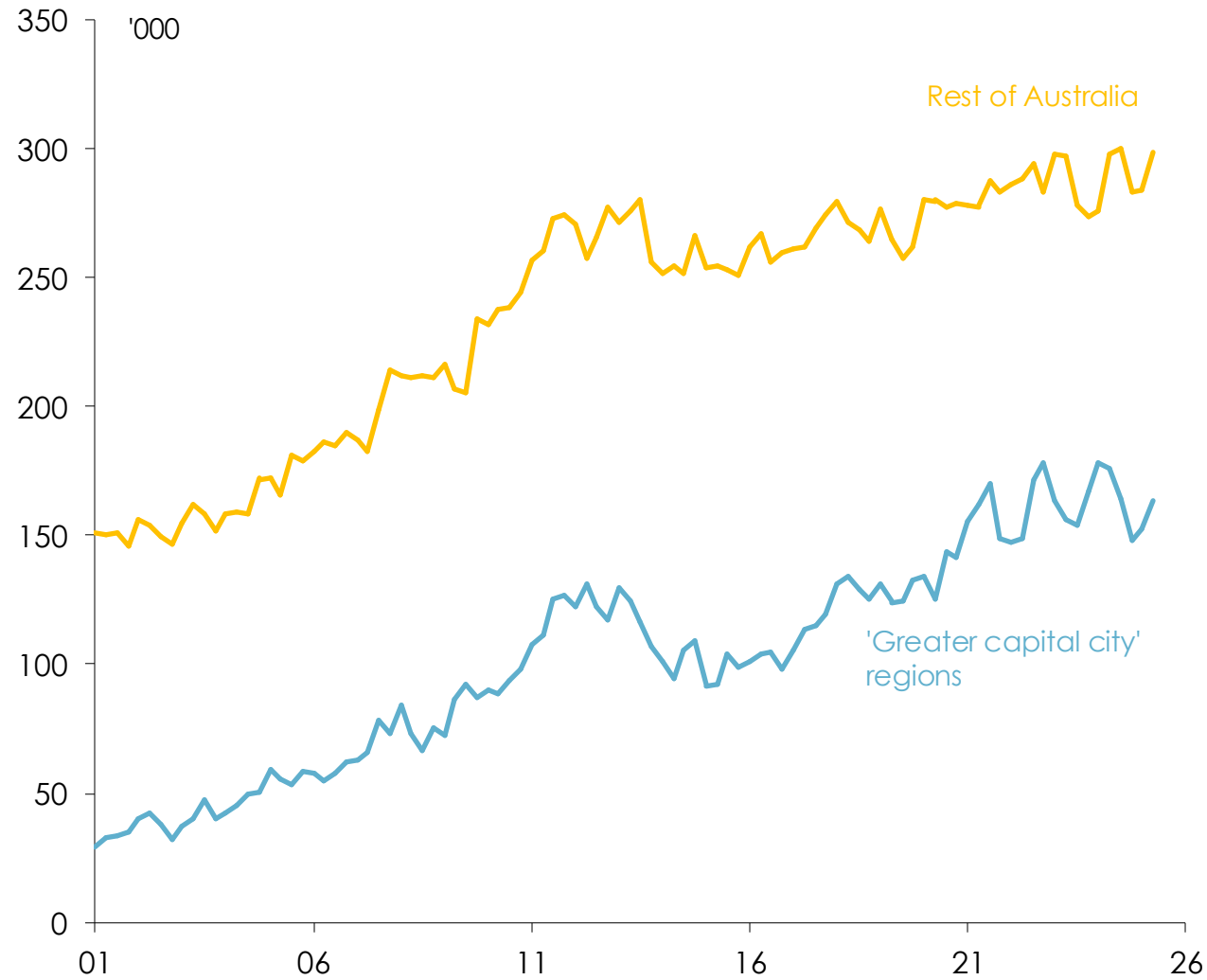
Minerals and energy exports as a share of total Australian exports



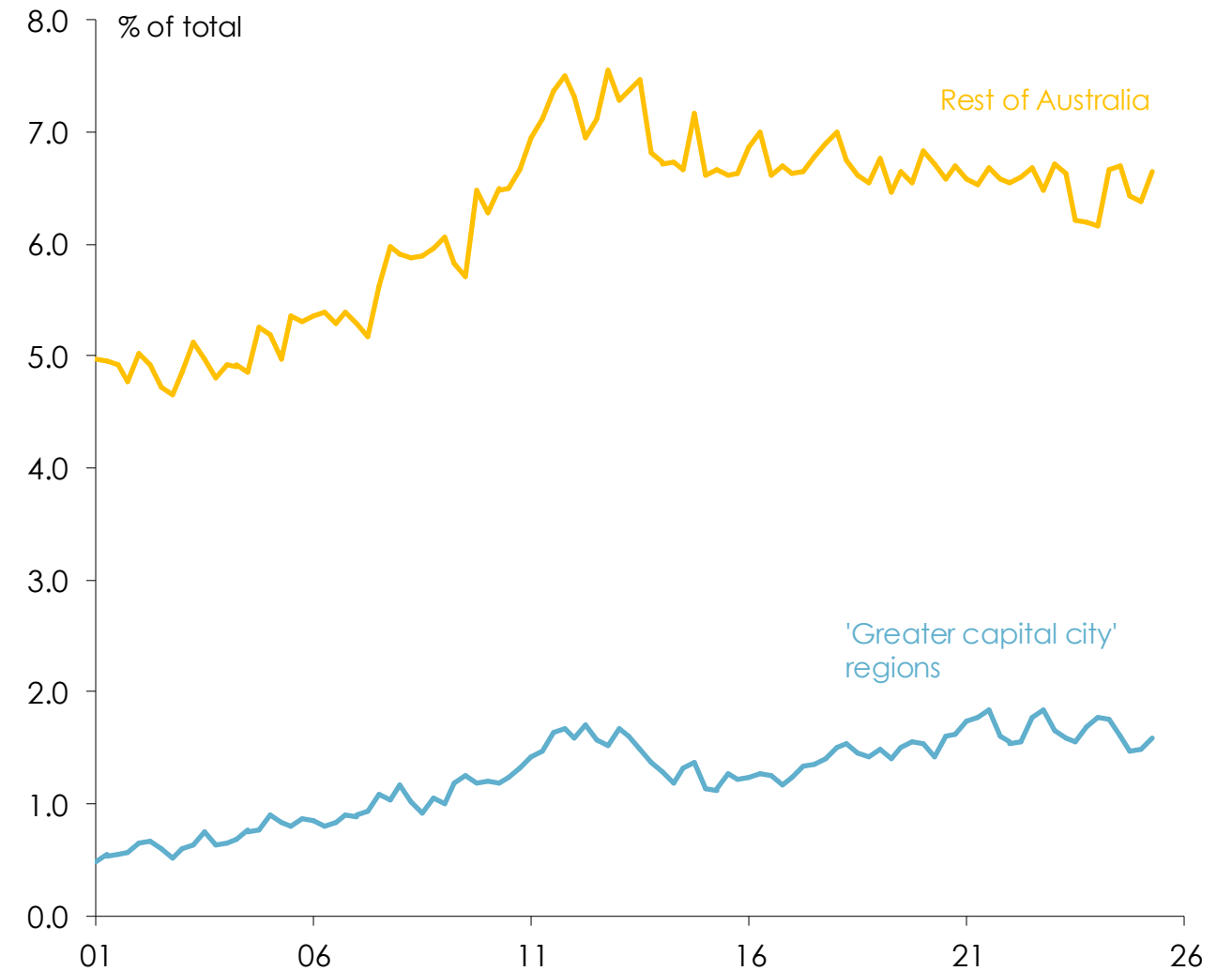
Sources: ABS, [Australian National Accounts: National Income, Expenditure and Product](#), March quarter 2026; [Labour Force, Australia](#), June 2026; and [Balance of Payments and International Investment Position, Australia](#), March quarter 2026.

Mining is especially important in regional Australia – both directly and (especially) indirectly

Mining employment – capital cities vs regions



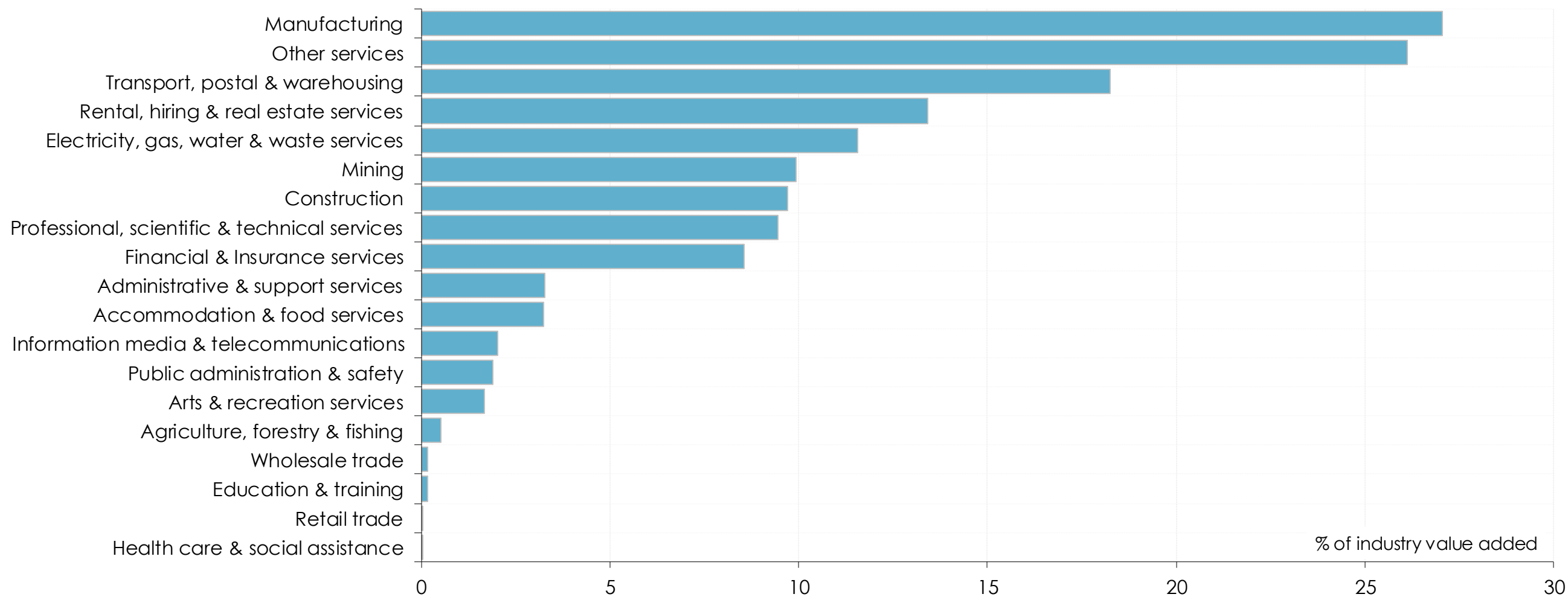
Mining employment as a pc of total employment



Source: ABS, [Labour Force, Australia, Detailed](#), Table EQ03, February 2026.

Mining indirectly contributes to other sectors of the Australian economy, in particular manufacturing

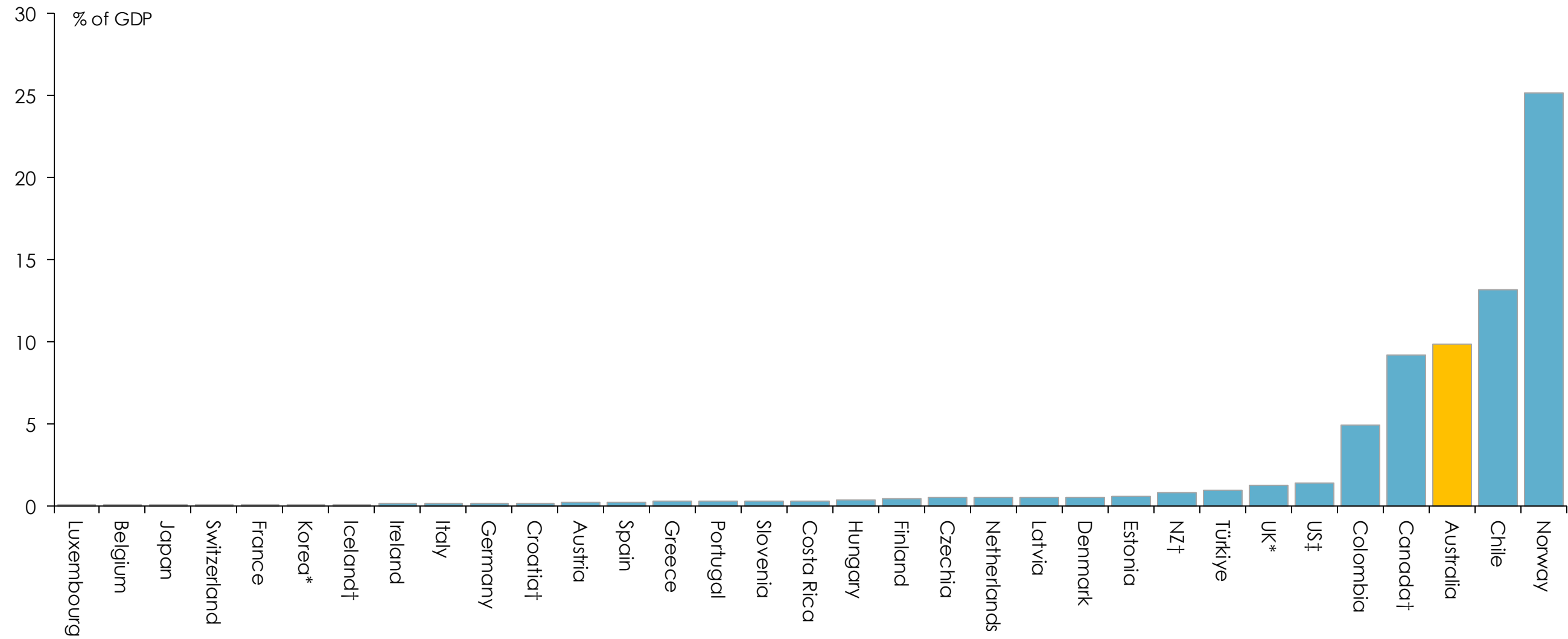
Mining sector purchases of the output of other industries, as a percentage of those other industries' 'value added', 2023-24



Note: major use of 'other services' by mining industry is repair & maintenance services; major use of 'rental, hiring & real estate services' is equipment hiring. Exploration & mining support services are included within mining. Source: ABS, [Australian National Accounts: Supply Use Tables](#), 2023-24 financial year.

Mining accounts for a bigger share of Australia's economy than of any other 'developed' economy except Norway's ...

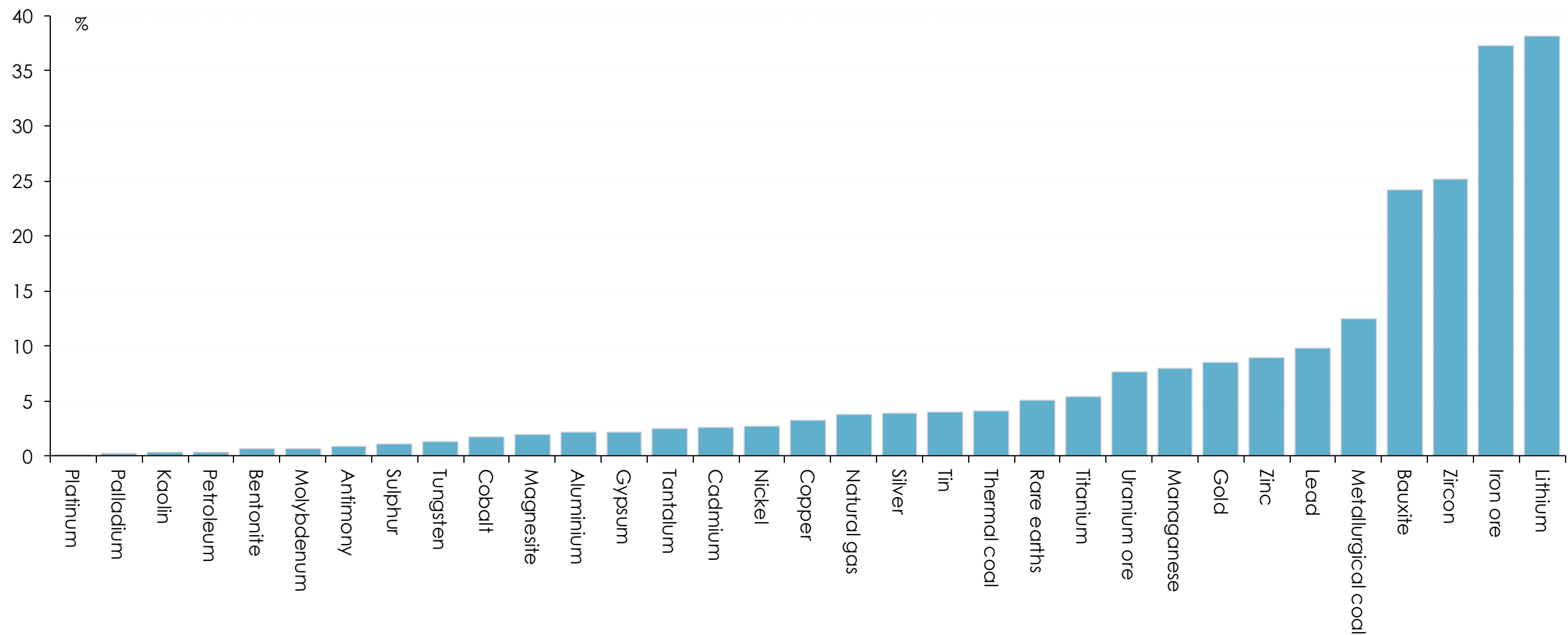
Gross value added by mining as a percentage of GDP – OECD economies, 2023



* 2023 † 2022 ‡ 2021. 'Mining' includes oil and gas production
6 Source: OECD, [Data Explorer](#).

... and Australia is important to mining globally

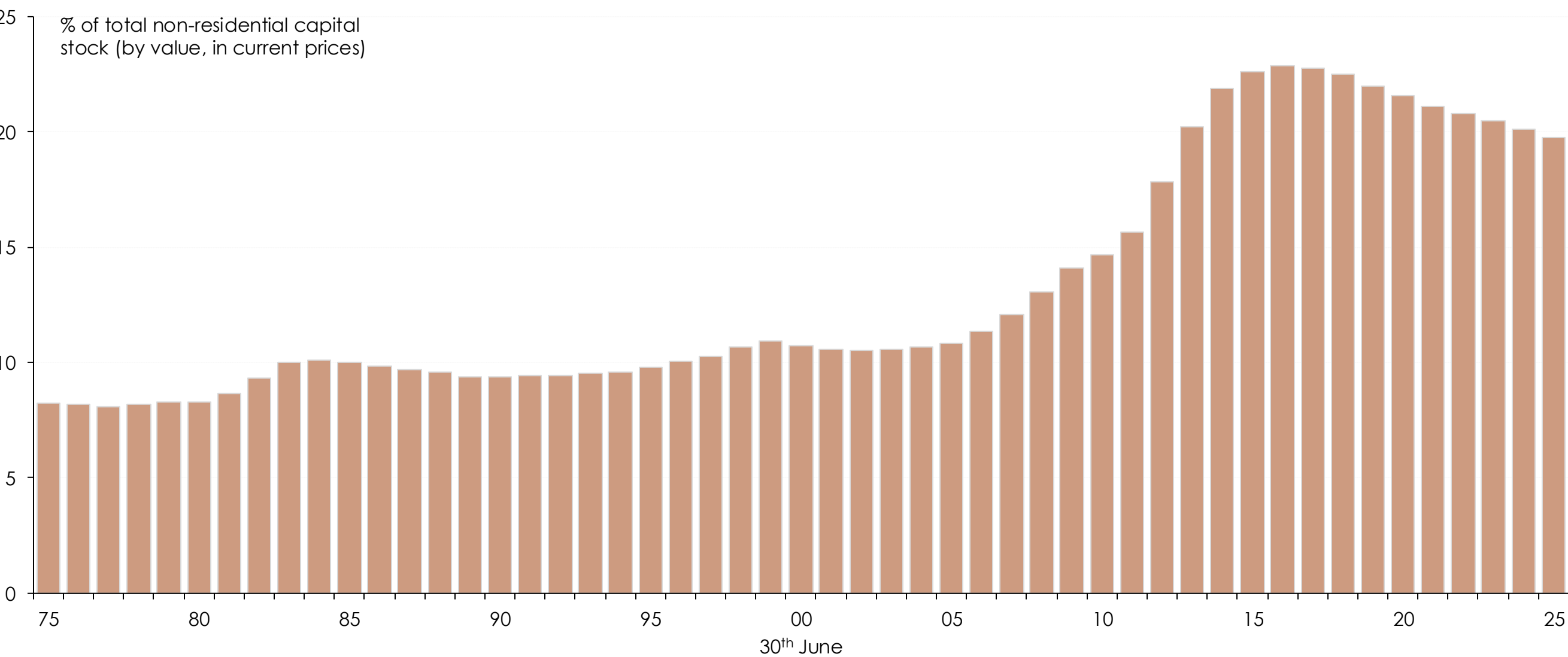
Australia's share of world mineral and energy production, 2024



Source: Austrian Federal Ministry of Finance, Directorate VI-5, [World Mining Data](#), Volume 41, 2026.

