

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

PRESENTATION TO THE AUSTRALIAN INSTITUTE OF MINING
AND METALLURGY CONGRESS 2025

SOFITEL BRISBANE

17TH OCTOBER 2025

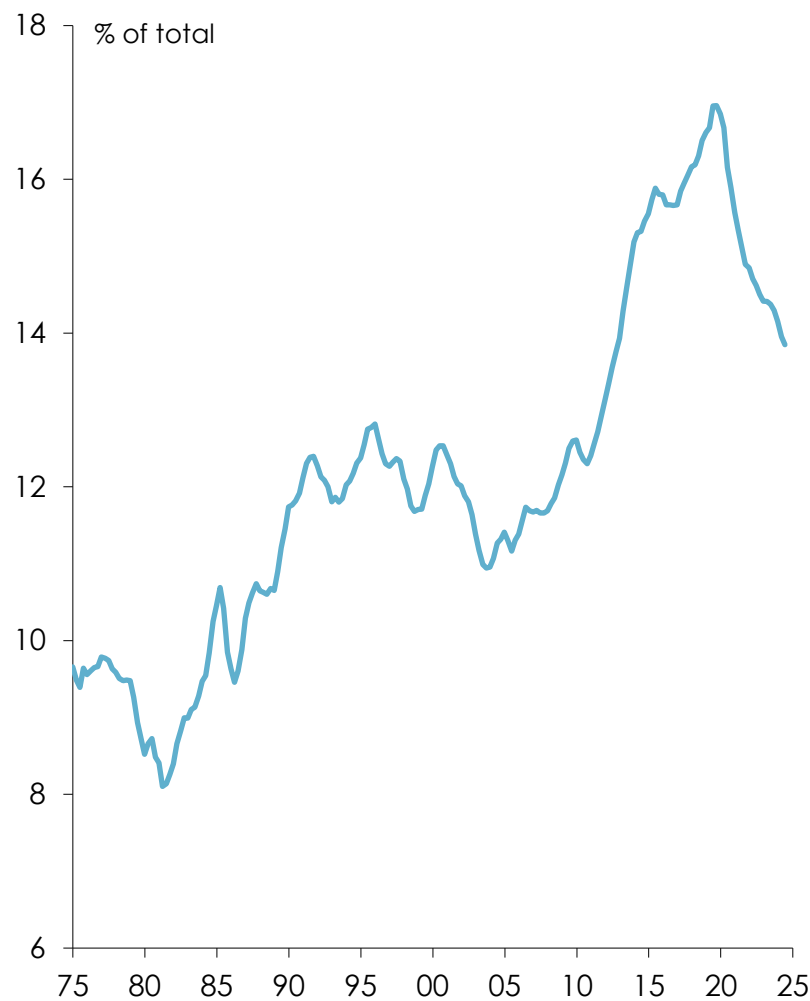


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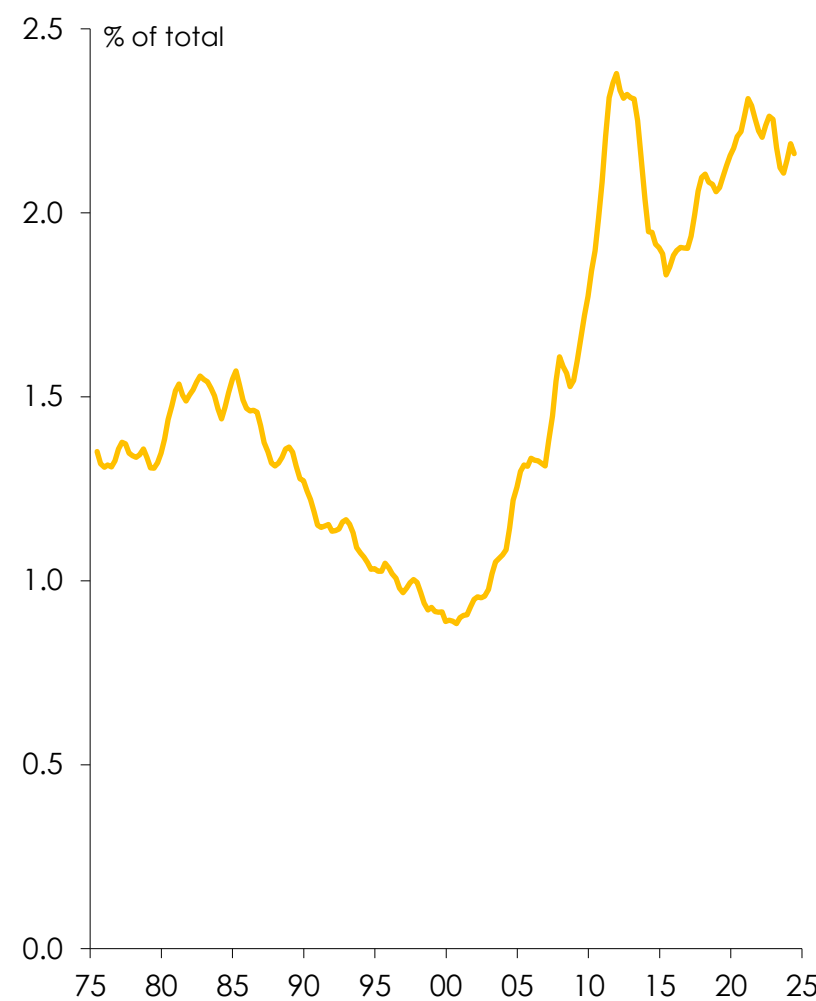
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INDEPENDENT ECONOMICS