Mining is a capital-intensive business: it accounts for around 20% of Australia's total non-residential capital stock

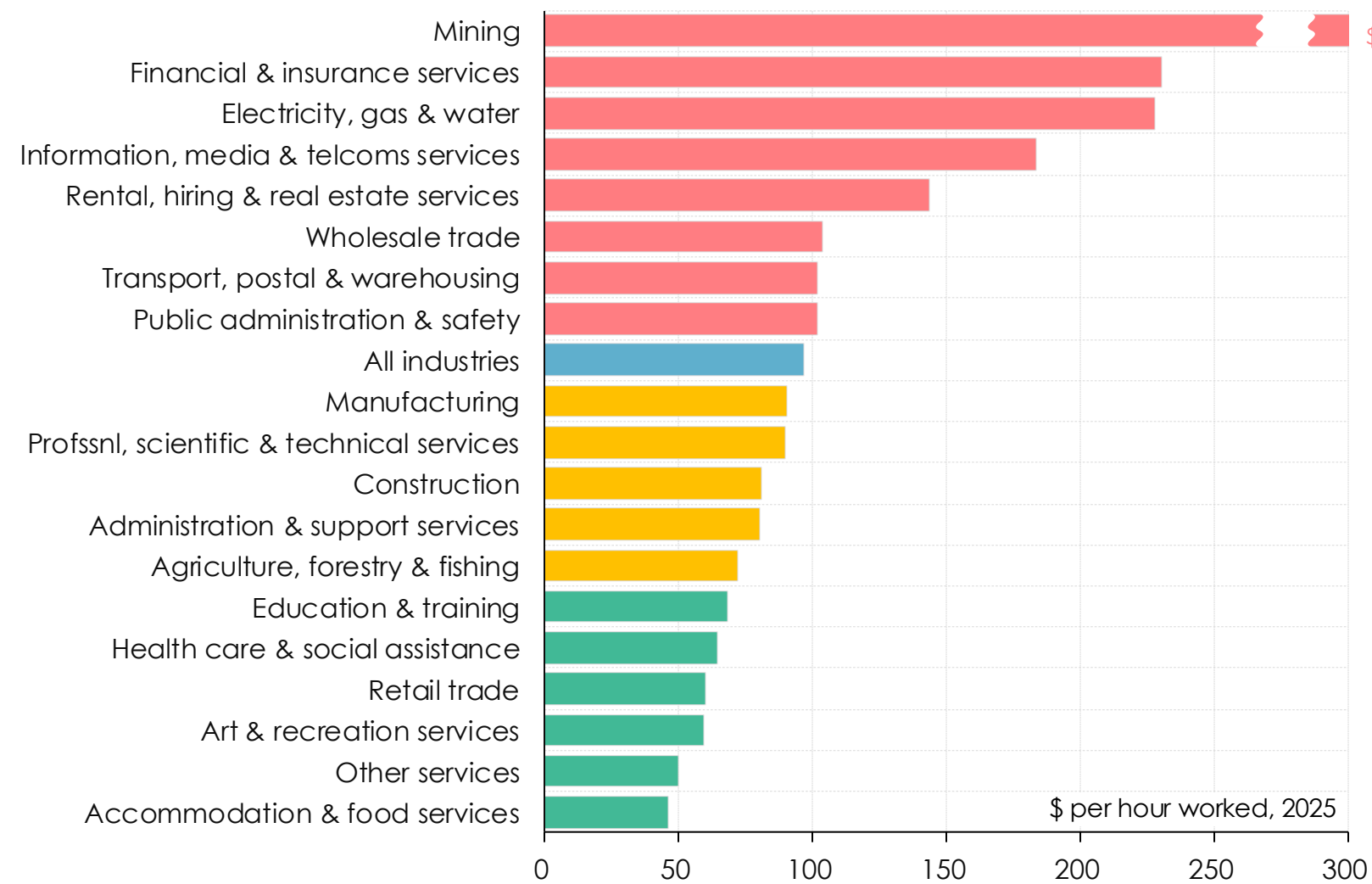
Australian mining industry net capital stock as a percentage of total non-residential capital stock



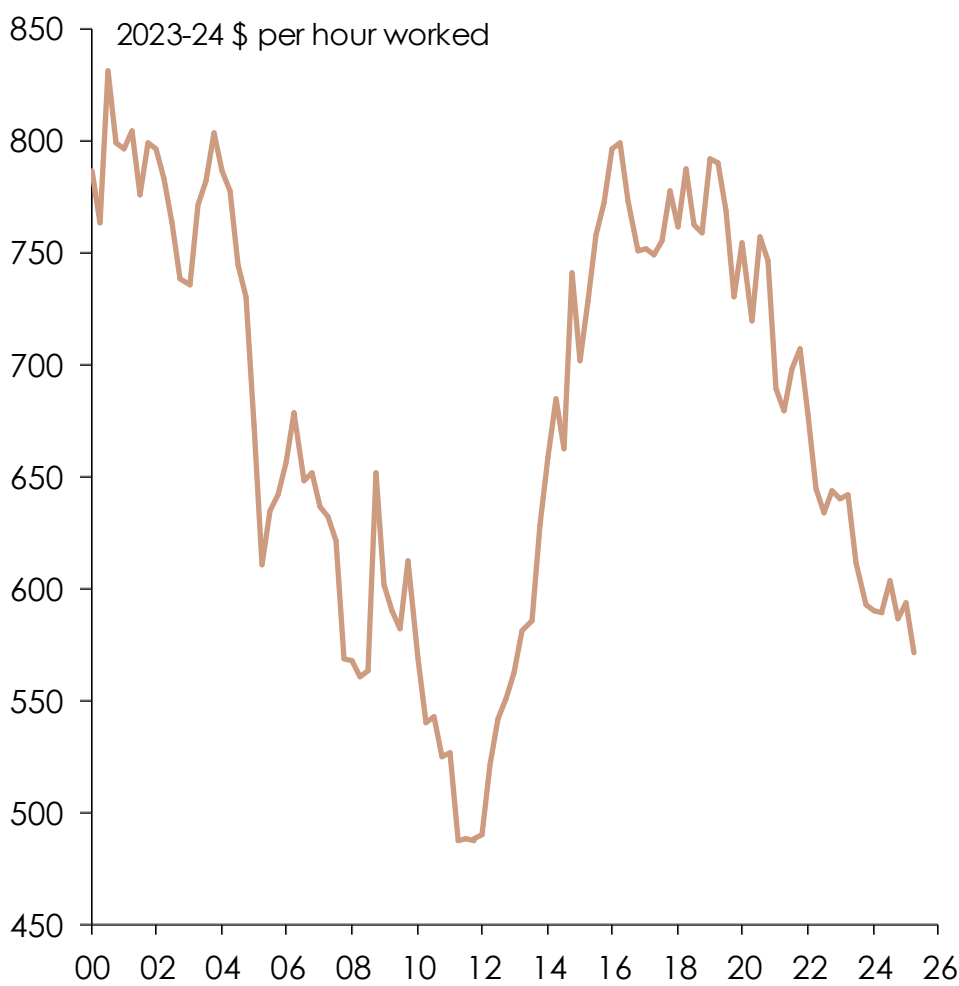
Source: ABS, [Australian System of National Accounts](#), 2024-25 financial year

Because it's so capital-intensive, mining is a very high labour productivity industry – although mining productivity has fallen over the past decade

Australian labour productivity (gross value added per hour worked) by industry, 2024-25

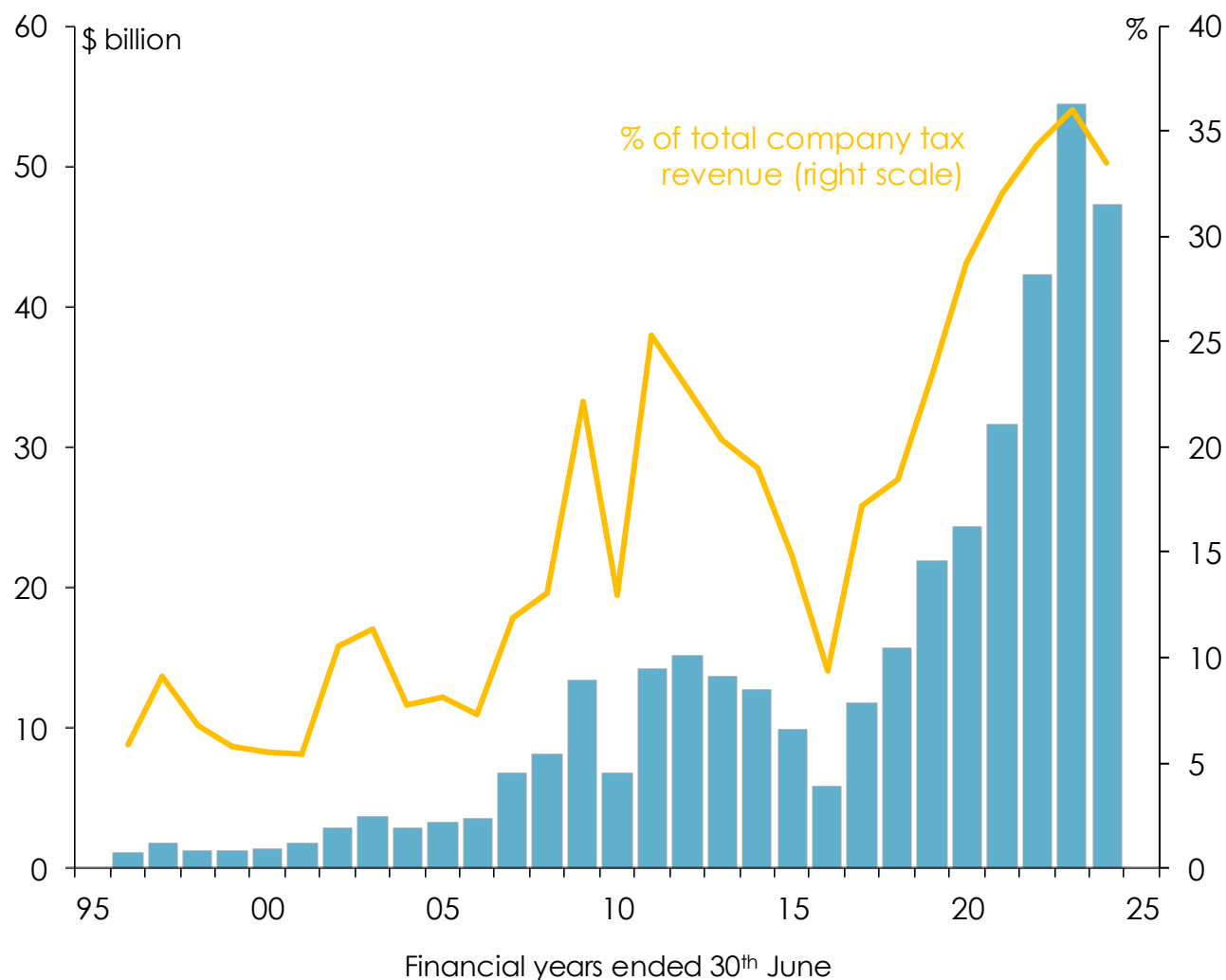


Labour productivity in mining

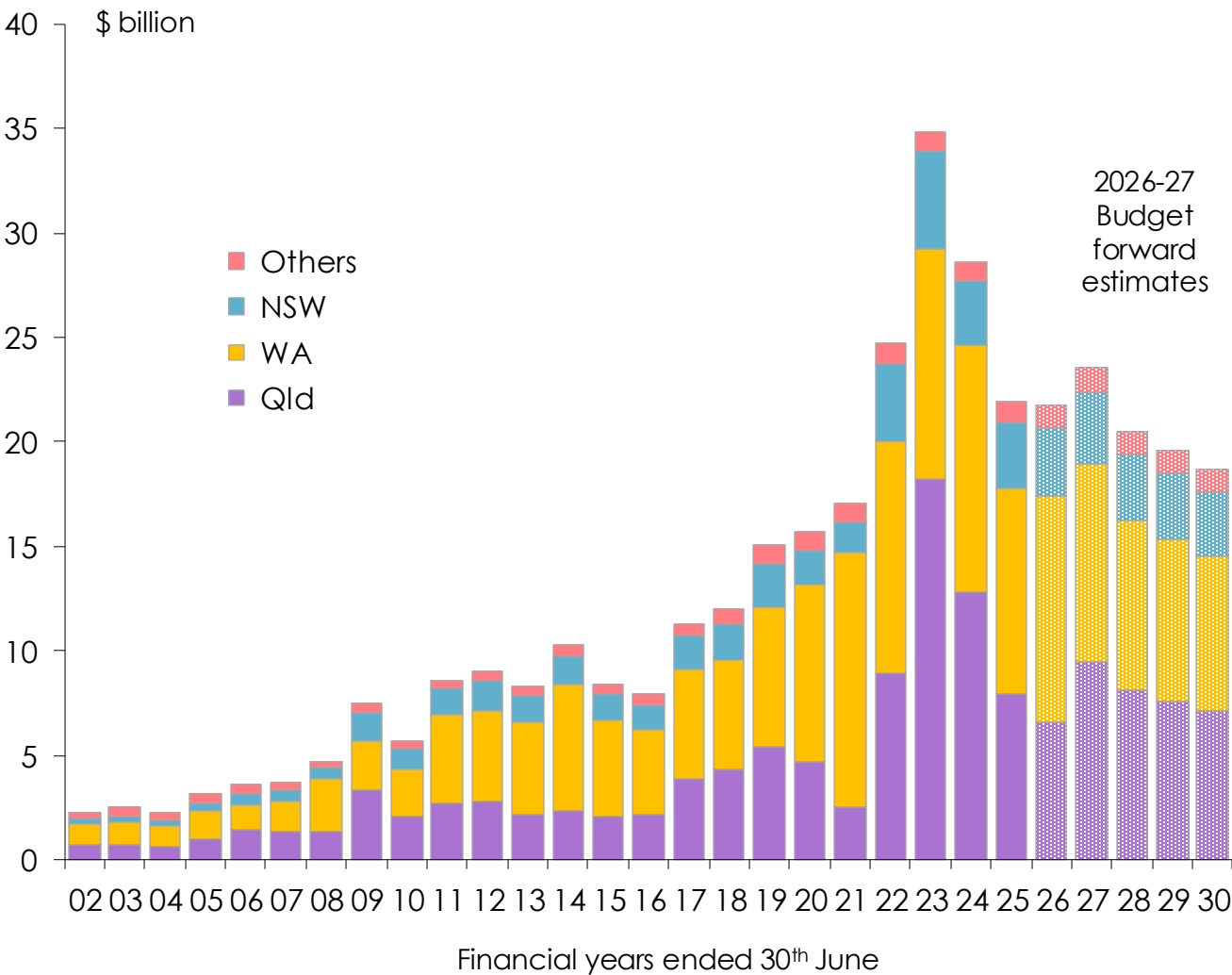


Mining is very important to Australian governments

Company income tax paid to the Federal Government by mining companies

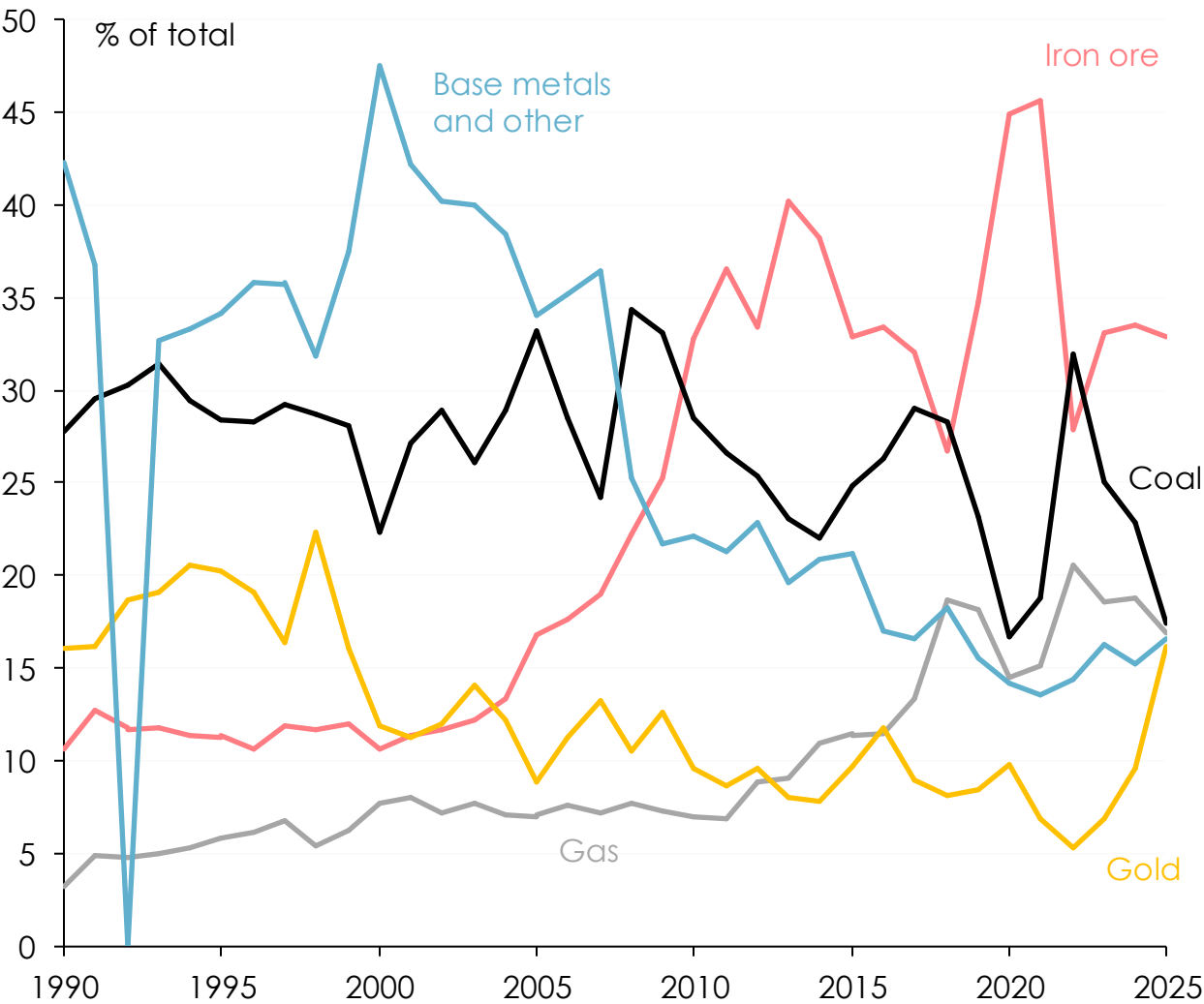


Royalties paid to state and territory governments by mining companies

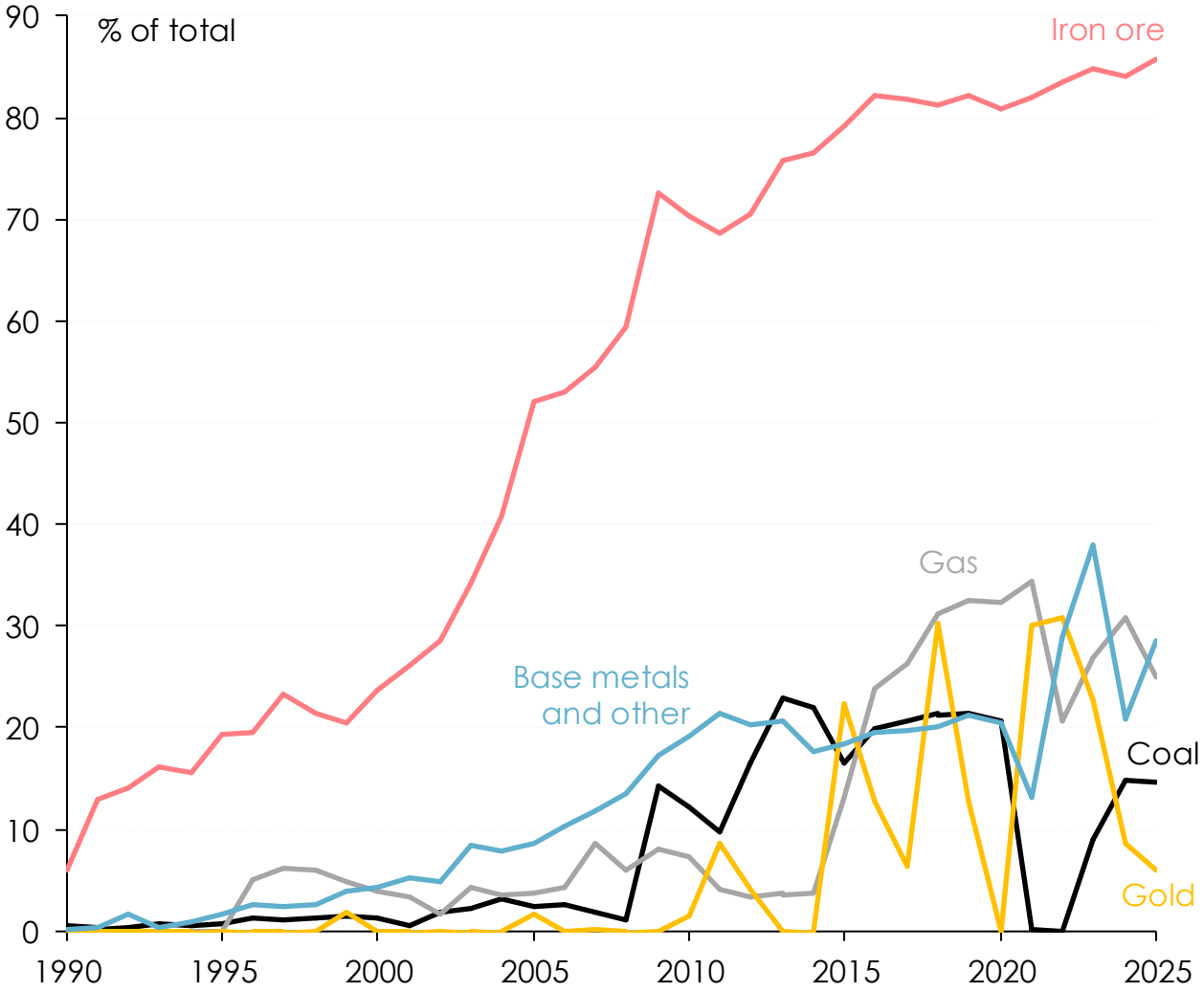


Iron ore has accounted for 36% of the increase in the value of Australia's resources exports this century, and China has accounted for 86% of that

Composition of the value of Australia's resources exports



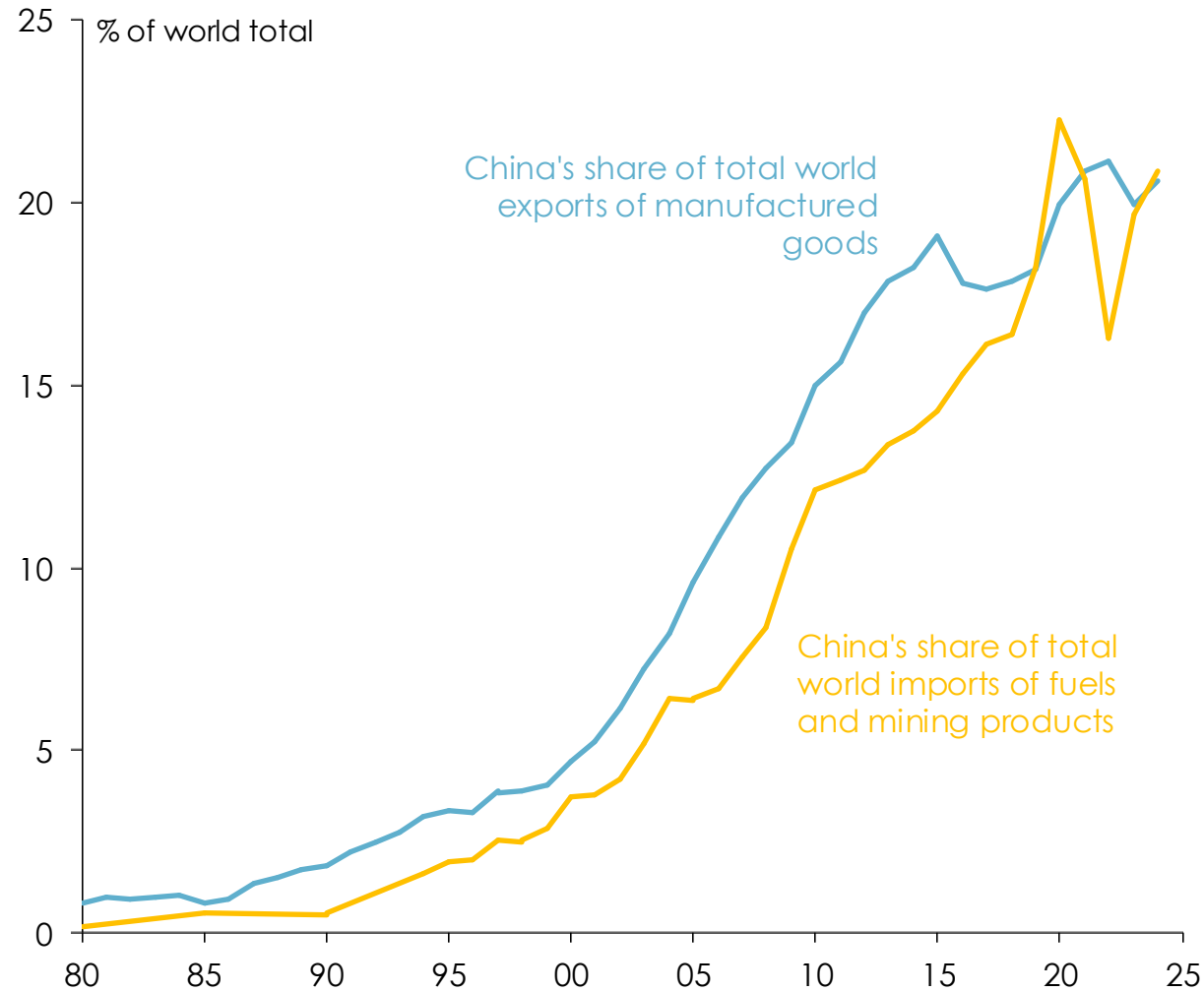
China's share of the value of Australia's resources exports



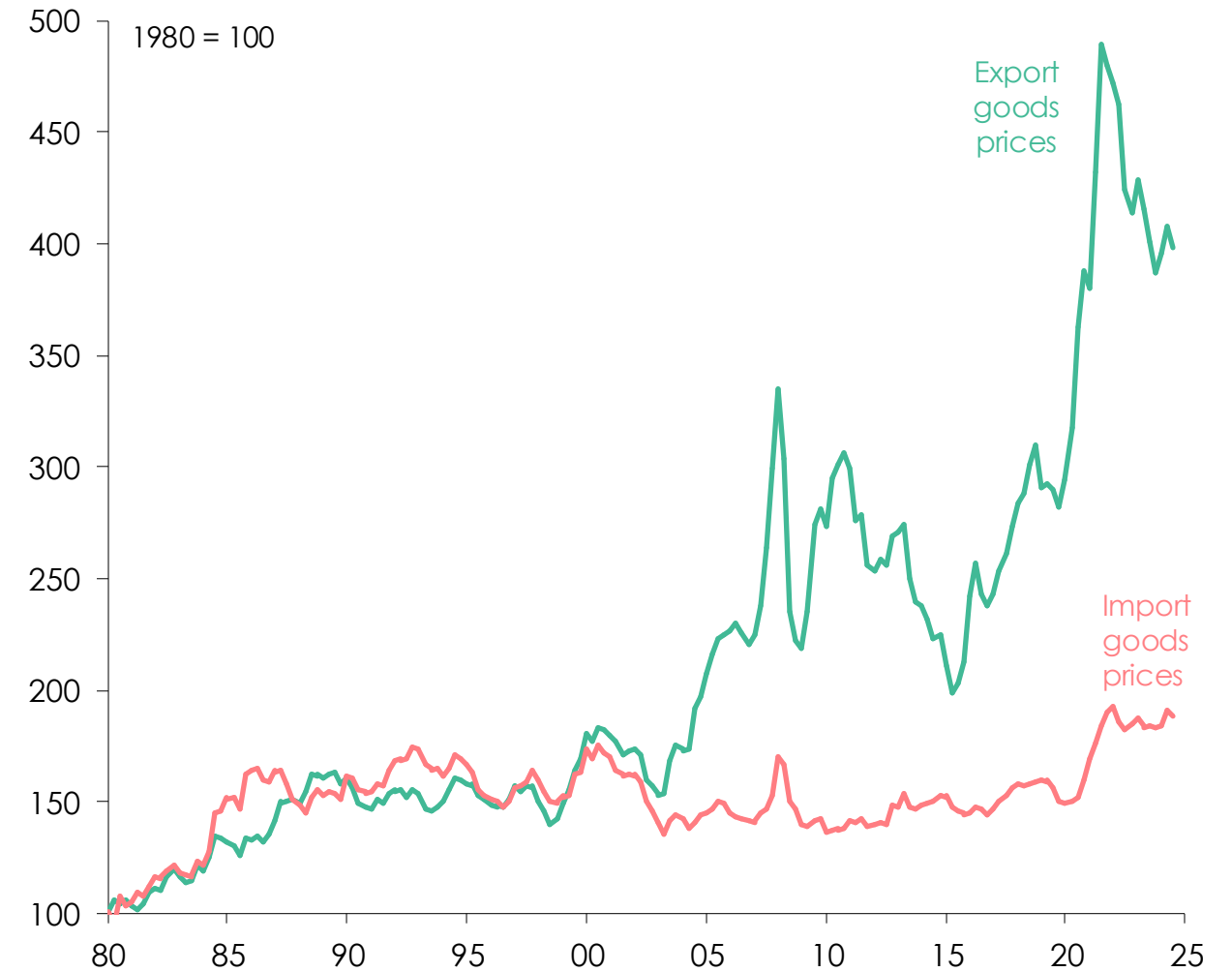
Source: Department of Foreign Affairs and Trade, [Merchandise trade statistical pivot tables – TRIEC](#) (Trade Import Export Classification).

Australia has been one of the biggest beneficiaries of China's emergence as the world's biggest importer of minerals and exporter of manufactures

China's share of world imports of minerals & energy, and of world exports of manufactures

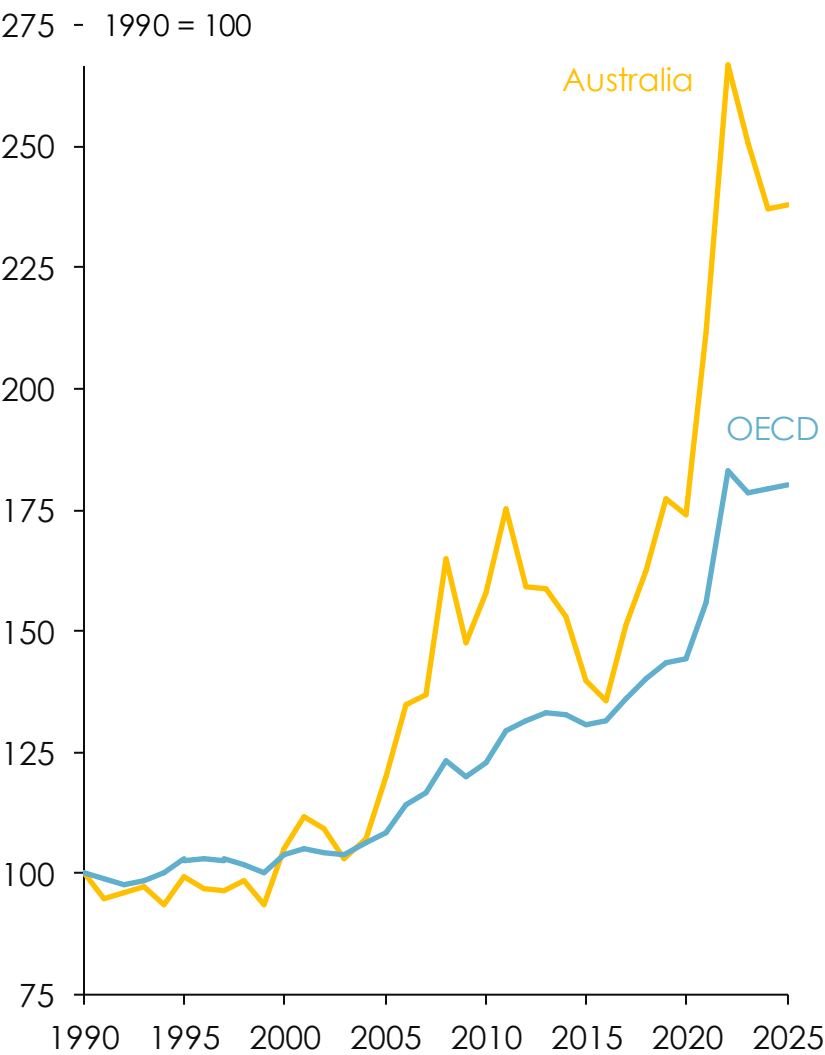


Price indexes of Australia's exports and imports of goods

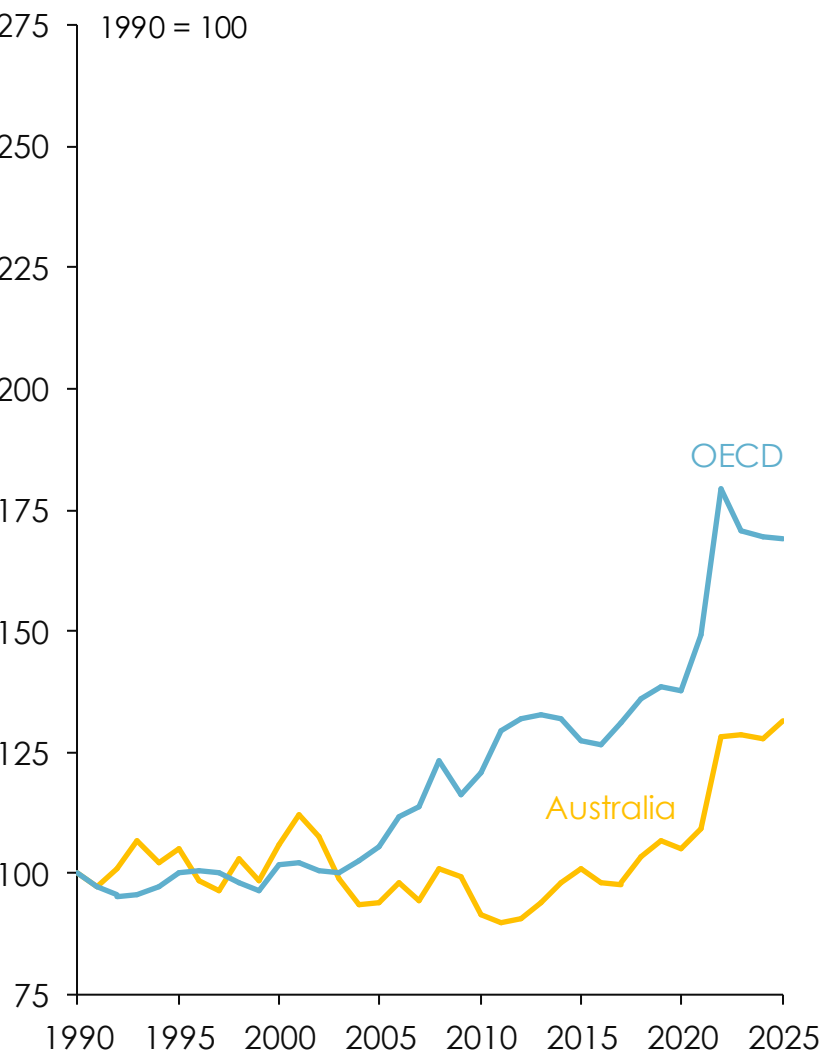


China's growth and industrialization has been more beneficial for Australia than for any other 'advanced' economy

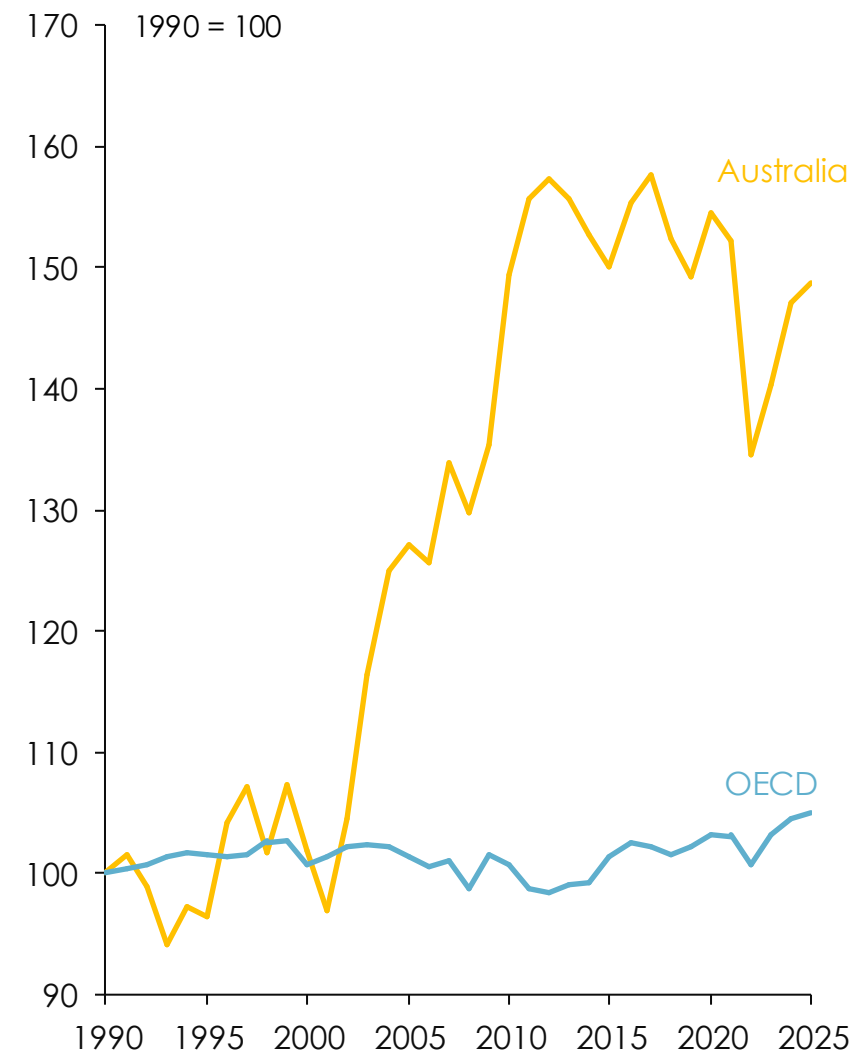
Export prices



Import prices



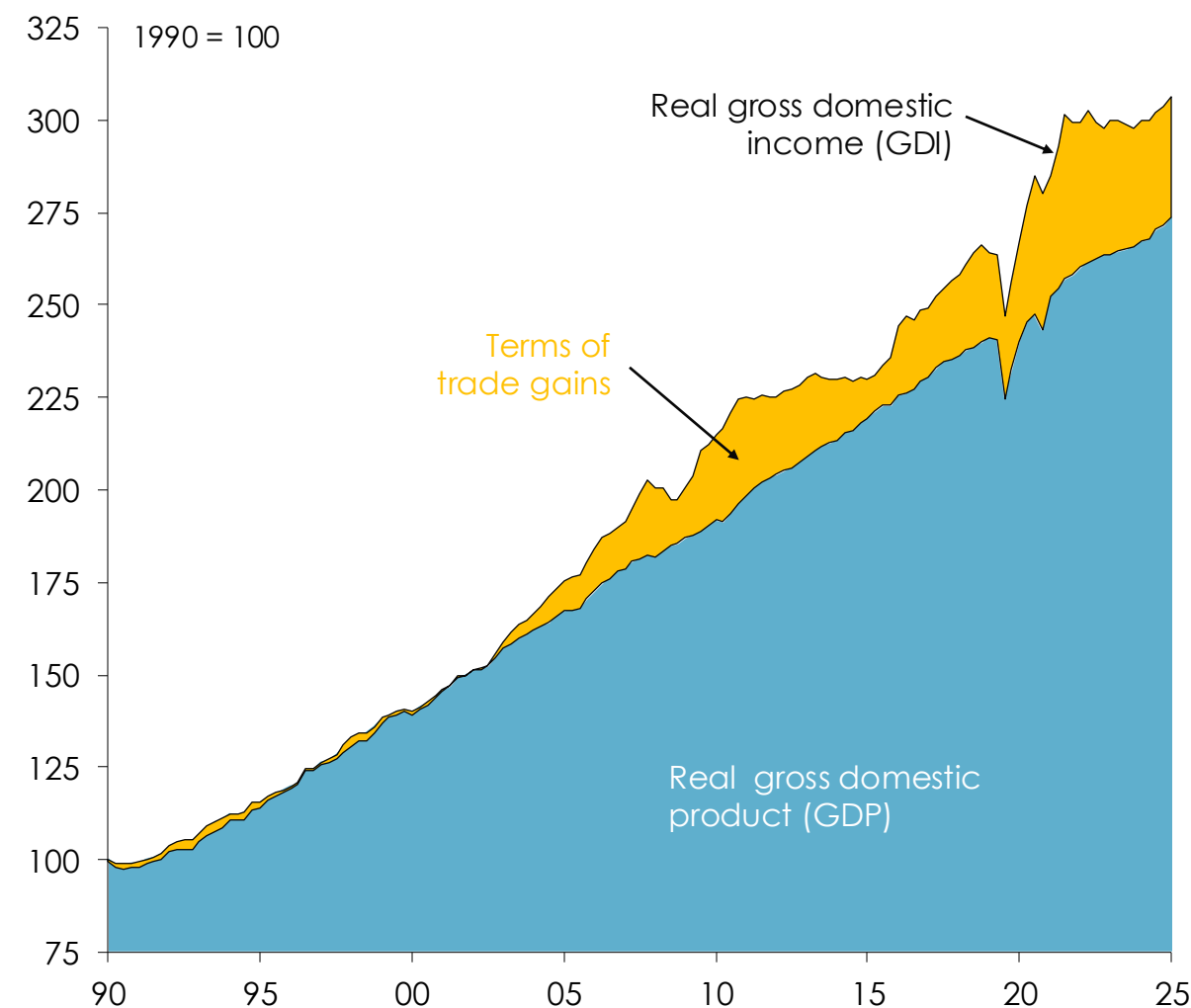
'Terms of trade'



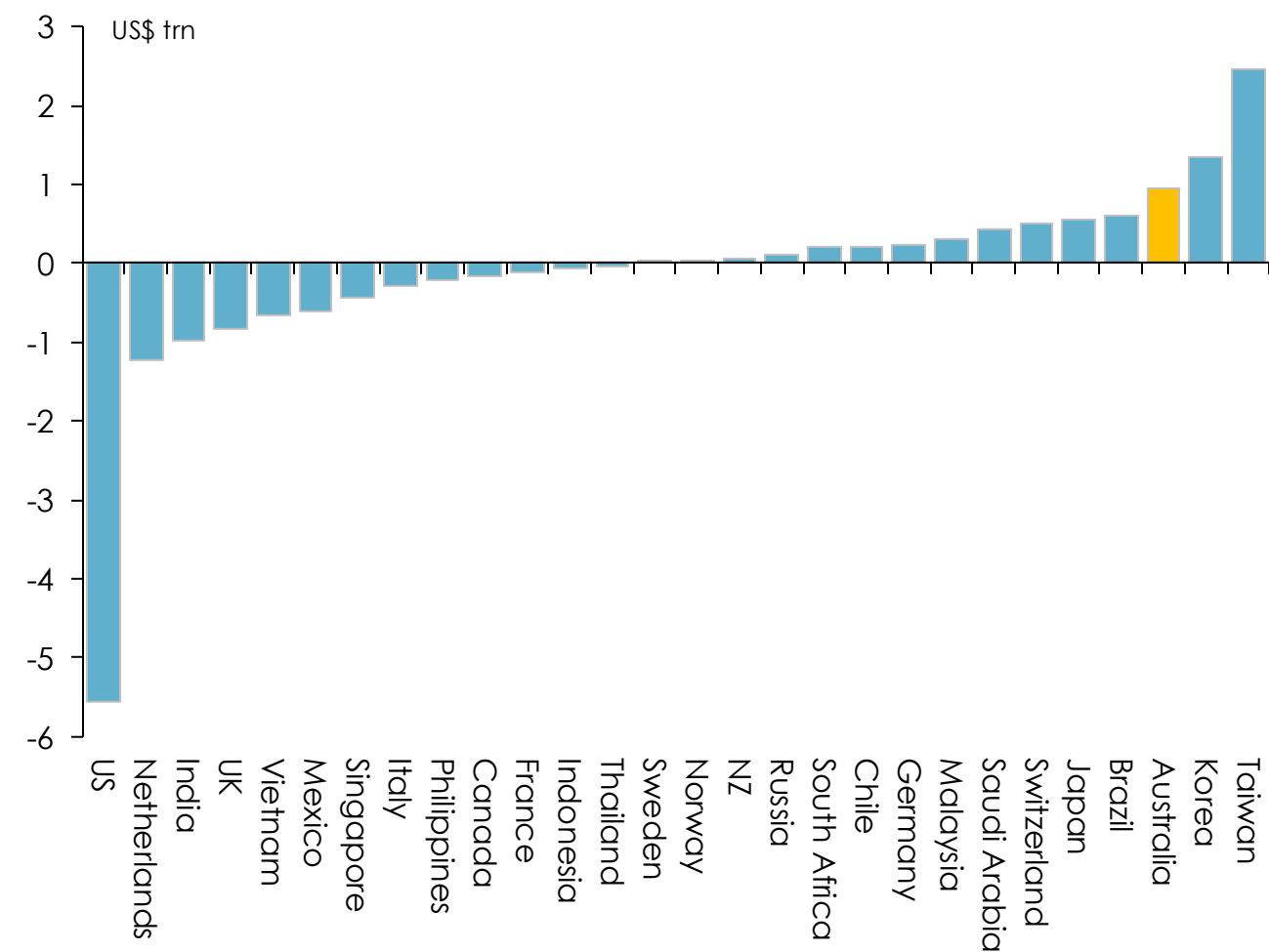
Note: The Organization for Economic Co-operation & Development (OECD) is a grouping of 38 mostly 'advanced' or 'industrialized' nations. The 'terms of trade' is the ratio of average export to average import prices. Sources: ABS, [Balance of Payments and International Investment Position](#), March quarter 2026; OECD, [Quarterly GDP and components - expenditure approach - volume and price indices](#).

China-induced terms of trade gains have boosted Australia's income by about 18% this century, and Australia has run trade surpluses with China

Australia's real gross domestic income (GDI) and gross domestic product (GDP)

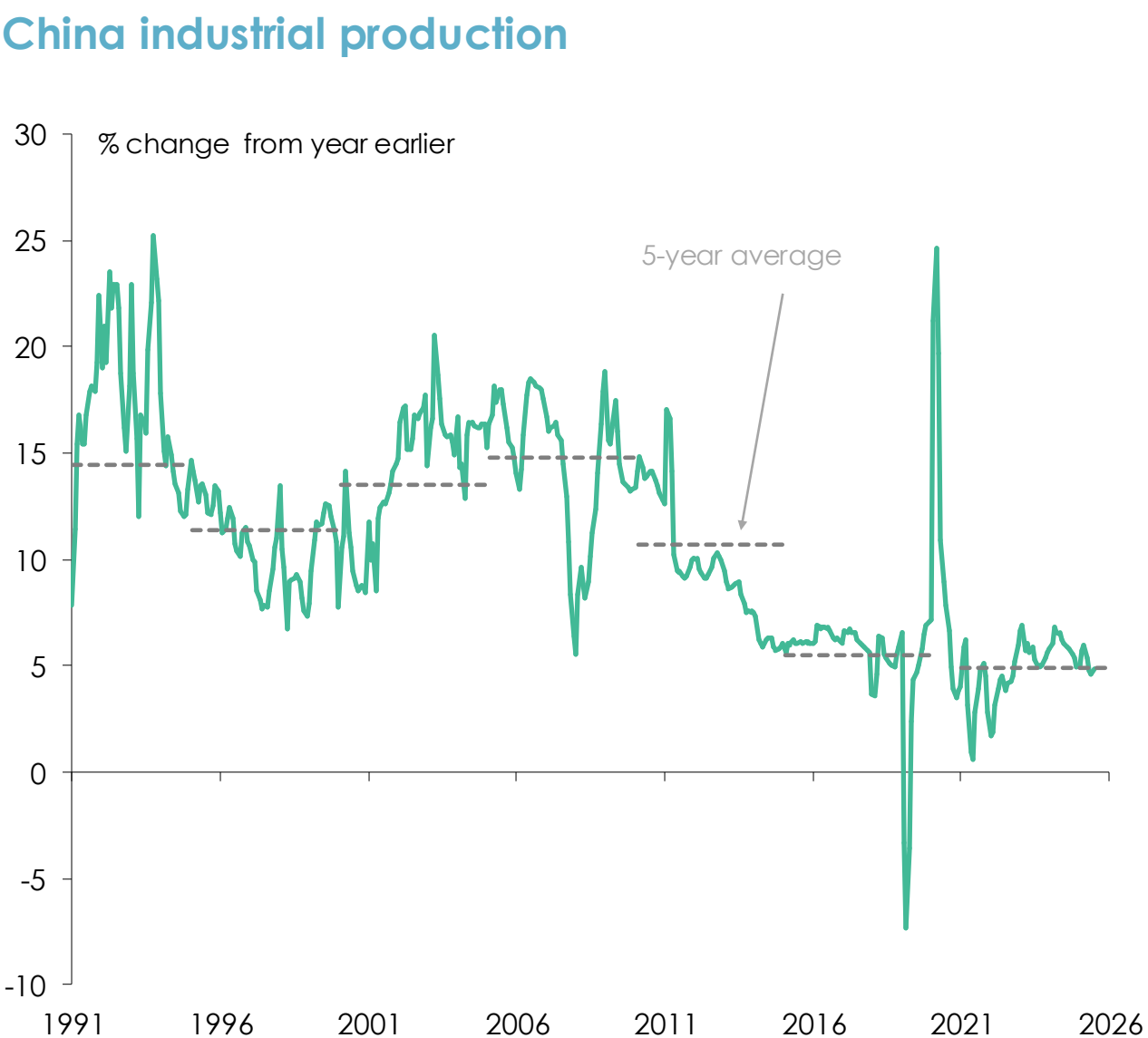
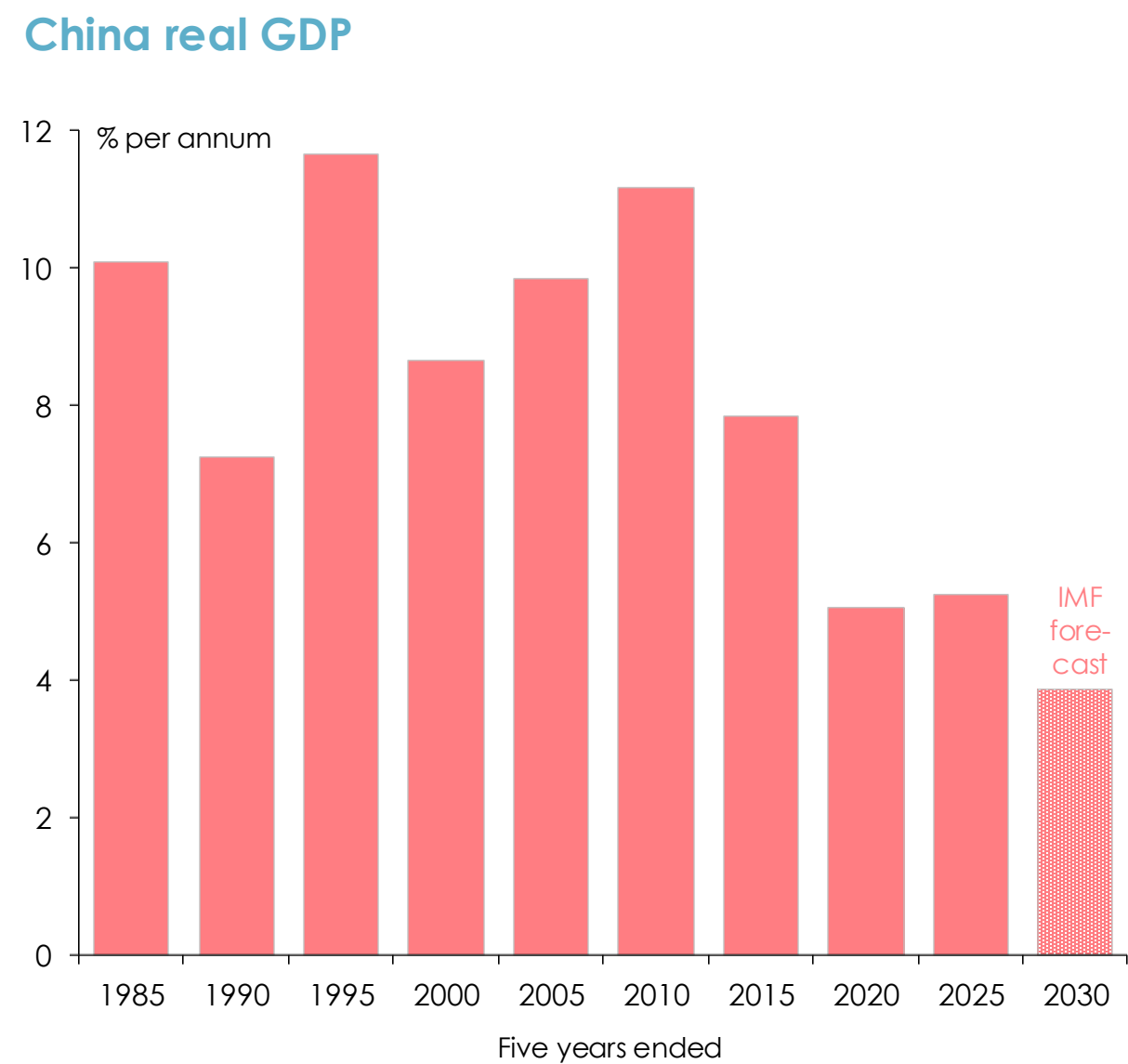