Mining is important to the Australian economy

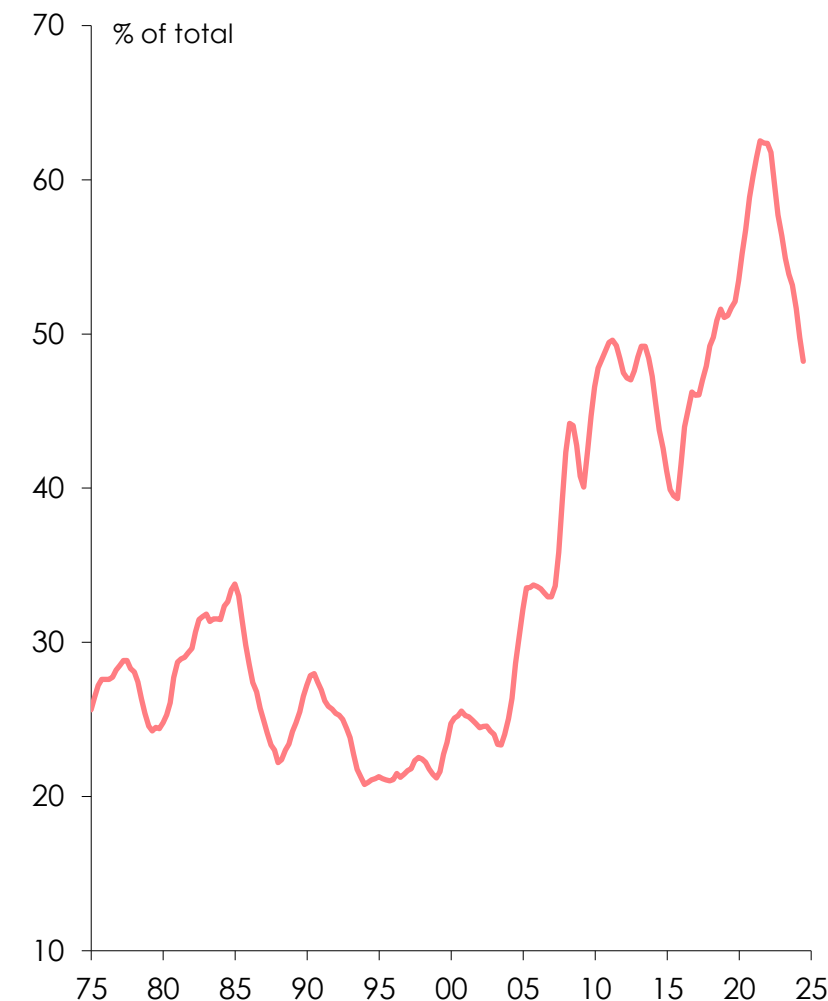
Mining gross value added as a share of Australia's GDP