Cumulative bilateral goods trade balances with China, 2020-2025



Sources: ABS, [Australian National Accounts: National Income, Expenditure and Product](#), March quarter 2026; International Monetary Fund (IMF), [International Trade in Goods](#).

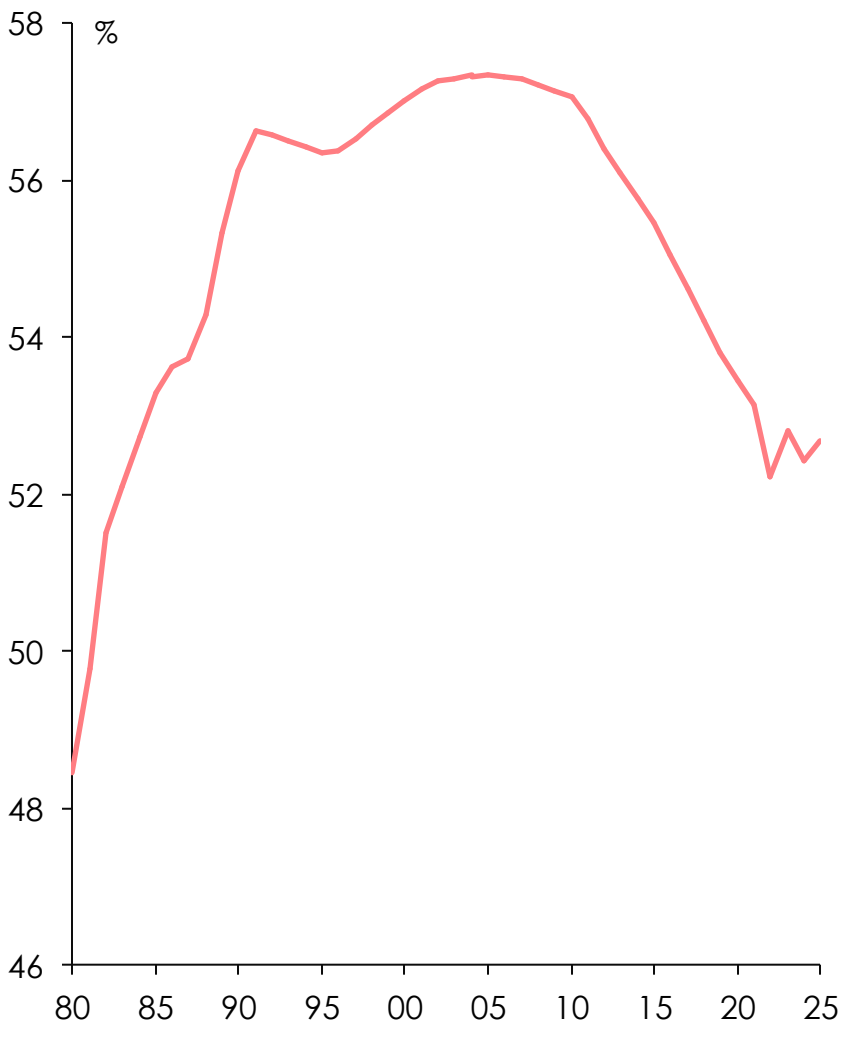
However China's 'growth engine' has been slowing for more than a decade



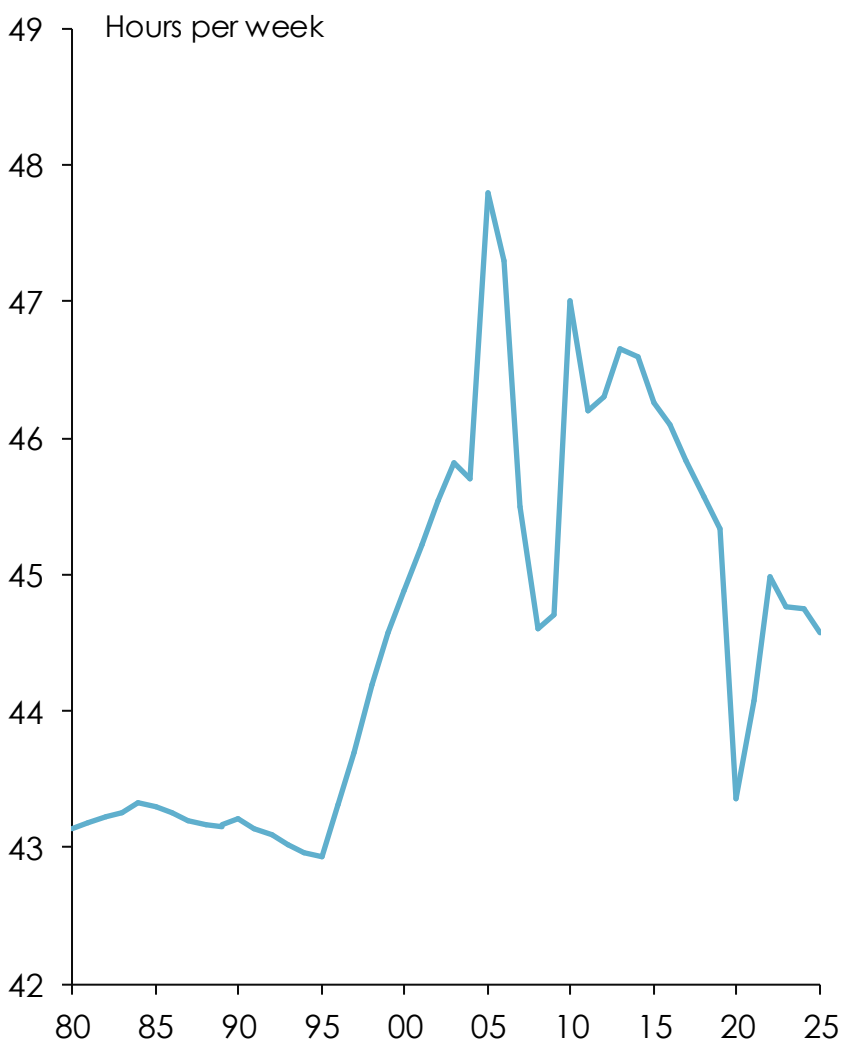
Sources: [National Bureau of Statistics of China](#); International Monetary Fund, [World Economic Outlook](#), April 2026.

China's economic slowdown is structural, not cyclical

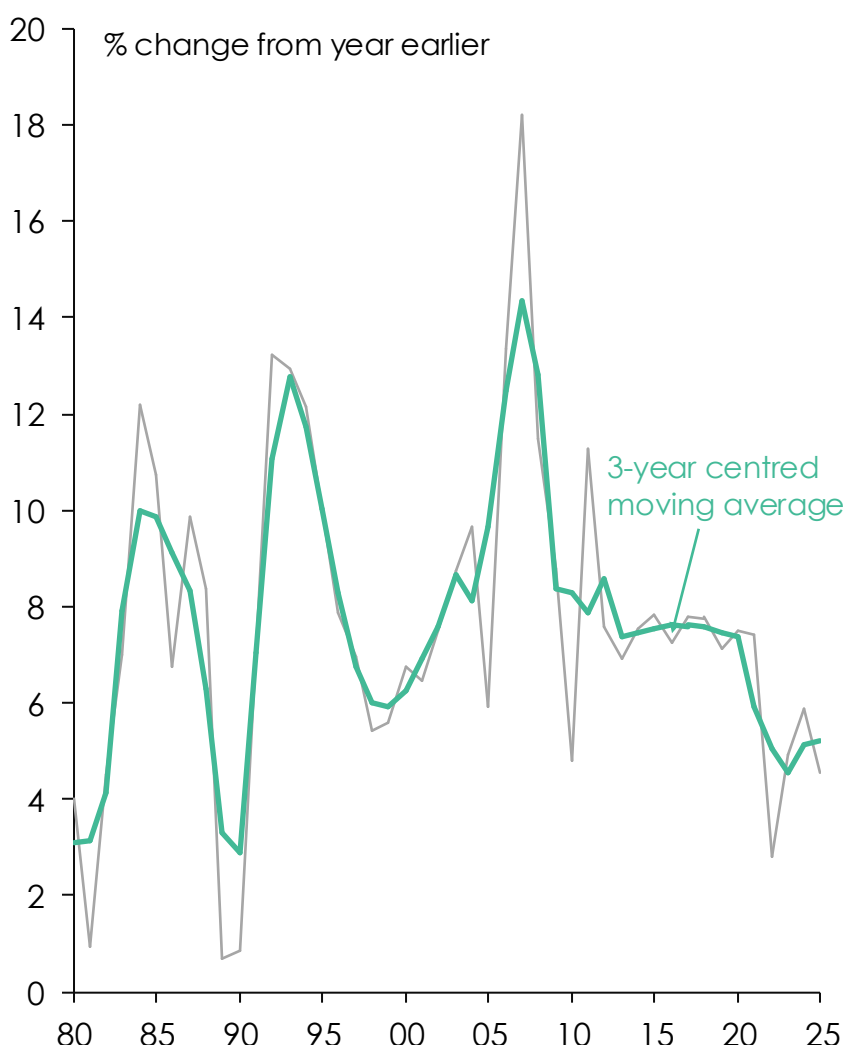
Employment as a pc of population



Average hours worked



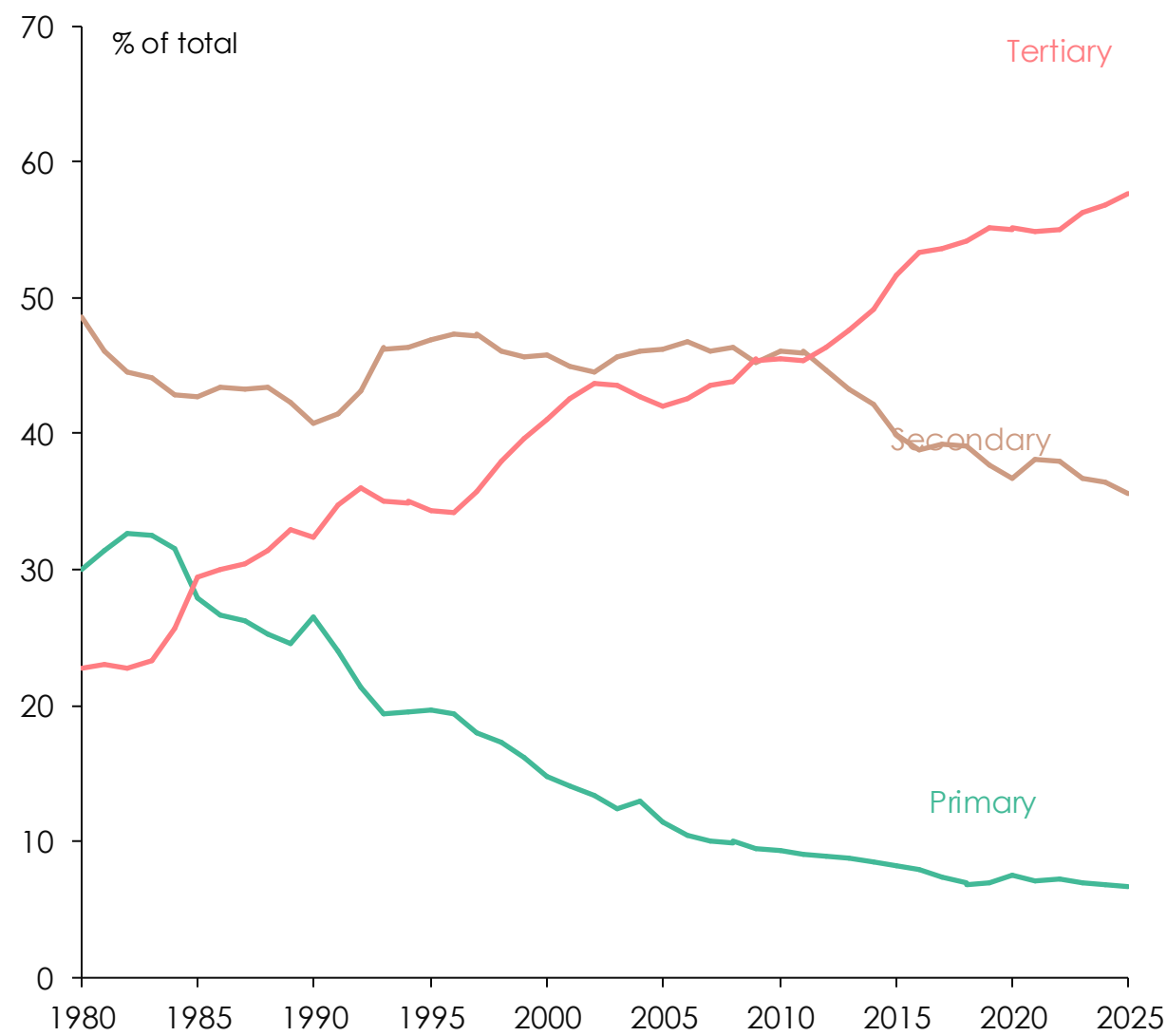
Output per hour worked (aka labour productivity)



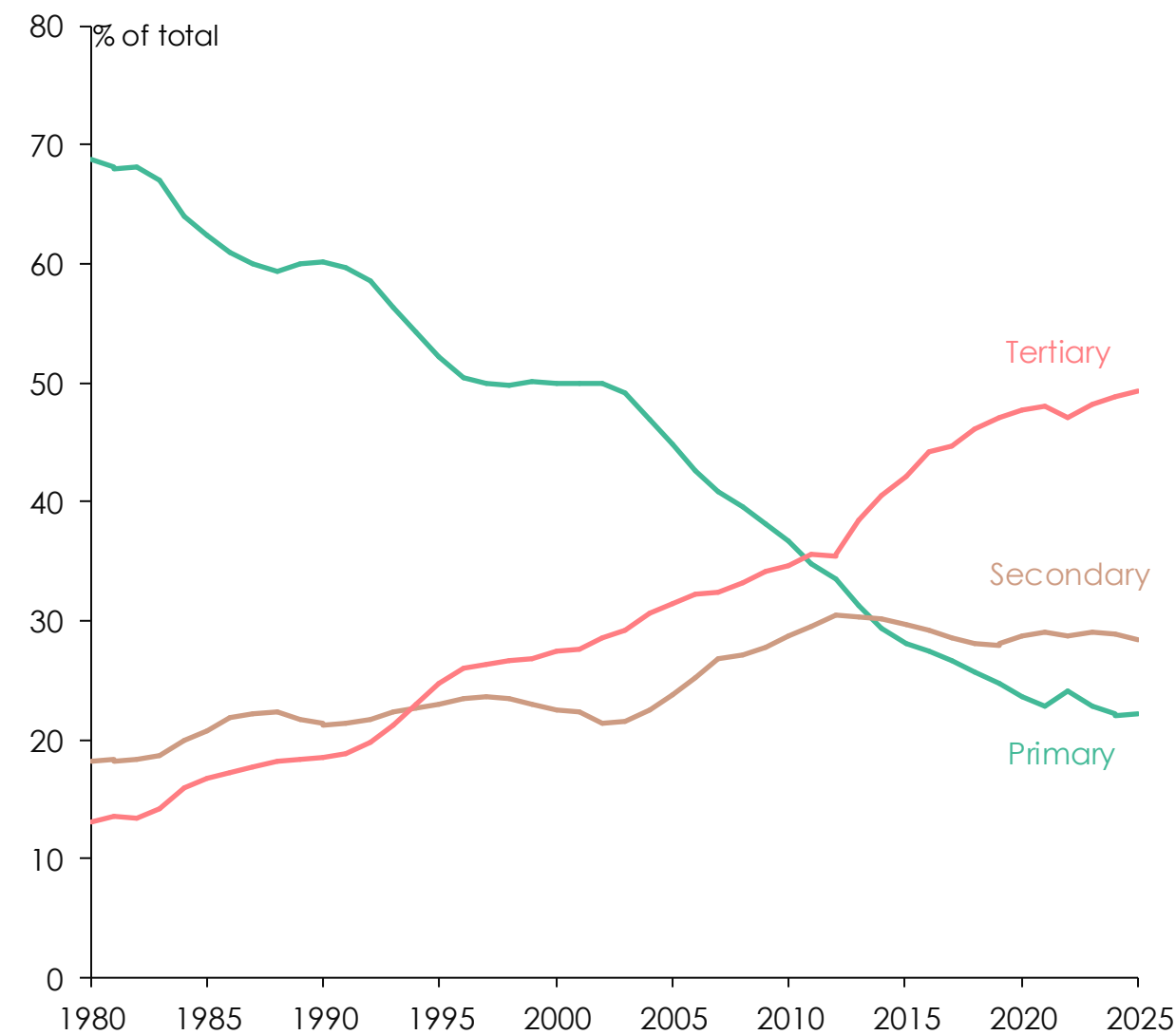
Source: The Conference Board, [Total Economy Database](#), May 2025.

China's economy is also becoming less commodity-intensive

Sector shares of GDP



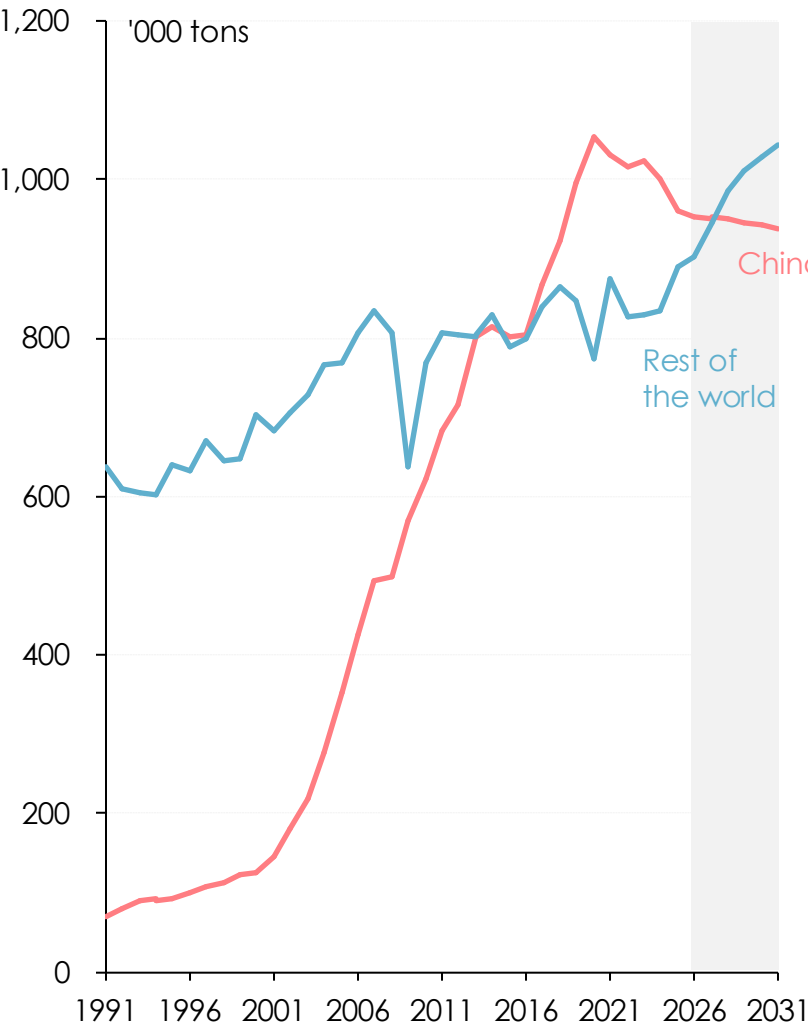
Sector shares of employment



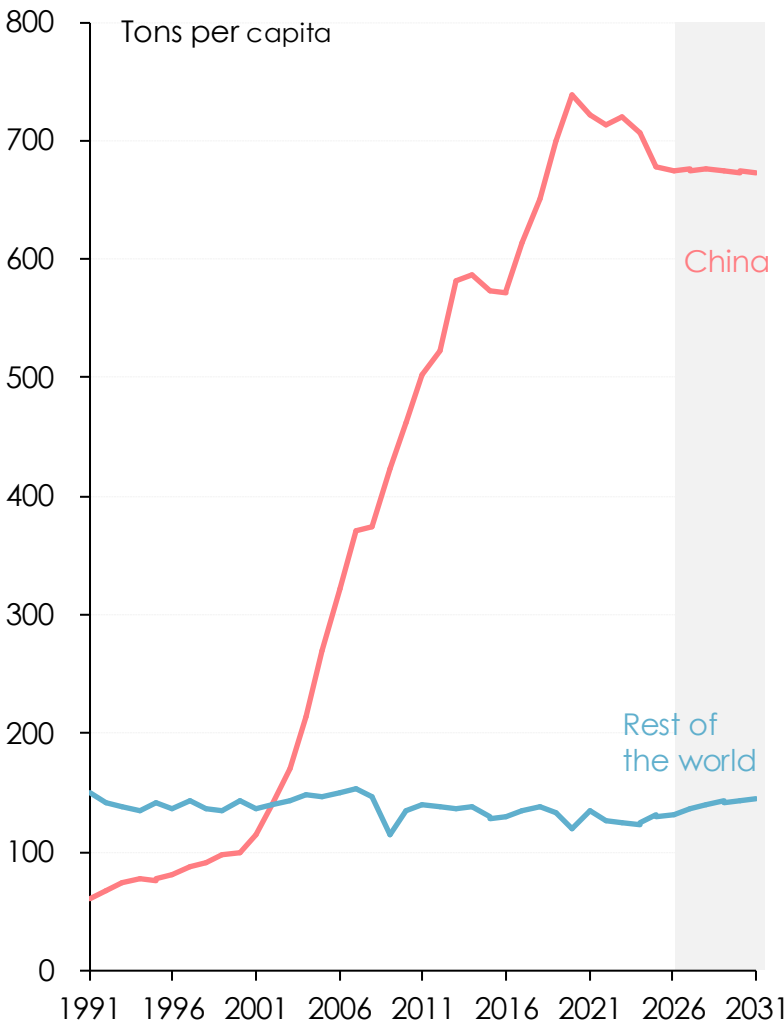
Sources: National Bureau of Statistics, [China Statistical Yearbook 2024](#).