Mining employment as a share of total Australian employment



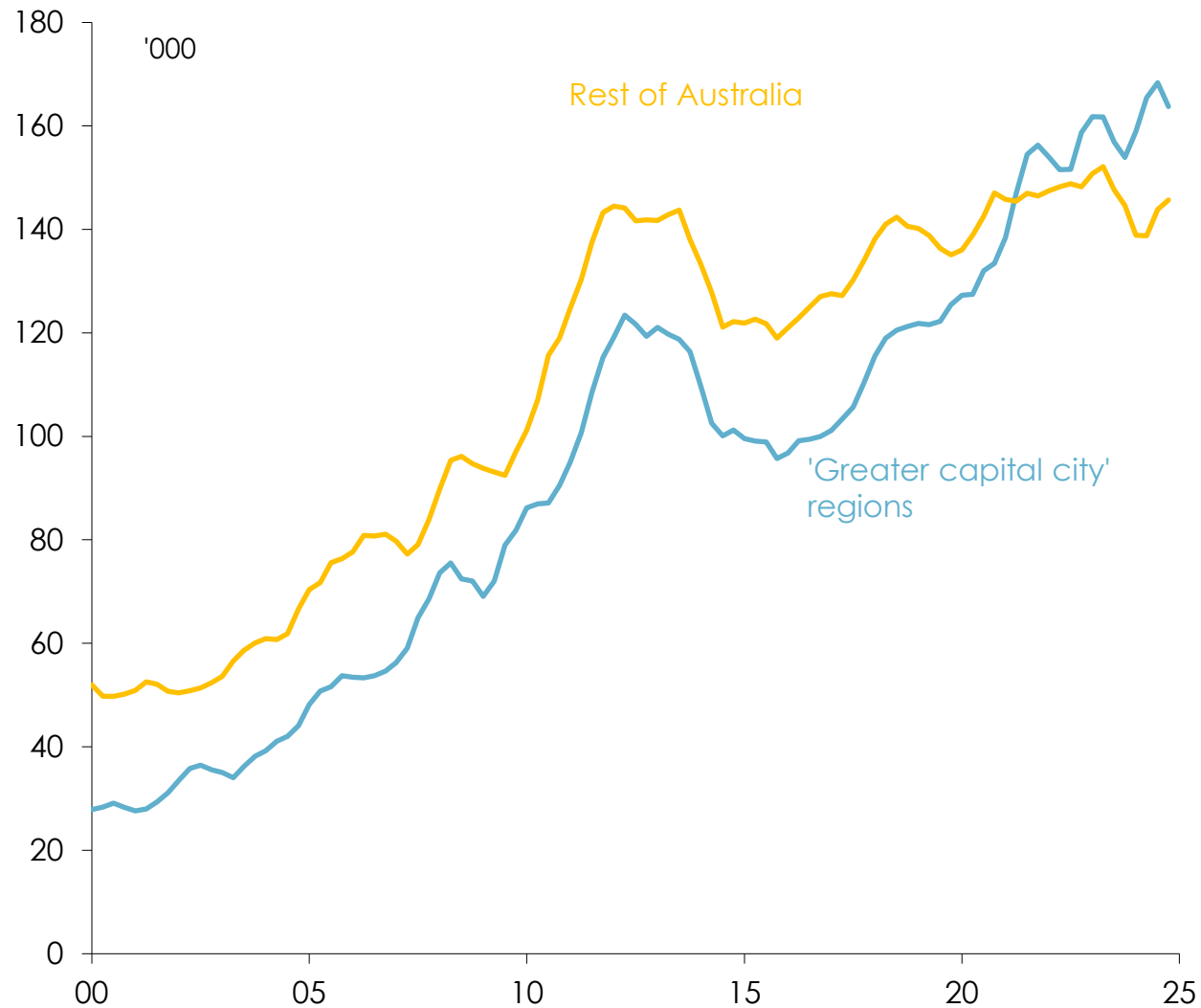
Minerals and energy exports as a share of total Australian exports