The 'steel intensity' of the world economy has passed its peak

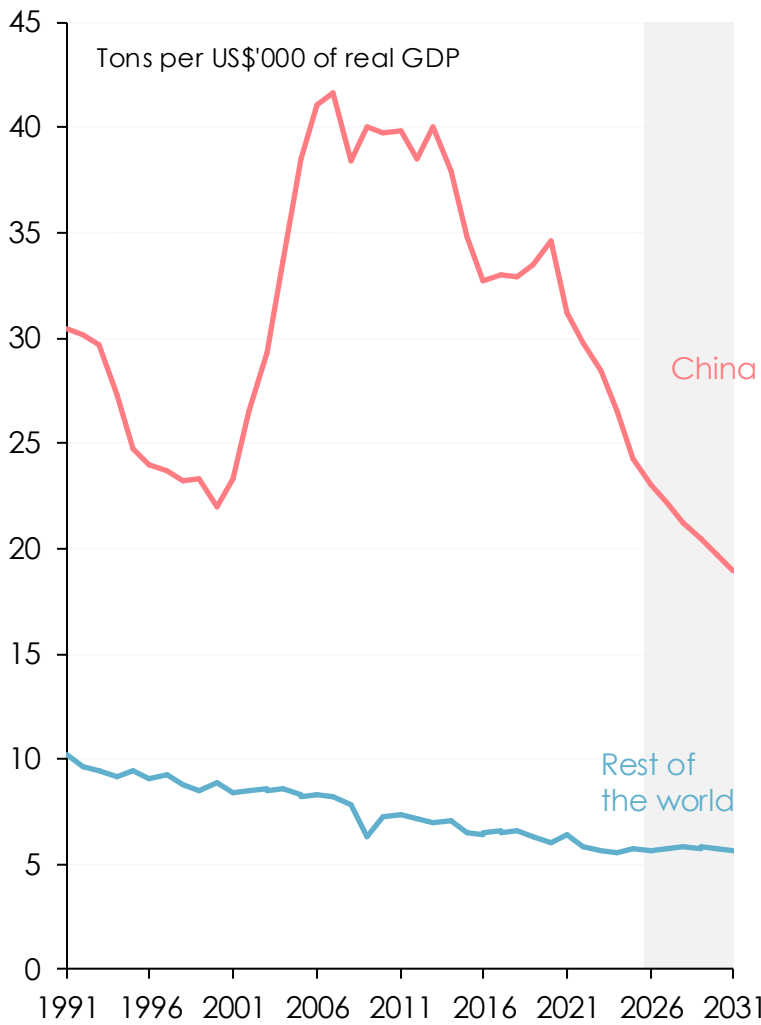
Steel production



Steel production per capita



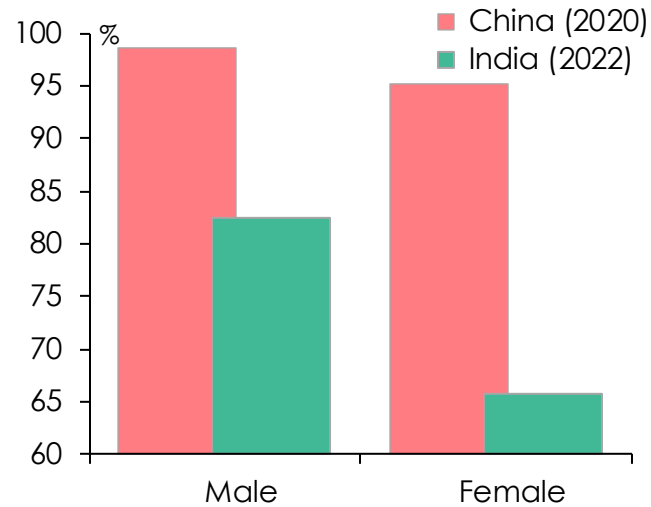
Steel production per US\$'000 of real GDP



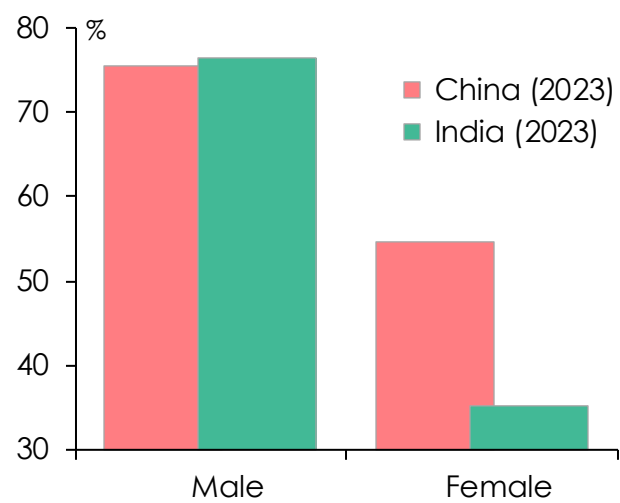
Sources: World Steel Association, [World Steel in Figures 2026](#); Office of the Chief Economist, Department of Industry, Science & Resources, [Resources and energy quarterly](#), June 2026; United Nations Department of Economic & Social Affairs, [World Population Prospects 2024](#); The Conference Board, [Total Economy Database 2025](#); and International Monetary Fund, [World Economic Outlook Entire Dataset in Excel](#), April 2026.

India is now the world's fastest-growing large economy – but it will almost certainly not do for commodity prices what China did

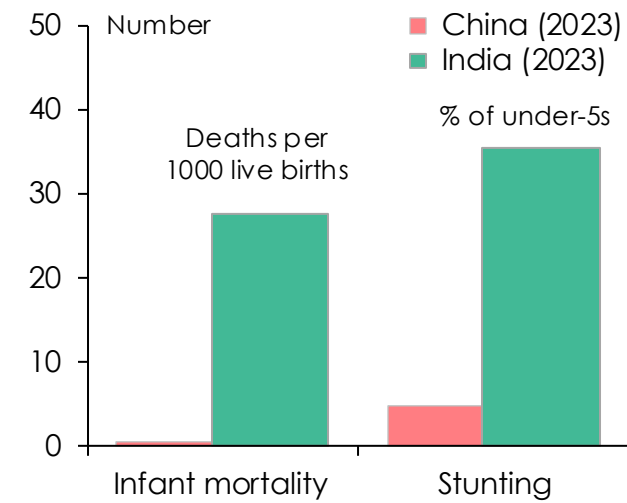
Adult literacy



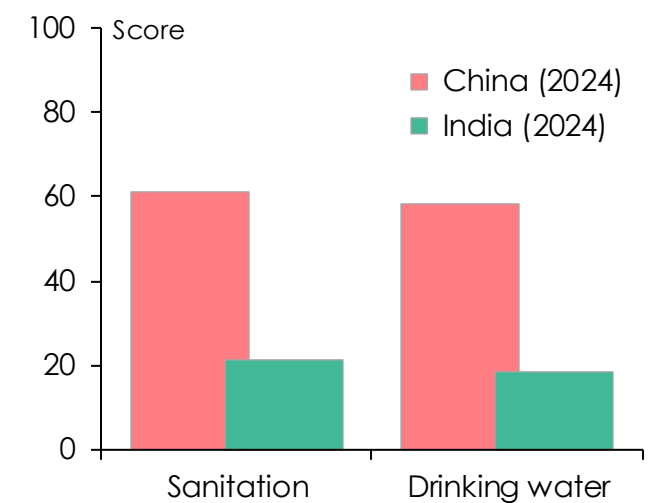
Labour force participation



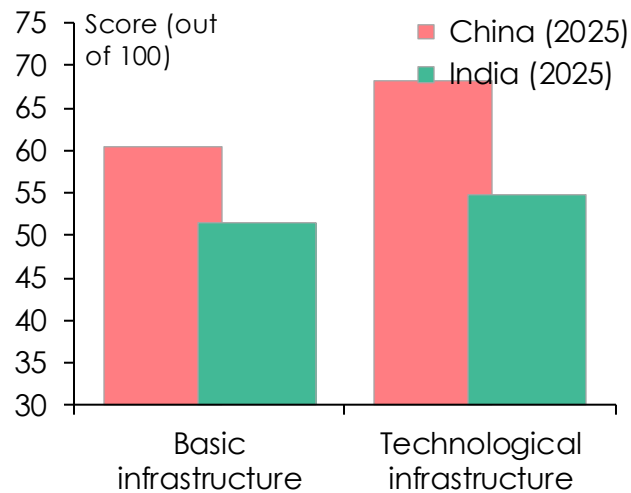
Child health



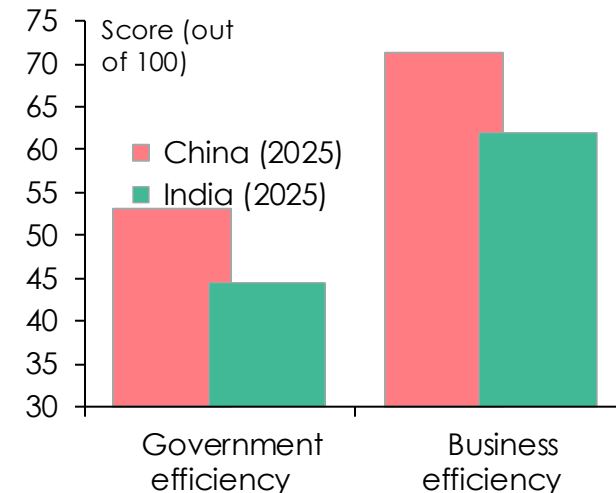
Environmental health risks



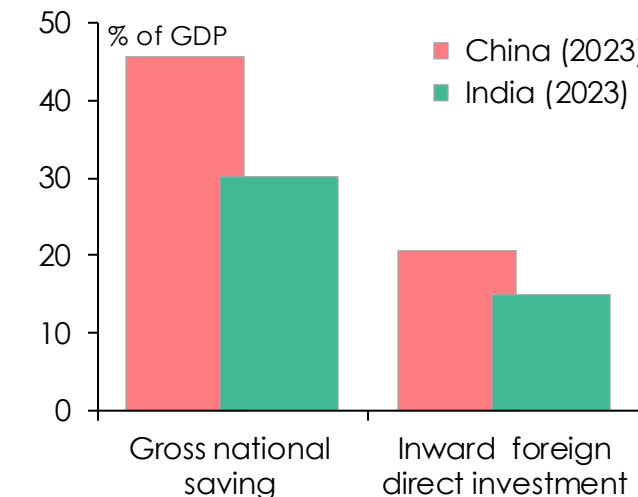
Infrastructure



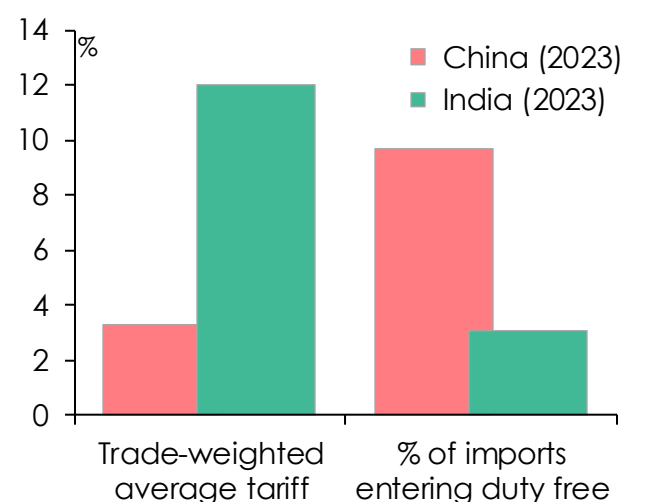
'Efficiency'



Saving & foreign investment



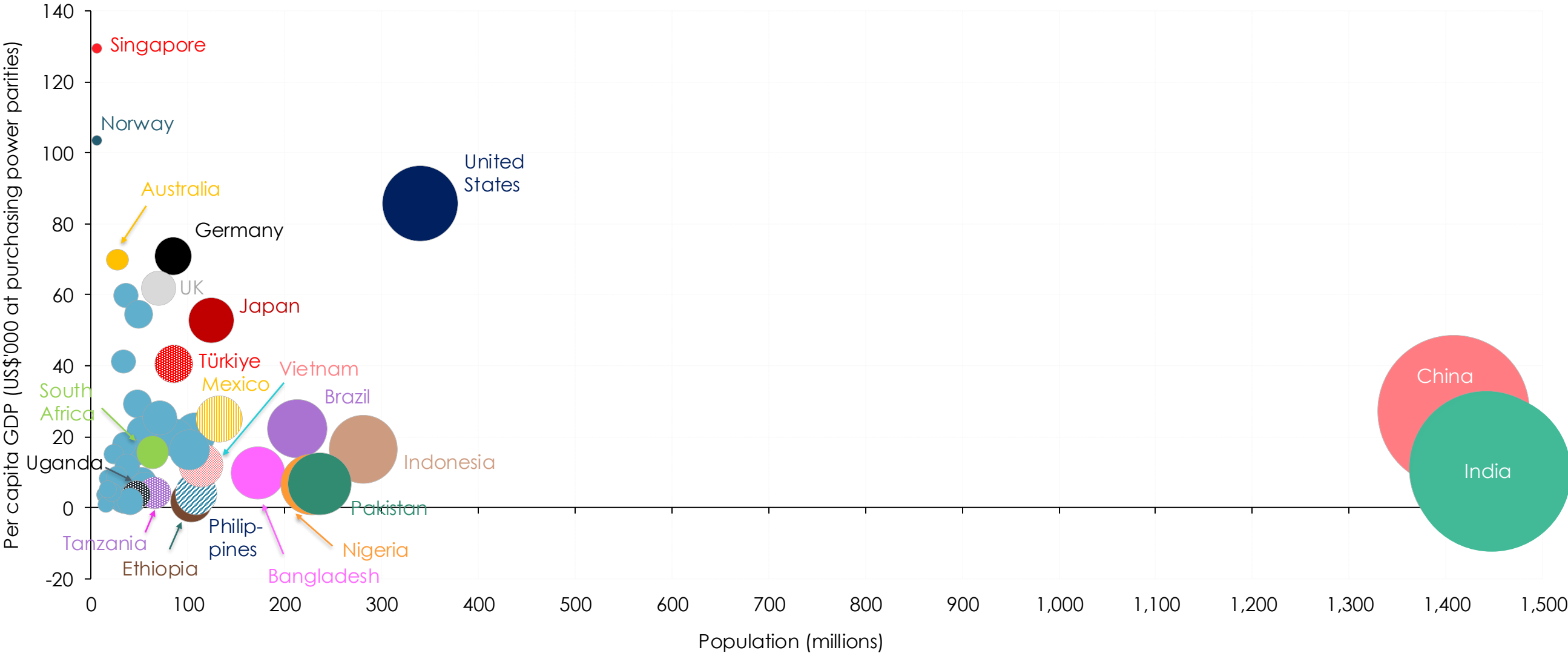
Trade protectionism



Sources: United Nations Development Program, [Human Development Report](#) 2025; Asian Development Bank, [Key Indicators for Asia and the Pacific](#) 2025; The World Bank, [World Development Indicators](#); Yale Centre for Environmental Law & Policy, [Environmental Performance Index](#); IMD, [World Competitiveness Ranking](#); World Trade Organization, [WTO Stats](#); United Nations Council on Trade & Development (UNCTAD), [Foreign direct investment: Inward and outward flows and stock, annual](#)

There are no more Chinas or Indias, after China and India

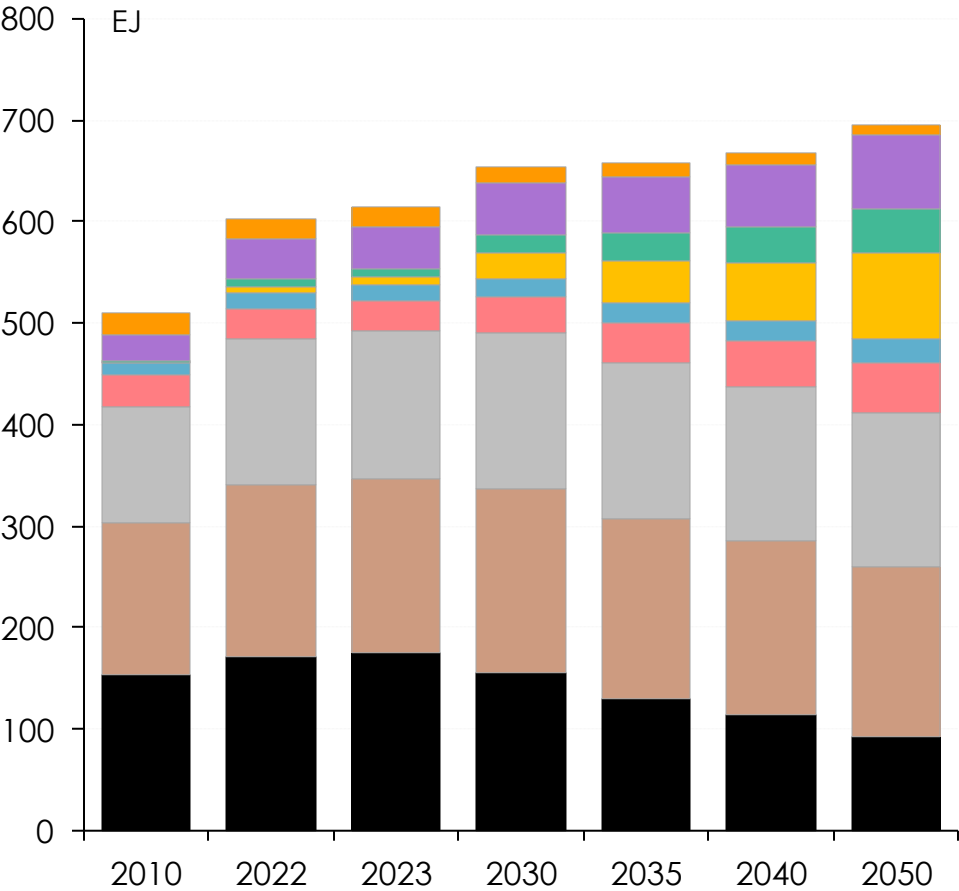
Population and per capita GDP, 2024



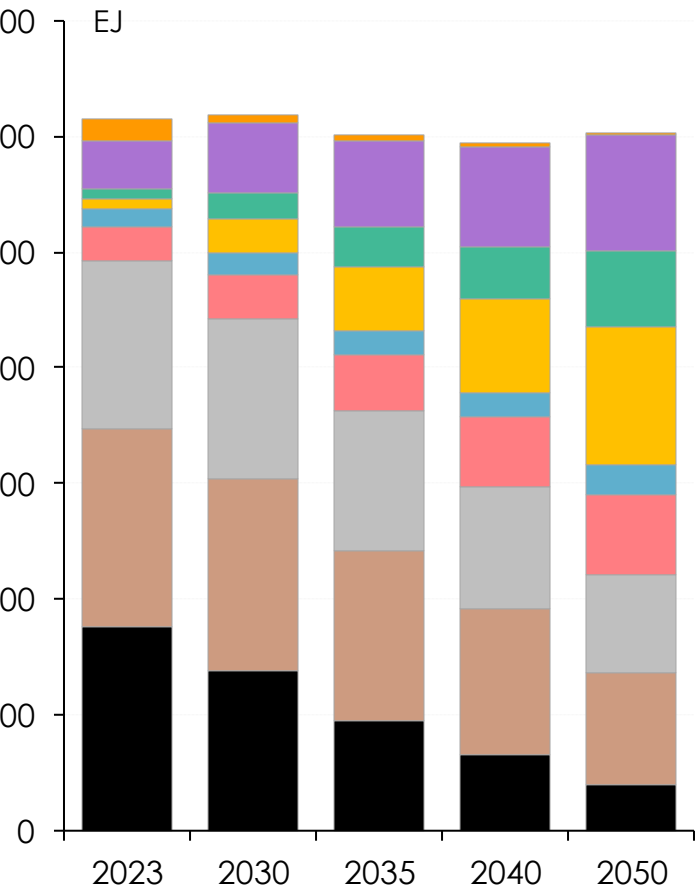
Note: bubbles are proportional to population size. Source: International Monetary Fund, [World Economic Outlook](#), April 2025.

Fossil fuel use will decline, and renewable energy use will rise over the next 25 years – but how quickly in each case remains very uncertain

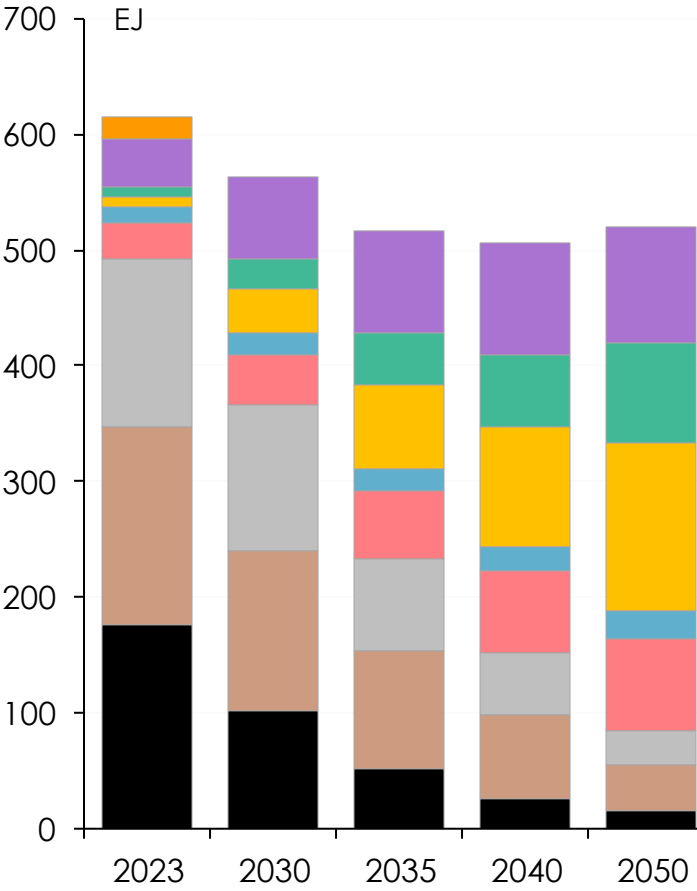
Global energy supply sources under 'Stated Policies'



Global energy supply sources under 'Announced Pledges'



Global energy supply sources under 'Net zero by 2050'



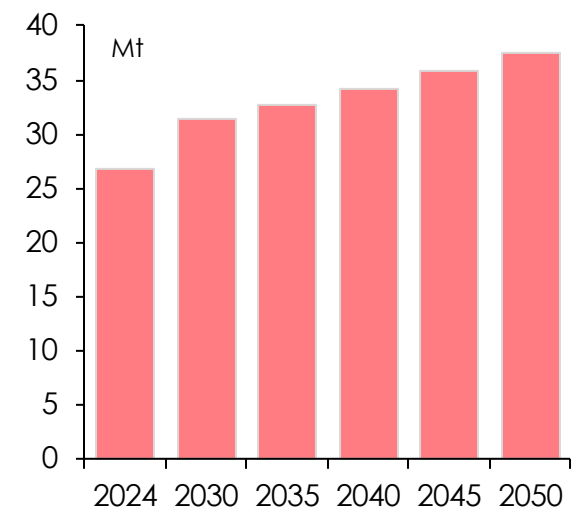
■ Coal ■ Oil ■ Gas ■ Nuclear ■ Hydro ■ Solar ■ Wind ■ Bio-energy ■ Biomass

Note: The three scenarios for global energy supply shown here are (1) STEPS or 'Stated Policies' derived from "the prevailing direction of travel for the energy system based on current policy settings"; (2) 'Announced Pledges' assuming all national energy and climate pledges are met on time and in full; and (3) 'Net zero by 2050' assuming the energy sector achieves net zero CO₂ emissions by 2050. The latter two scenarios incorporate assumptions about energy efficiency gains.

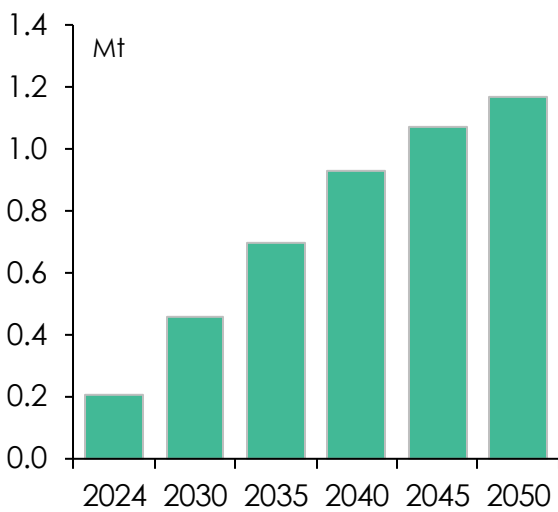
Source: International Energy Agency, [World Energy Outlook 2025](#).

The 'energy transition' will result in substantial increases in demand for a range of 'critical minerals' over the next 25 years

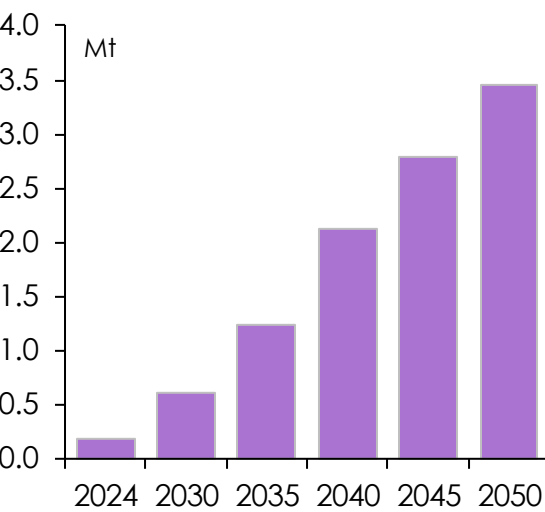
Copper (+41%)



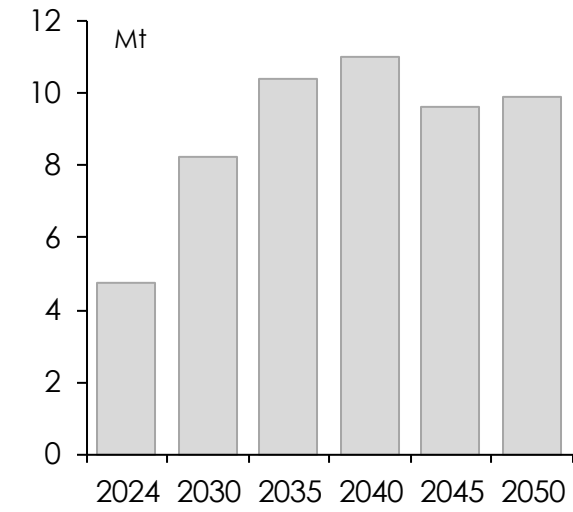
Lithium (+471%)



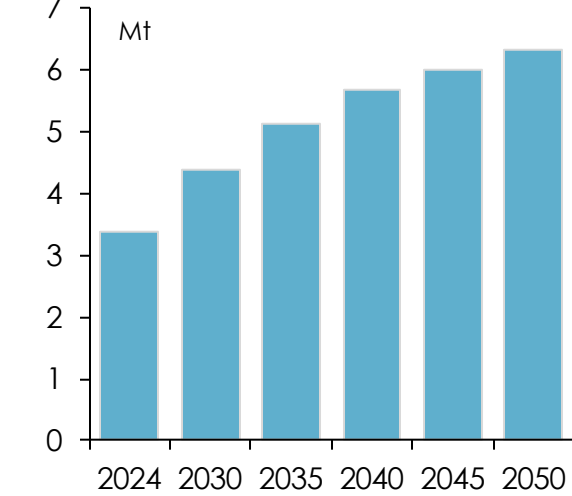
Manganese (+1805%)



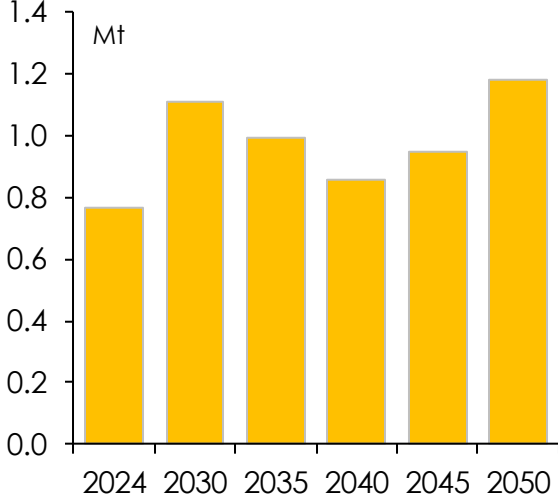
Graphite (+113%)



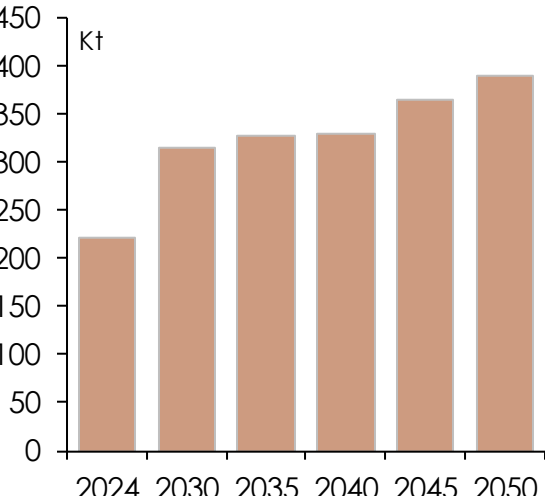
Nickel (+88%)



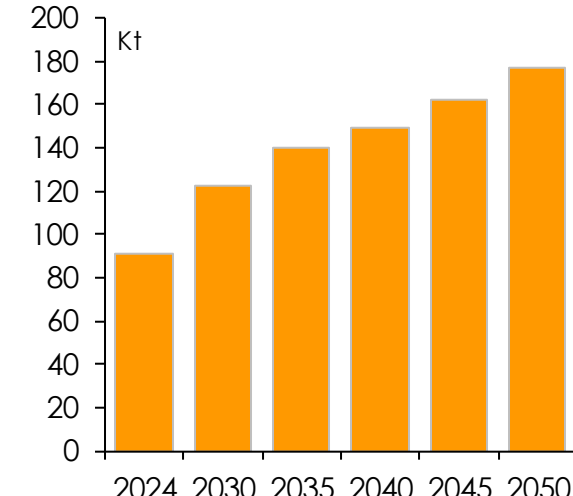
Zinc (+54%)



Cobalt (+76%)



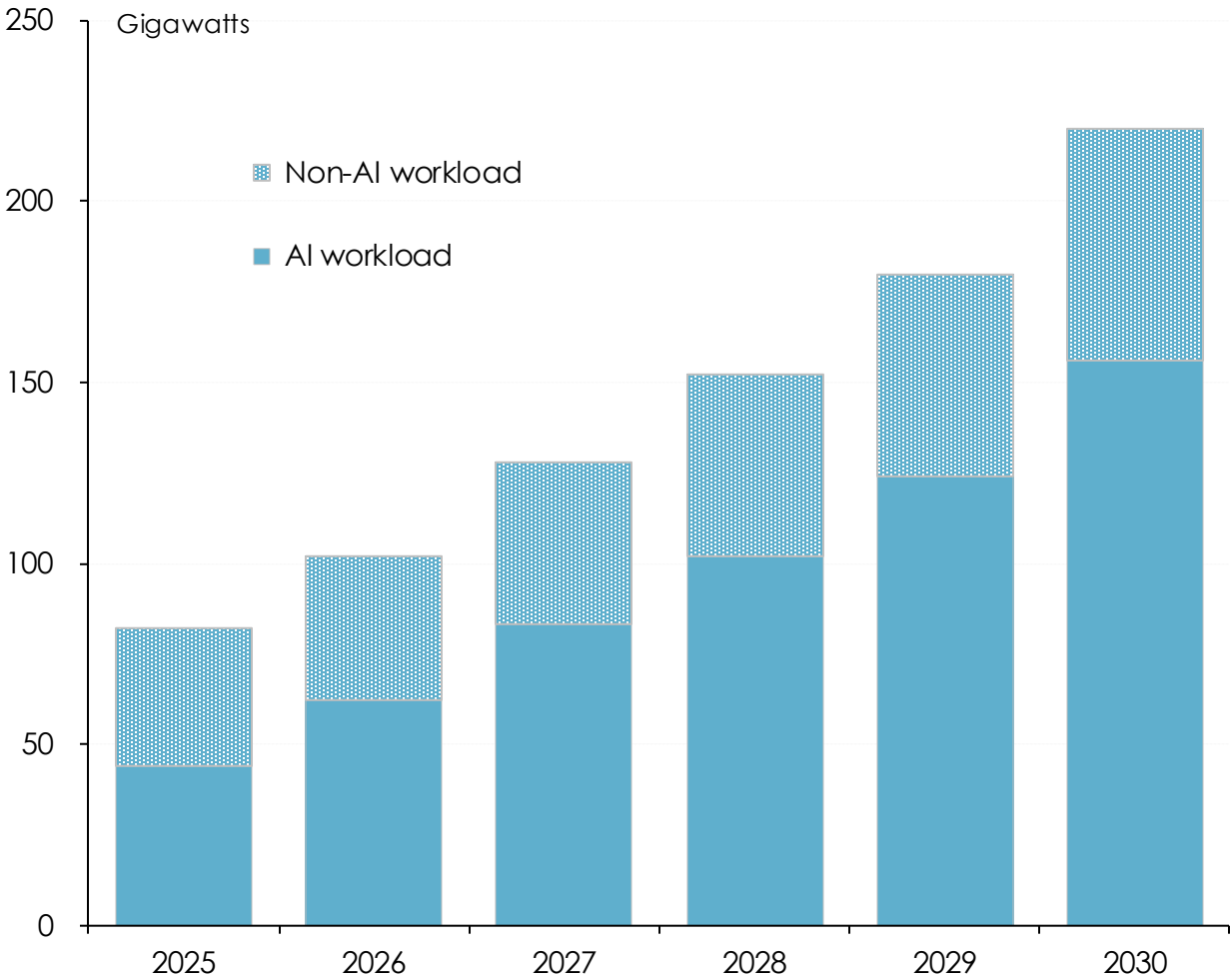
Rare earths (+95%)



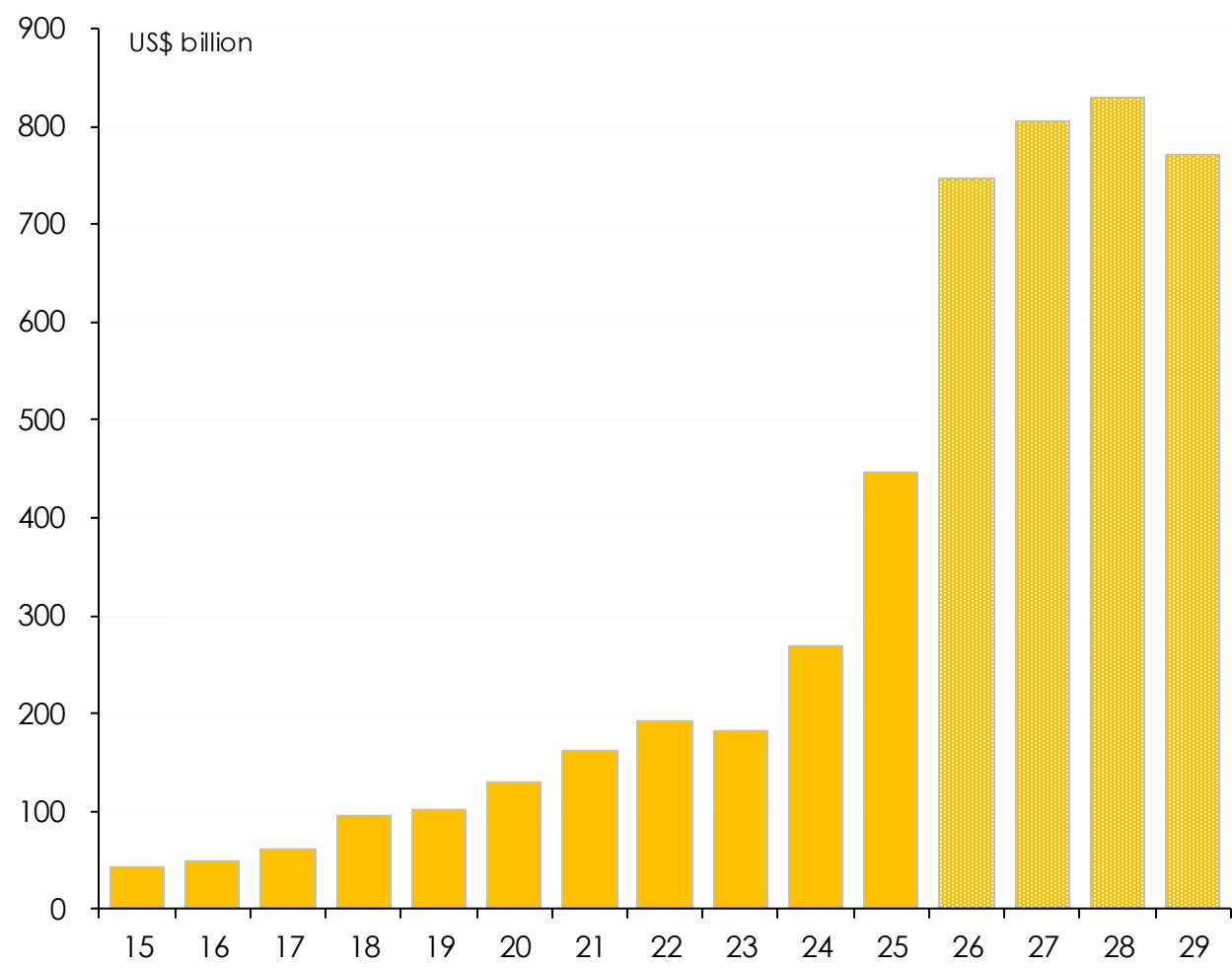
Note: Projections shown in these charts are based on currently Stated Policies of national governments (ie a 'base case'. Percentage changes are from 2024 to 2050. Source: International Energy Agency, [Global Critical Minerals Outlook 2025](#).

AI-driven data centre investment will be a major driver of growth in the world economy over the remainder of this decade

Global data centre capacity demand



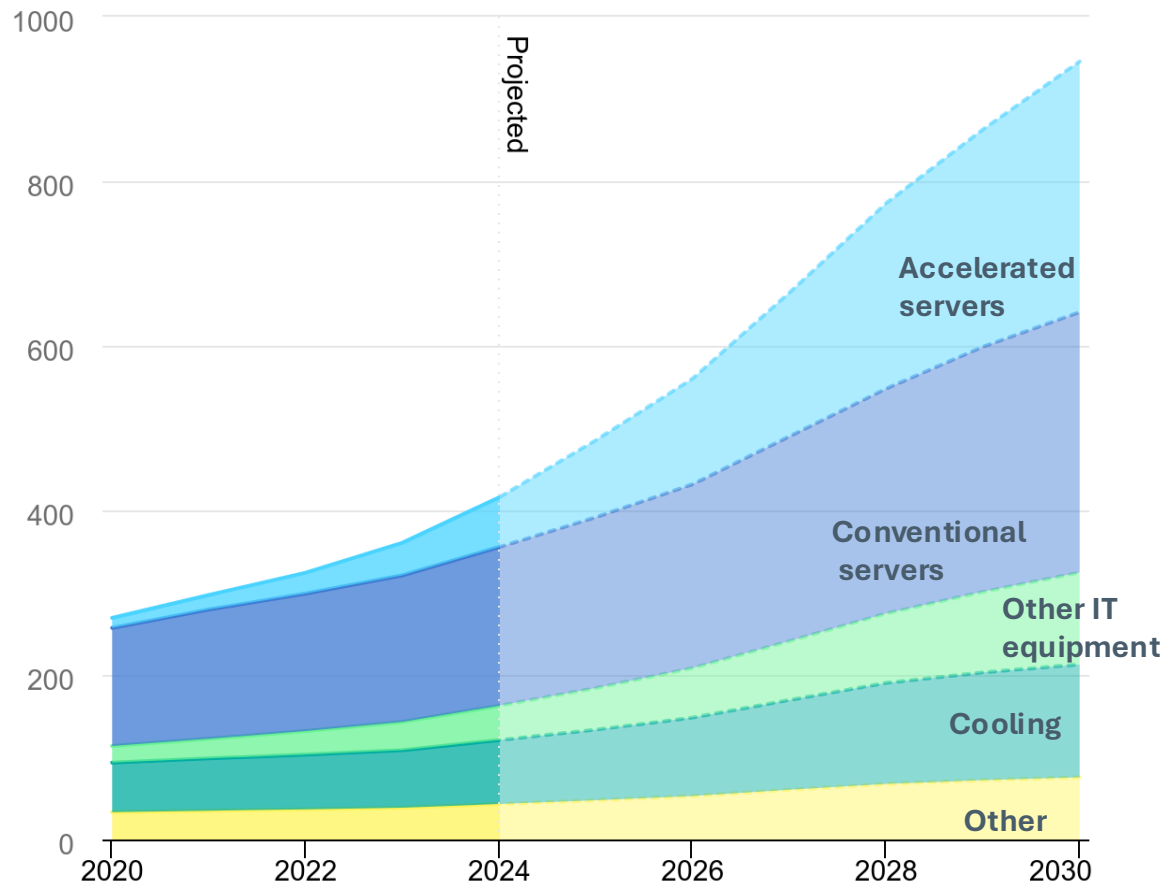
Capital expenditure of largest publicly owned data centre operators



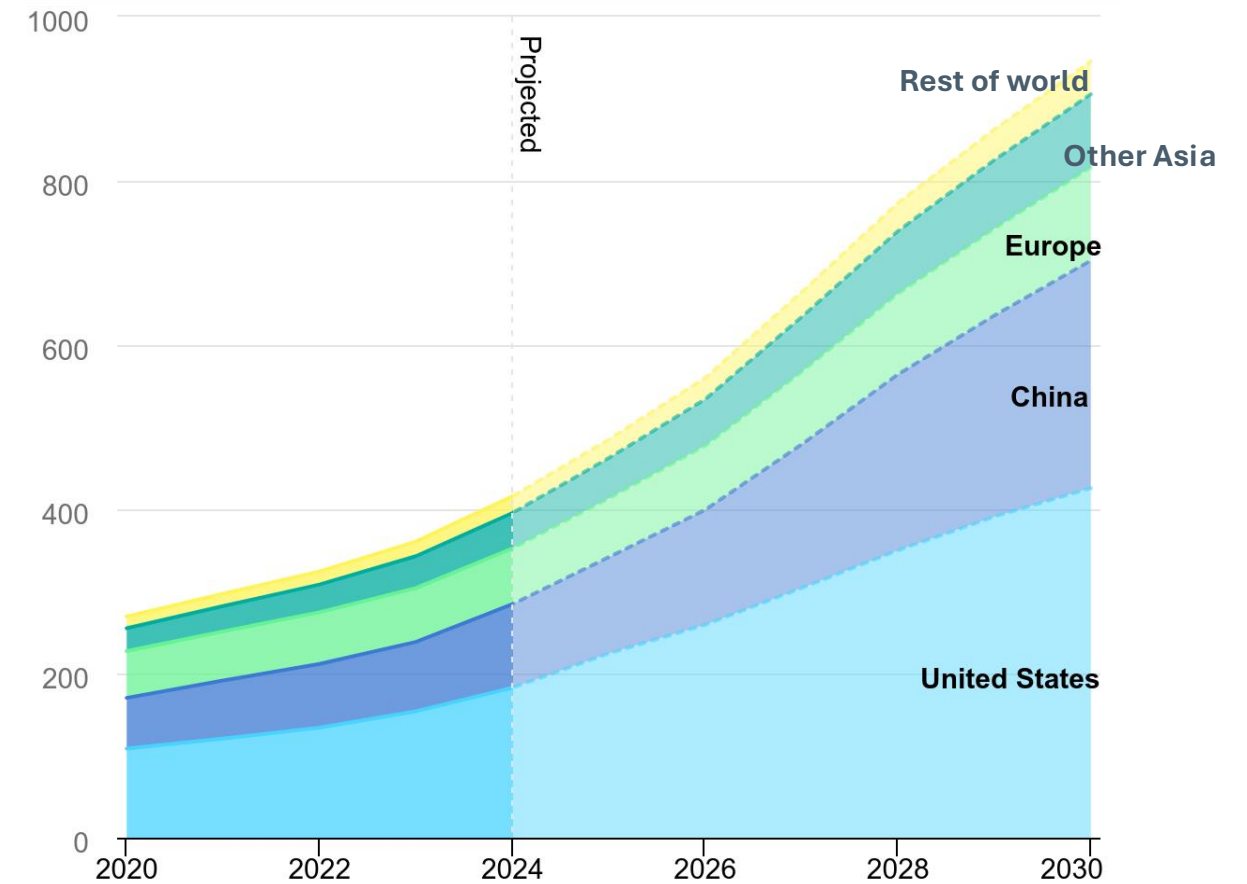
Sources: Jesse Noffsinger, Mark Patel and Panaj Sachdeva, [The cost of compute: A \\$7 trillion dollar race to scale data centers](#), McKinsey Quarterly, April 2025; Bloomberg NEF, [Data Center Market Indicators 1H 2026](#), 18th March 2026.