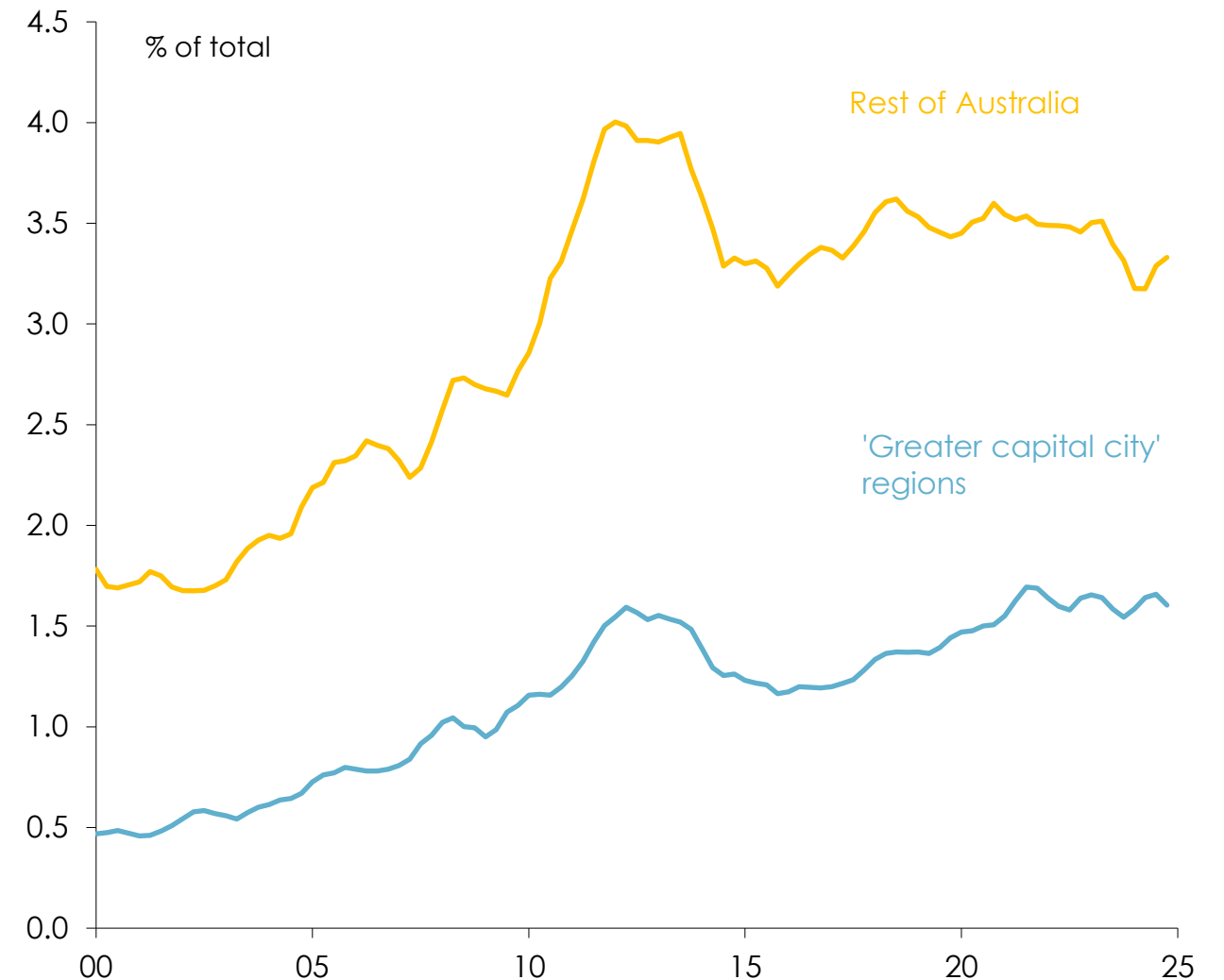
Sources: ABS, [Australian National Accounts: National Income, Expenditure and Product](#), June quarter 2025; [Labour Force, Australia, Detailed](#), August 2025; and [Balance of Payments and International Investment Position, Australia](#), June quarter 2025.

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

Mining employment – capital cities vs regions



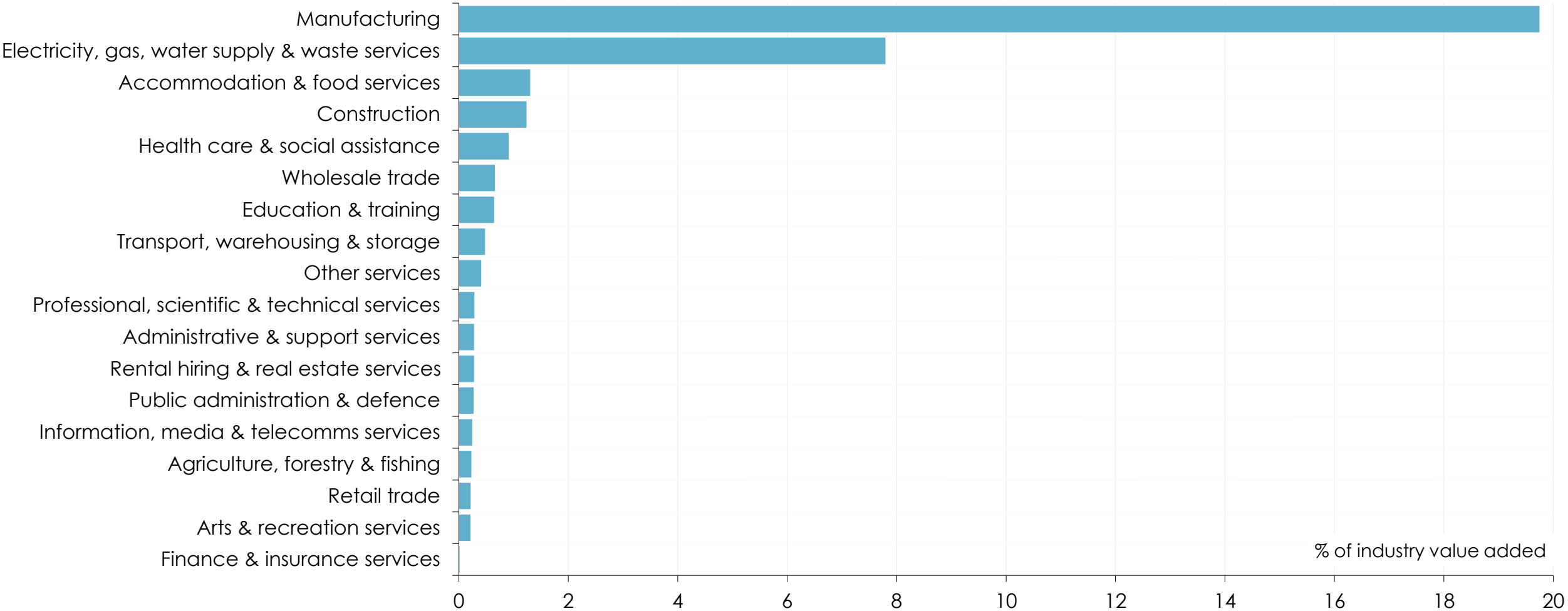
Mining employment as a pc of total employment



Source: ABS, [Labour Force, Australia, Detailed](#), Labour market regions (SA4), August 2025.

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

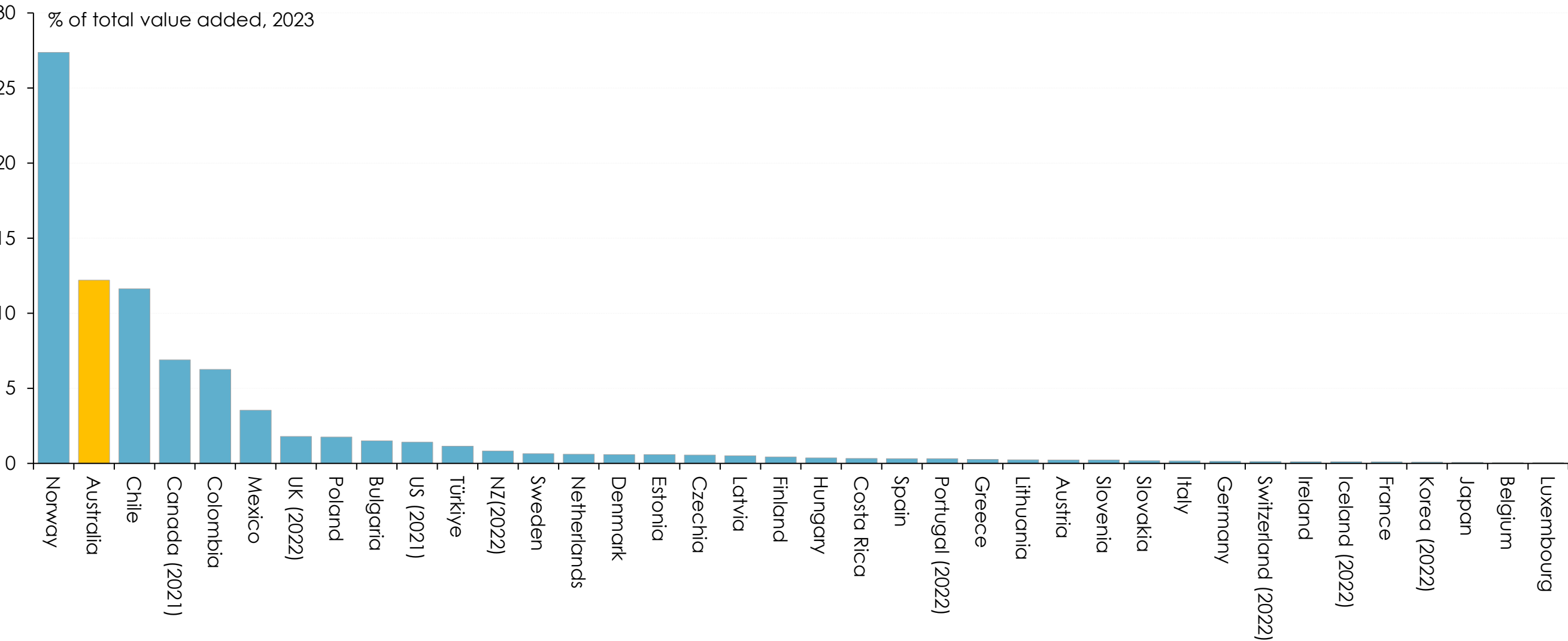
Mining sector purchases of the output of other industries, as a percentage of those other industries' 'value added', 2022-23