The requirements of artificial intelligence will also drive significant demand for energy and metals

Global data centre electricity consumption, by type of equipment



Global data centre electricity consumption, by region

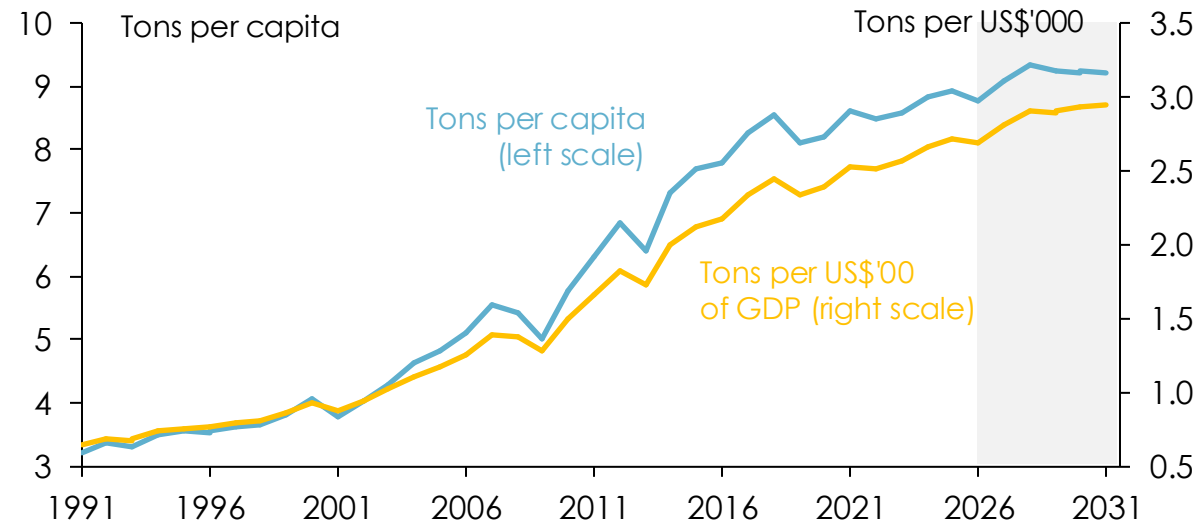


❑ IEA's 'base case' see electricity consumption from data centres rising from 415 TWh in 2024 to 945 TWh by 2030

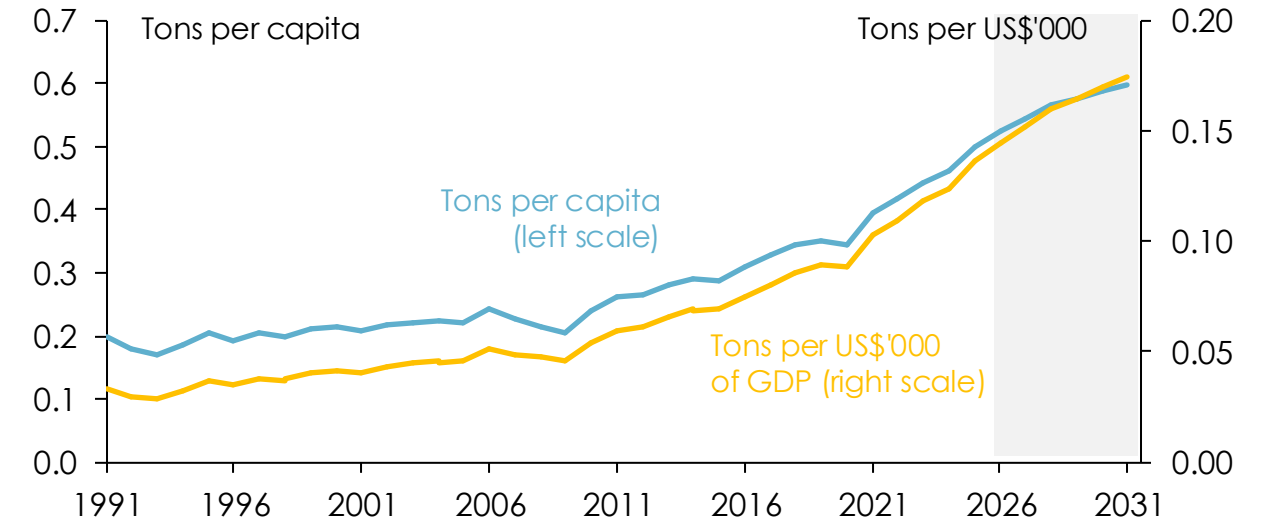
❑ IEA's 'lift off case' has data centres' electricity consumption reaching 1,260 TWh by 2030

The world economy is going to become more intensive in its use of base metals

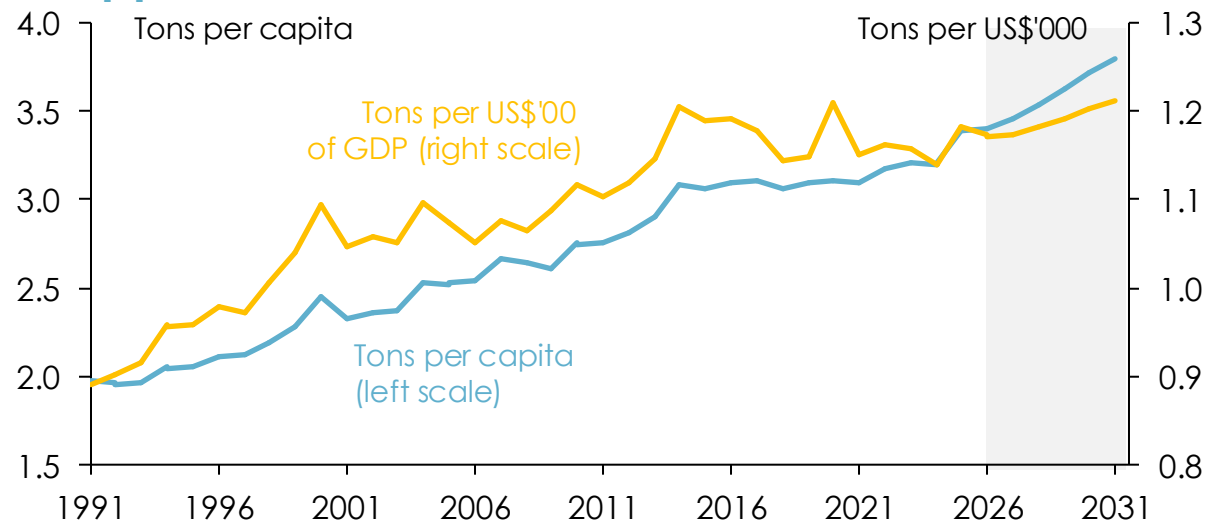
Aluminium



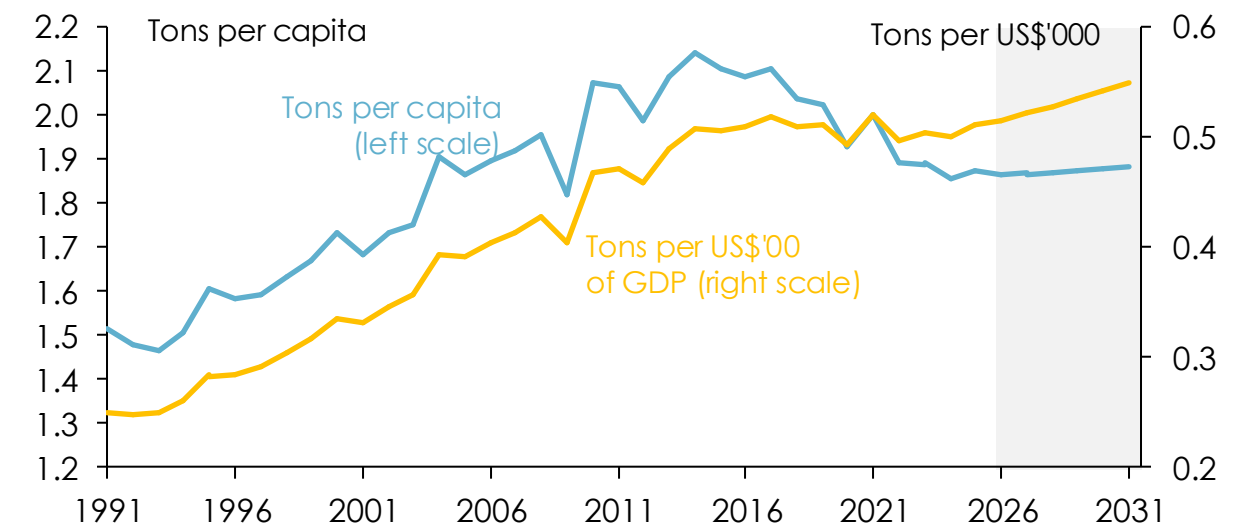
Nickel



Copper



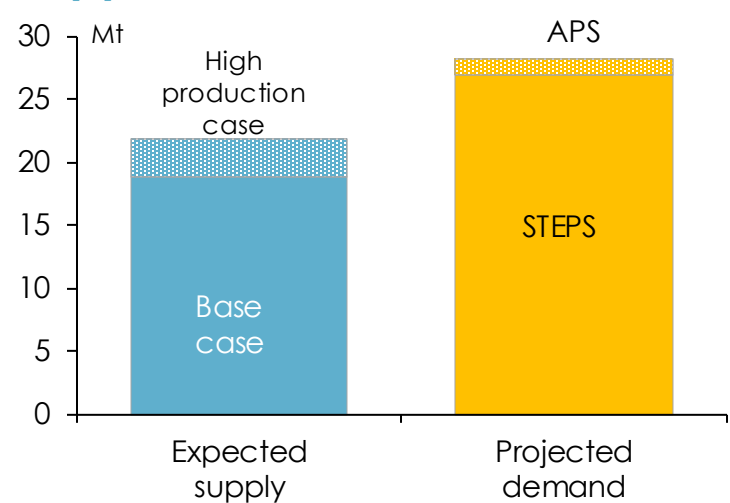
Zinc



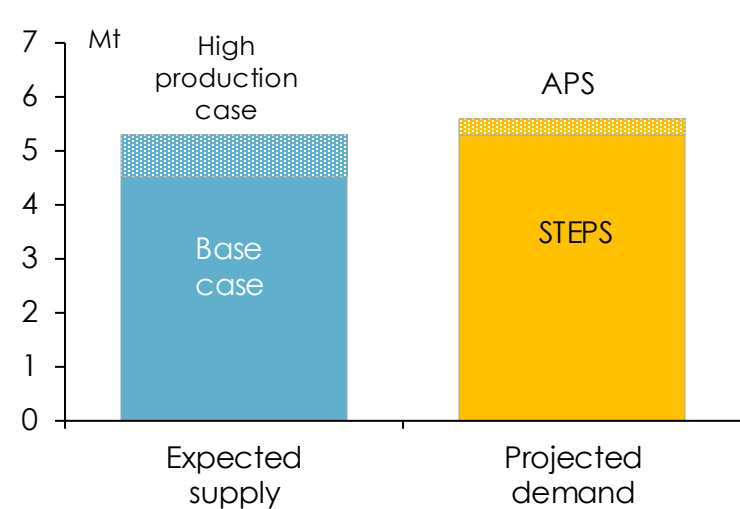
Sources: Office of the Chief Economist, Department of Industry, Science & Resources, [Resources and energy quarterly](#), June 2026; International Aluminium, [Primary Aluminium Production](#); International Copper Study Group, [World Copper Factbook 2026](#); United Nations Department of Economic & Social Affairs, [World Population Prospects 2024](#); The Conference Board, [Total Economy Database 2025](#); and International Monetary Fund, [World Economic Outlook Entire Dataset in Excel](#), April 2026.

Demand for 'critical minerals' is projected to grow strongly through to 2035, but so is supply – with the exceptions of copper and lithium

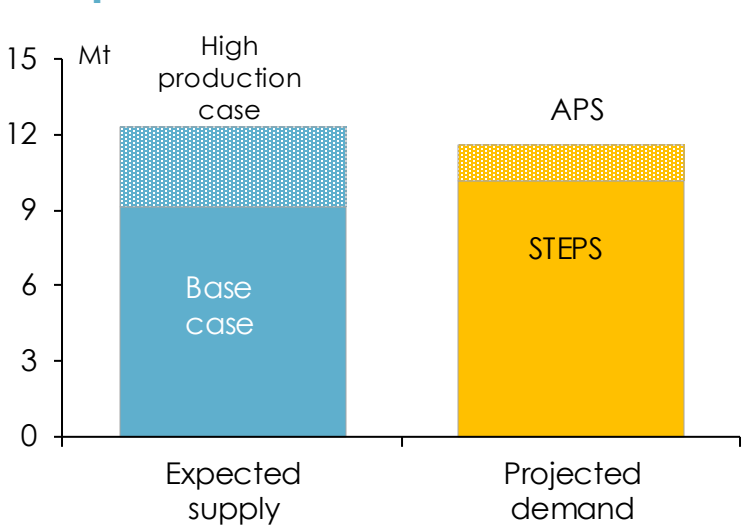
Copper



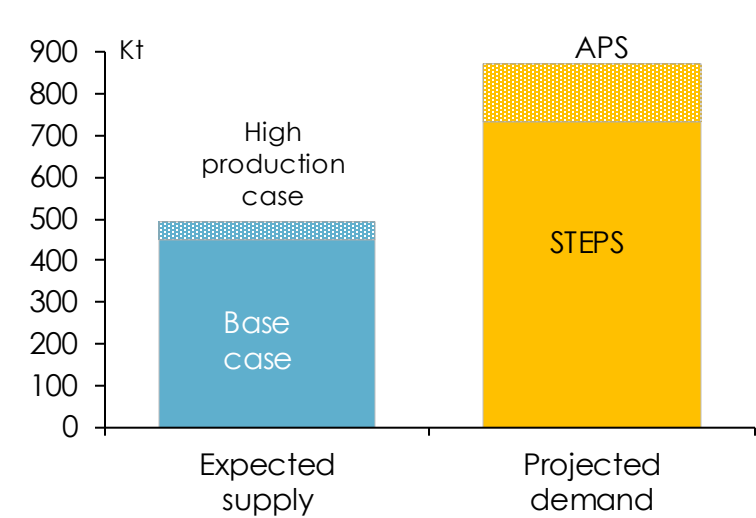
Nickel



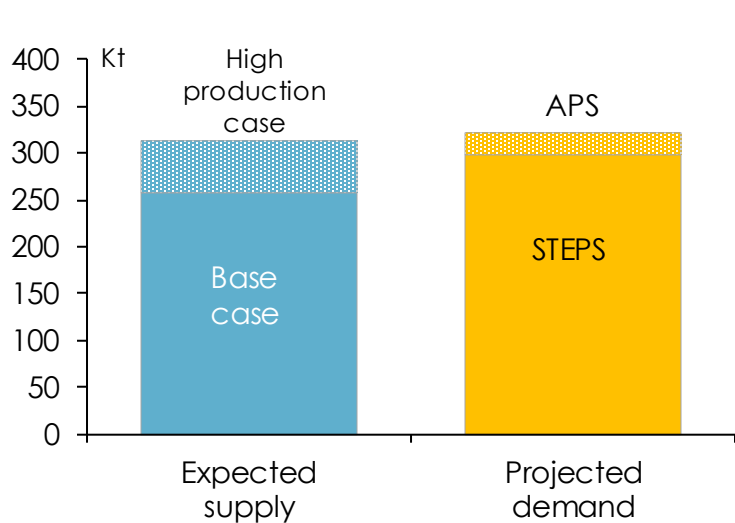
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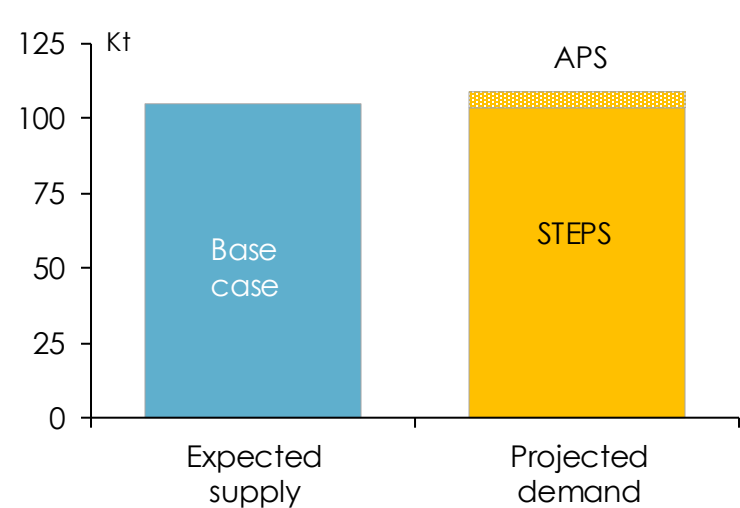
Lithium



Cobalt



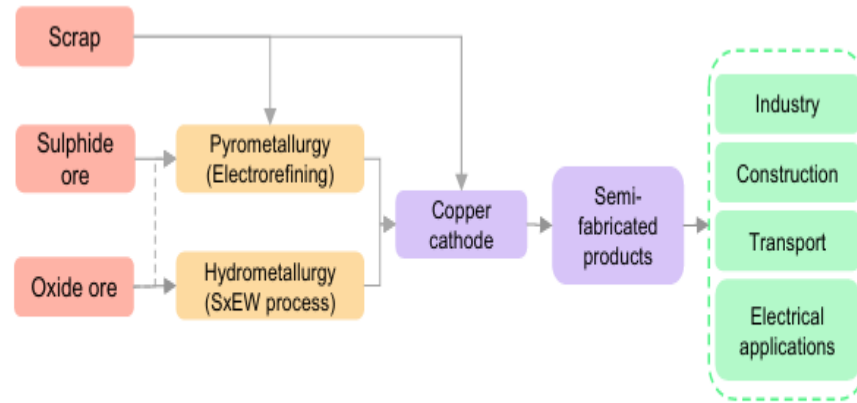
Rare earths



Note: Supply and demand projections are for the period 2024-2035. 'Base case' supply projections include production from existing assets and those under construction, together with projects assessed as having "a high chance of moving ahead"; the 'high production case' also includes production from projects "at a reasonably advanced stage of development". On the demand side, 'STEPS' are demand projections based on national governments' current Stated Policies; 'APS' is an Additional Pledges Scenario assuming that governments meet their national energy and emissions targets in full and on time. Source: International Energy Agency, [Global Critical Minerals Outlook 2025](#).

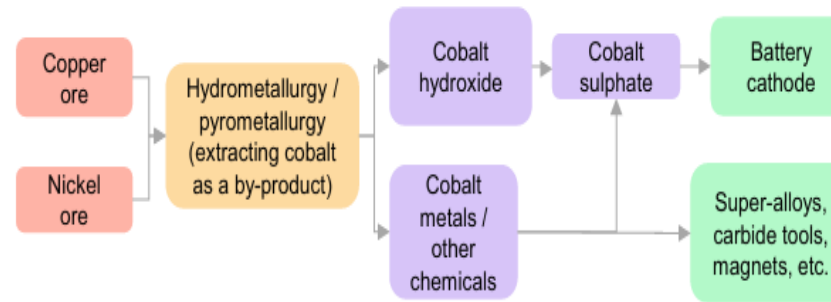
'Critical minerals' typically have more complex supply chains ...

Copper



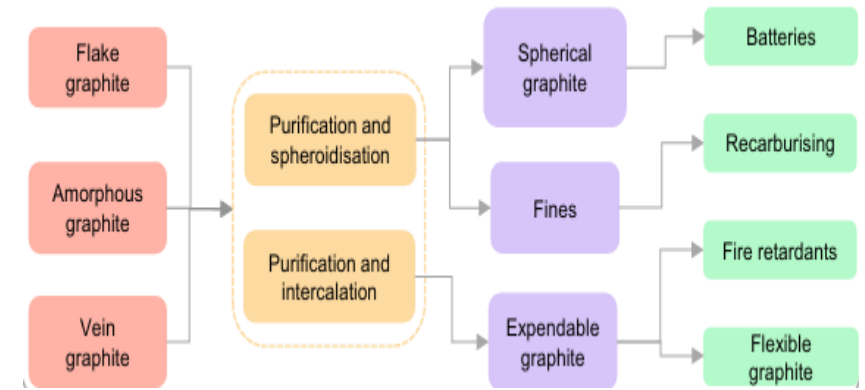
Primary material Processing step Refined material End-use

Cobalt



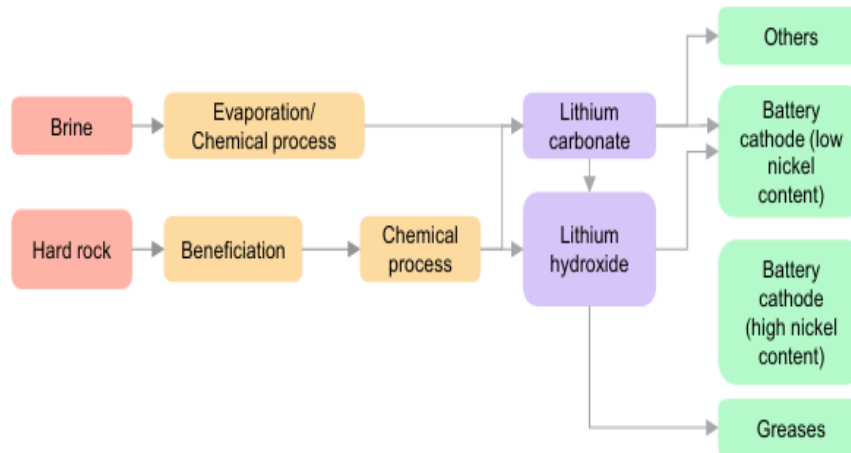
Primary material Processing step Refined material End-use

Graphite



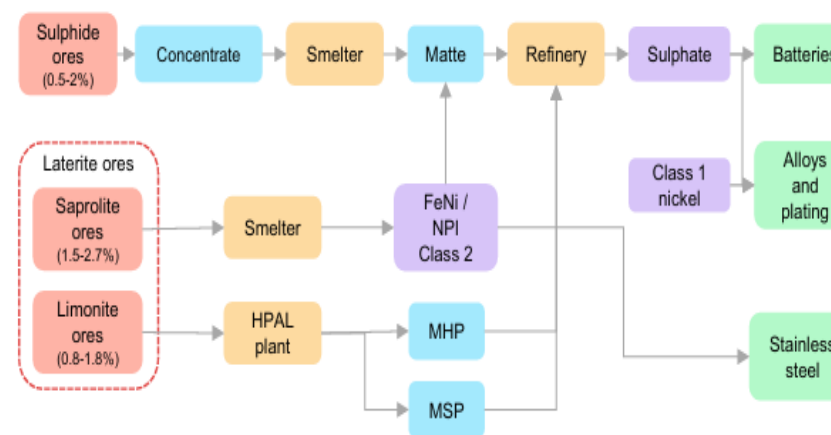
Primary material Processing step Refined material End-use

Lithium



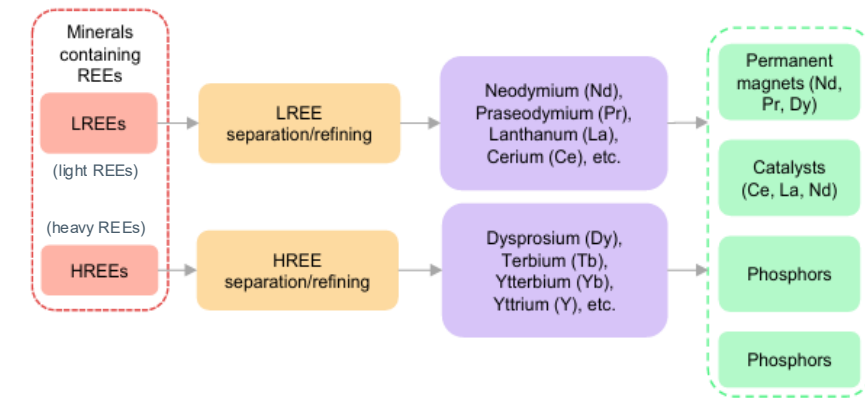
Primary material Processing step Refined material End-use

Nickel



Primary material Processing step Refined material End-use

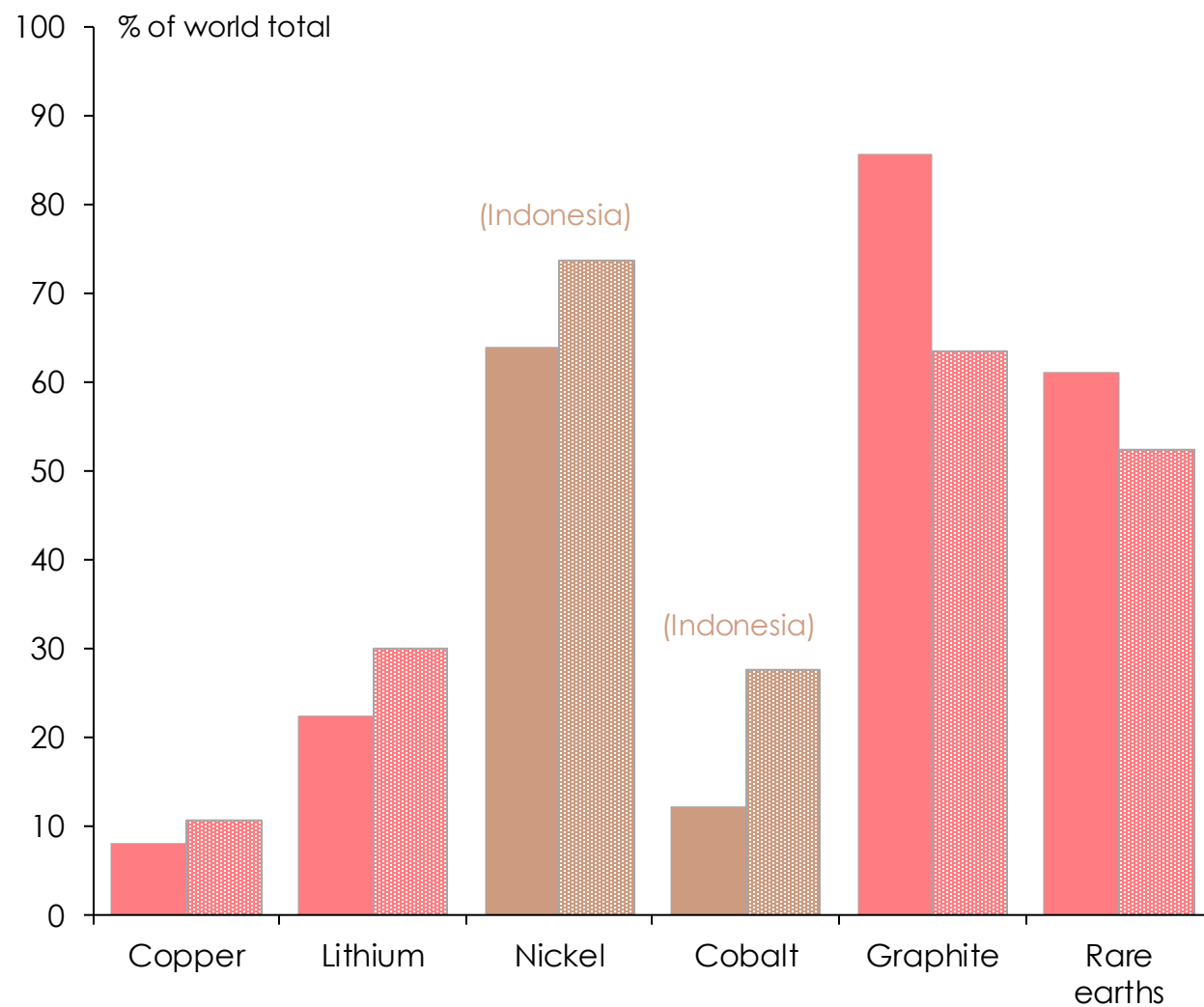
Rare earth elements (REEs)



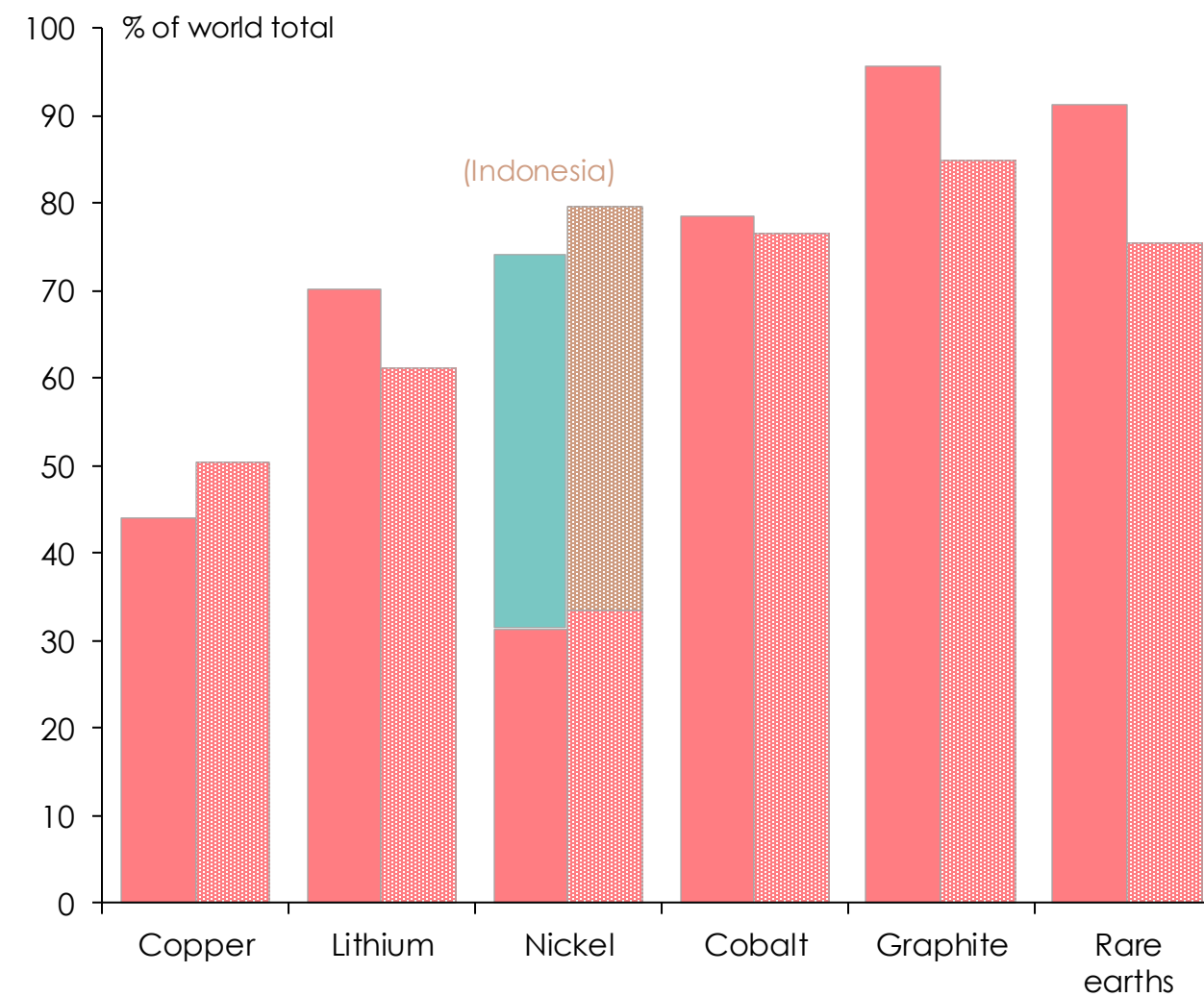
Primary material Processing step Refined material End-use

.... and China has accumulated a dominant position in most of them

China's share of 'critical minerals' mining



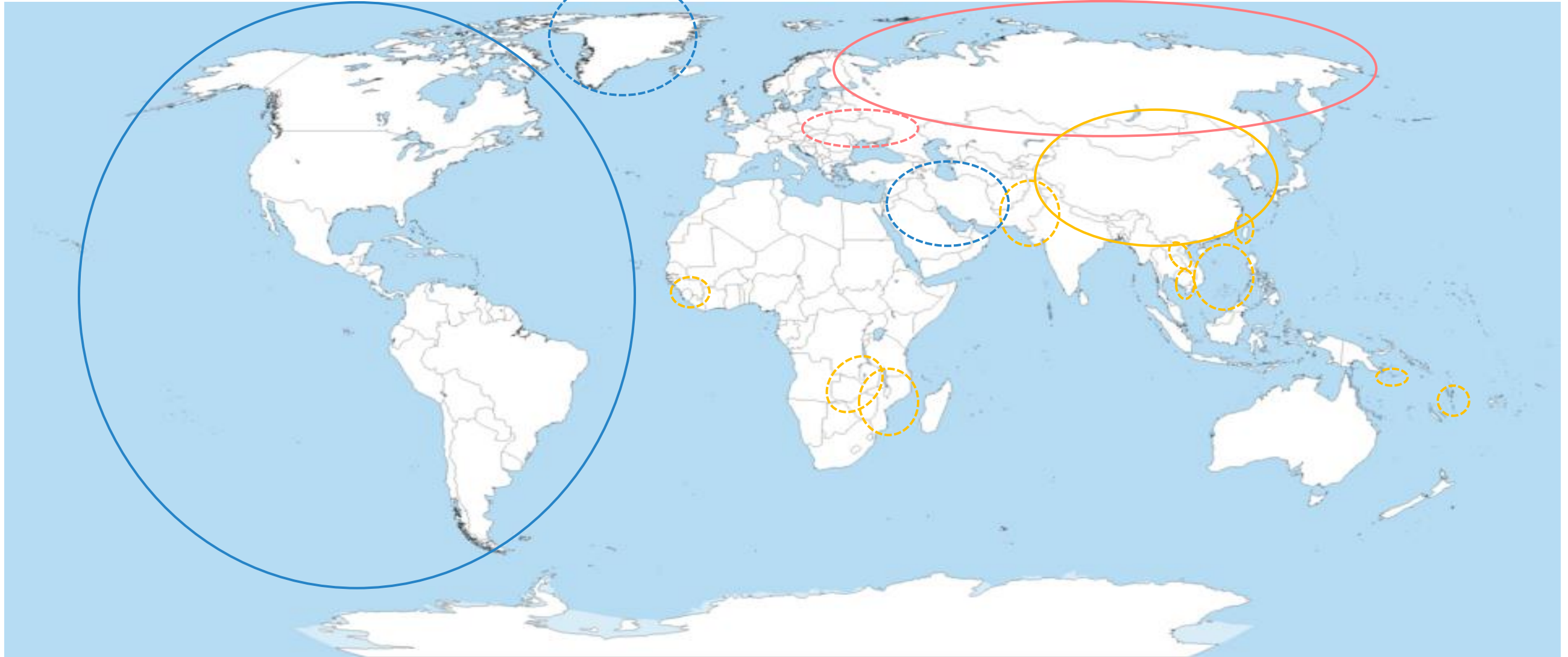
China's share of 'critical minerals' refining



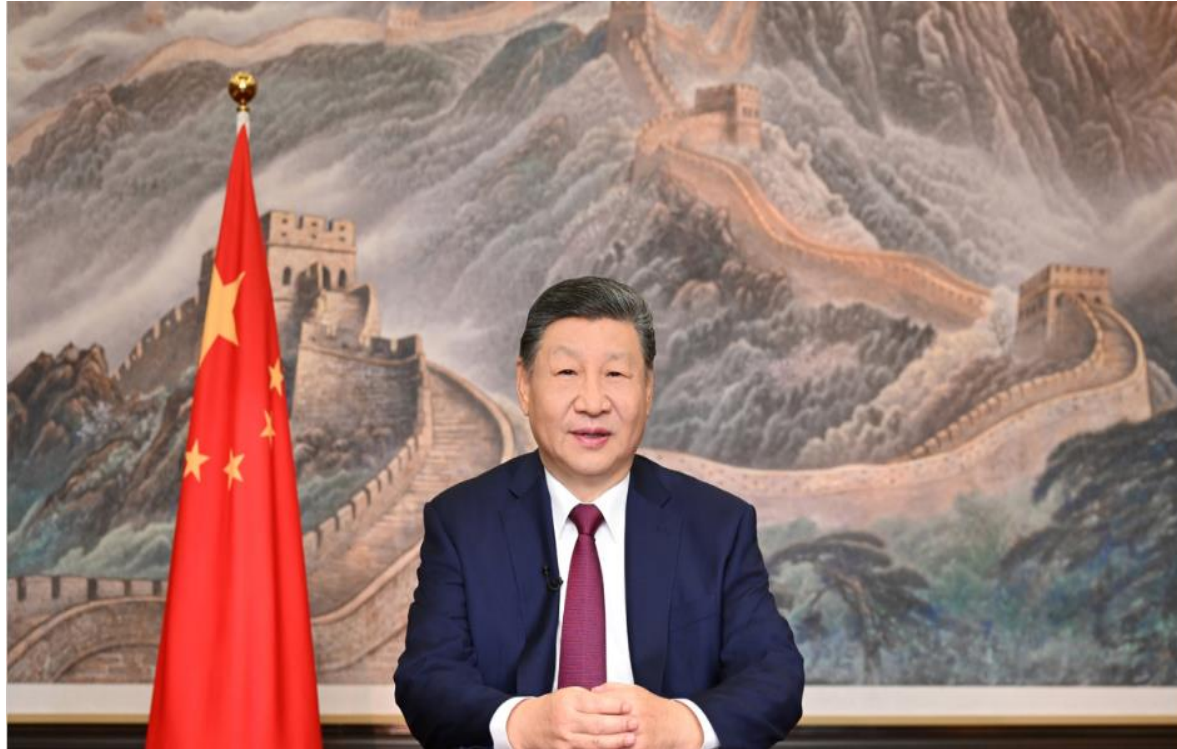
Source: International Energy Agency, [Global Critical Minerals Outlook 2025](#).

The leaders of the three most militarily powerful nations seem to want to return to a world shaped by 'spheres of influence'

'Spheres of influence'



China is increasingly exerting its will – politically, militarily and economically



- ❑ China is becoming more belligerent and assertive in its dealings with other nations
 - continuing to scale up its naval and military presence in the South China Sea
 - increasing frequency and scale of ‘military exercises’ around Taiwan and incursions into Taiwanese air space
- ❑ China has become more willing to use economic coercion in pursuit of what it sees as its interests, or in response to perceived slights
 - Norway, South Korea, Japan, Lithuania, Canada and Australia have all been targeted at different times over the past 15 years
 - and more recently has begun to ‘weaponize’ its dominant position in some global supply chains

- ❑ China is now pursuing a two-pronged economic strategy
 - seeking a dominant position in global markets for (among other things) electric vehicles, basic metals, ‘critical minerals’, solar panels, batteries, bio-pharmaceuticals, robotics, and semi-conductors
 - and reducing its dependence on imports – especially from ‘western’ economies
- ❑ China is using a wide range of ‘industrial policy instruments’ – including in particular subsidies, access to land at below-market prices, tax breaks and state-directed lending – in pursuit of those goals

The America that saved the world from fascism 80 years ago has gone ...



“.. We look forward to a world founded upon four essential human freedoms.

The first is freedom of speech and expression--everywhere in the world.

The second is freedom of every person to worship God in his own way--everywhere in the world.

The third is freedom from want--which, translated into world terms, means economic understandings which will secure to every nation a healthy peacetime life for its inhabitants--everywhere in the world.

The fourth is freedom from fear--which, translated into world terms, means a world-wide reduction of armaments to such a point and in such a thorough fashion that no nation will be in a position to commit an act of physical aggression against any neighbour--anywhere in the world.”

- Franklin D Roosevelt, [State of the Union Address to Congress](#), 6th January 1941

... as has the America that stared down Soviet Communism ...



“Let every nation know, whether it wishes us well or ill, that we shall pay any price, bear any burden, meet any hardship, support any friend, oppose any foe to assure the survival and the success of liberty”

– John F. Kennedy, [Inaugural Address](#),
20th January 1961



“General Secretary Gorbachev, if you seek peace, if you seek prosperity for the Soviet Union and Eastern Europe, if you seek liberalization: Come here to this gate! Mr. Gorbachev, open this gate! Mr. Gorbachev, tear down this wall!”

– Ronald Reagan, [Speech at the Brandenburg Gate, Berlin](#), 12th June 1987

... to be replaced by a very different America



“There is one thing. My own morality. My own mind. It’s the only thing that can stop me”

- Donald Trump, asked if there were any limits to his global powers ([8th January 2026](#))

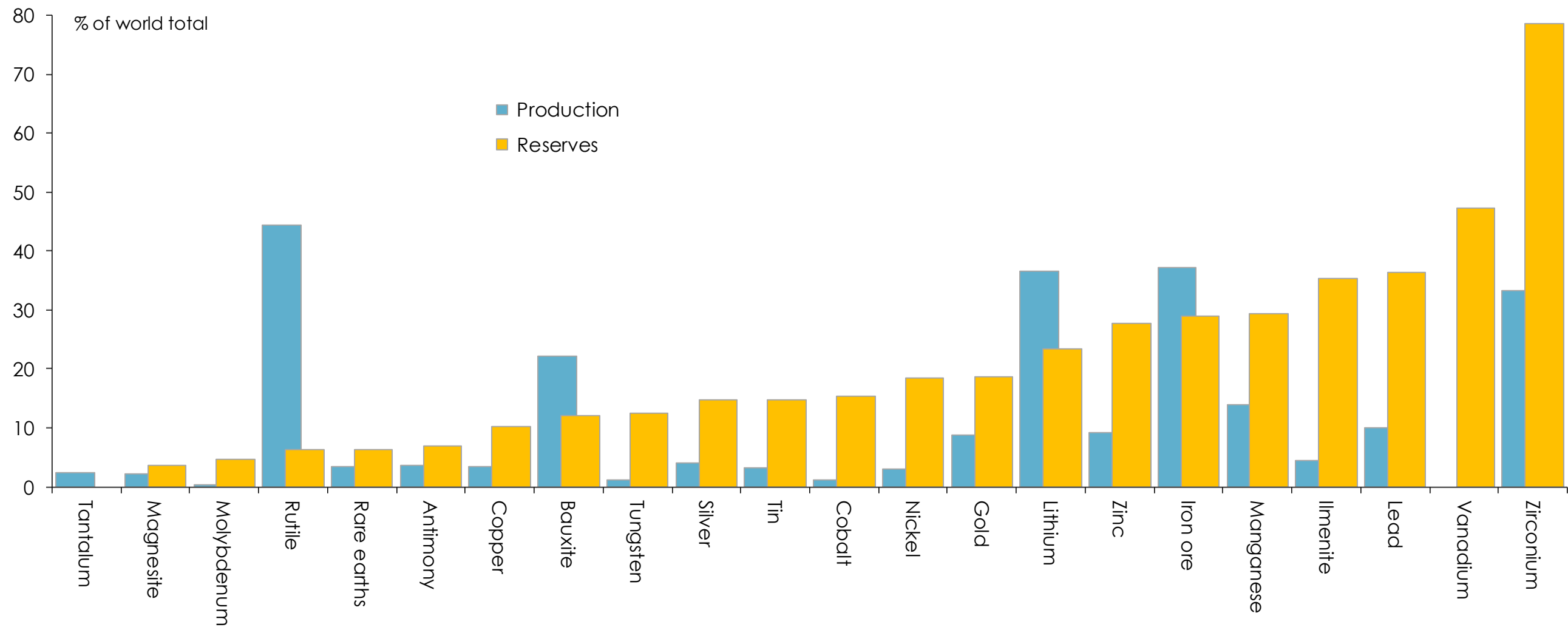


“We live in a world ...that is governed by strength, that is governed by force, that is governed by power ... These are the iron laws of the world since the beginning of time”

- Stephen Miller, White House Deputy Chief of Staff ([5th January 2026](#))

For many minerals, including ‘critical’ ones, Australia has the potential to supply a larger share of the world’s needs

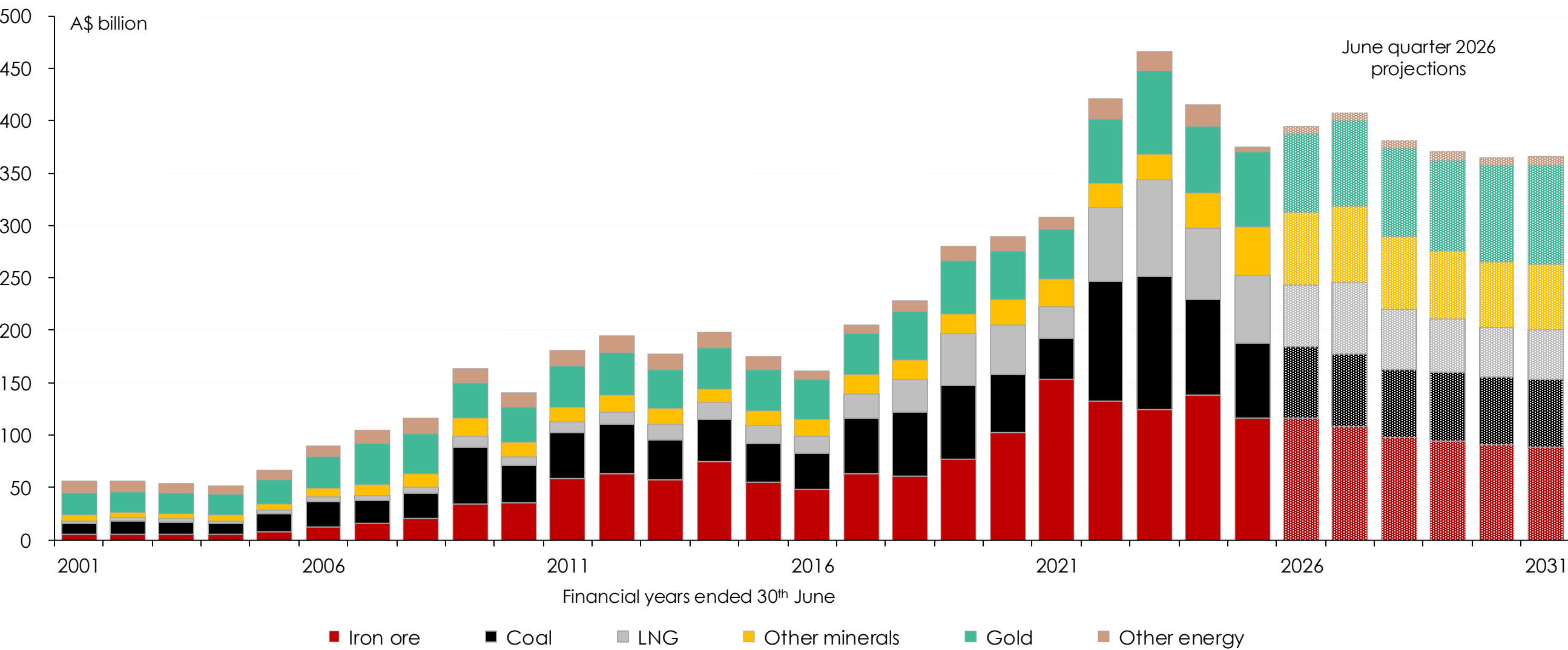
Australia’s share of global mineral production and reserves, 2024



Source: US Geological Survey, [Mineral Commodity Summaries 2025](#).

The Australian Government's commodity forecaster projects a gradual decline in the value of mineral & energy exports over the next five years

Value of Australian mineral and energy exports



Source: Office of the Chief Economist, Australian Department of Industry, Science & Resources, [Resources and energy quarterly](#), June 2026.

So, do the Australian resources sector's “best days” still lie ahead?

- ❑ **The extraordinary resources-based prosperity of the past twenty-five years was largely driven by rapid growth and industrialization in China**
 - but we have now clearly passed ‘peak China’ (at least in terms of growth rates)
 - China’s economy is in a long-term structural slowdown, and over time it will become less intensive in its use of the commodities that have been at the heart of the boom of the past twenty-five years
 - China is also putting more emphasis on nurturing alternative sources of supply of many of these commodities
- ❑ **While India’s economy is likely to grow rapidly over the next two decades it will not do for commodity markets what China did ...**
- ❑ **... and there are no other Chinas or Indias to come after China and India**
 - those countries which have the potential to experience sustained rapid growth and industrialization are a lot smaller than China and India, most of them are not as poor as China or India initially were, and many of them are more self-sufficient in a range of commodities than China or India were
- ❑ **However, new opportunities for Australia’s resources sector will likely emerge from three developments**
 - on-going geo-political tensions between ‘great powers’, heightened and pervasive uncertainty about the intentions and capabilities of ‘great powers’, and ‘de-globalization’ – all putting heightened emphasis on strengthening supply chains
 - the ‘energy transition’ – declining demand for fossil fuels, but rising demand for ‘critical minerals’
 - The ‘AI revolution’ – over-hyped to some extent, but giving rise to further demand for ‘critical minerals’
- ❑ **Australia’s resources sector has the capacity to meet significant components of this emerging demand, and to contribute to resolving concerns about the consequences of geo-political developments**
 - but other countries will be competing with Australia for a stake in these opportunities

Important information

This document has been prepared by Saul Eslake on behalf of Corinna Economic Advisory Pty Ltd, ABN 165 668 058 69, whose registered office is located at Level 11, 114 William Street, Melbourne, Victoria 3000 Australia.

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