Source: ABS, [Australian National Accounts: Supply Use Tables](#), 2022-23 financial year.

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

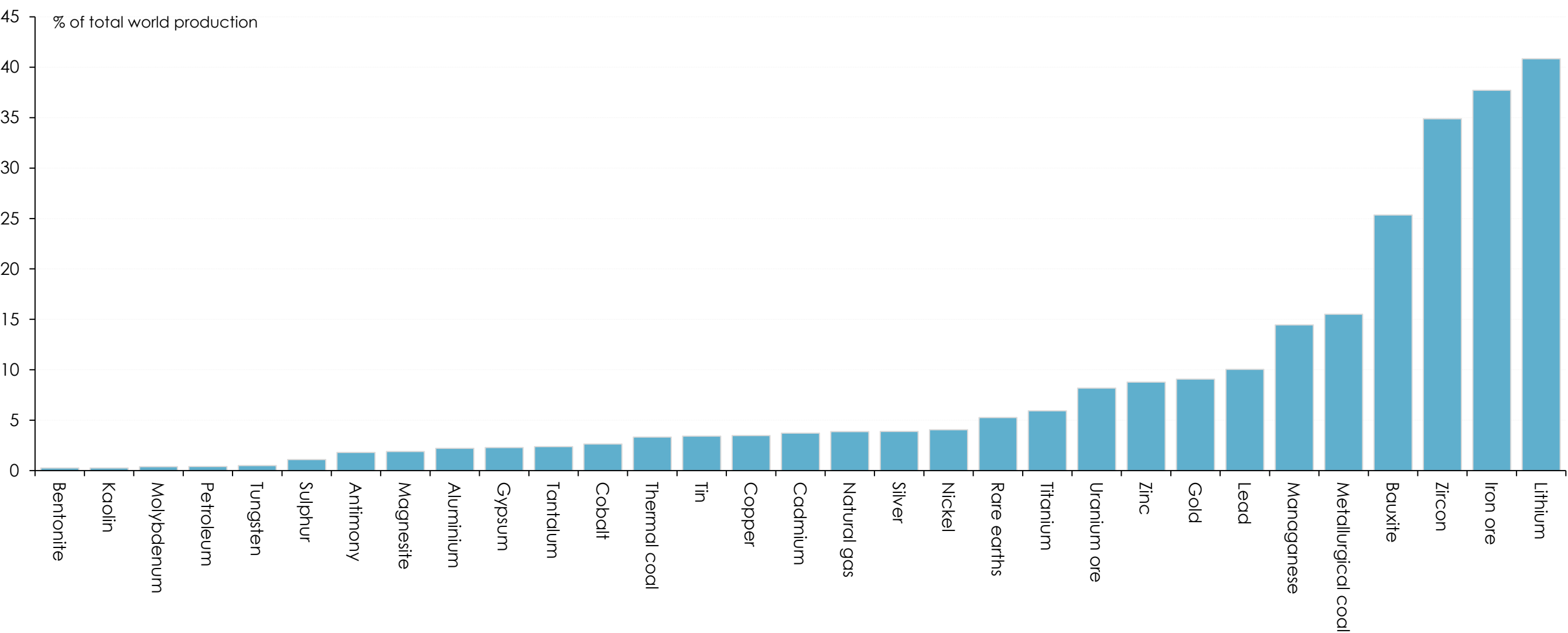
Gross value added by mining as a percentage of GDP – OECD economies, 2023



Note: 'Mining' includes oil and gas production. Source: OECD, [Data Explorer -Annual value added and its components by economic activity](#).

... and Australia is important to mining globally

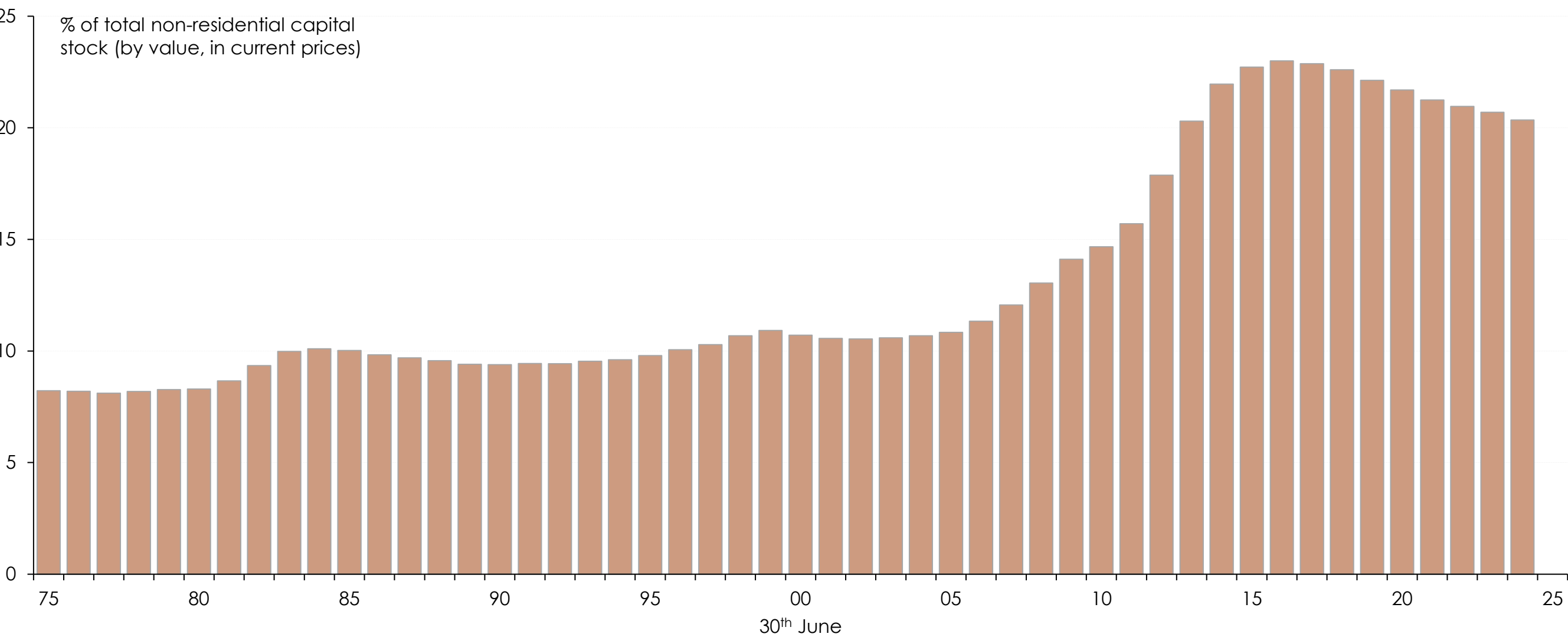
Australia's share of world mineral and energy production, 2023



Source: Austrian Federal Ministry of Finance, Directorate VI-5, [World Mining Data](#), Volume 40, 2025.

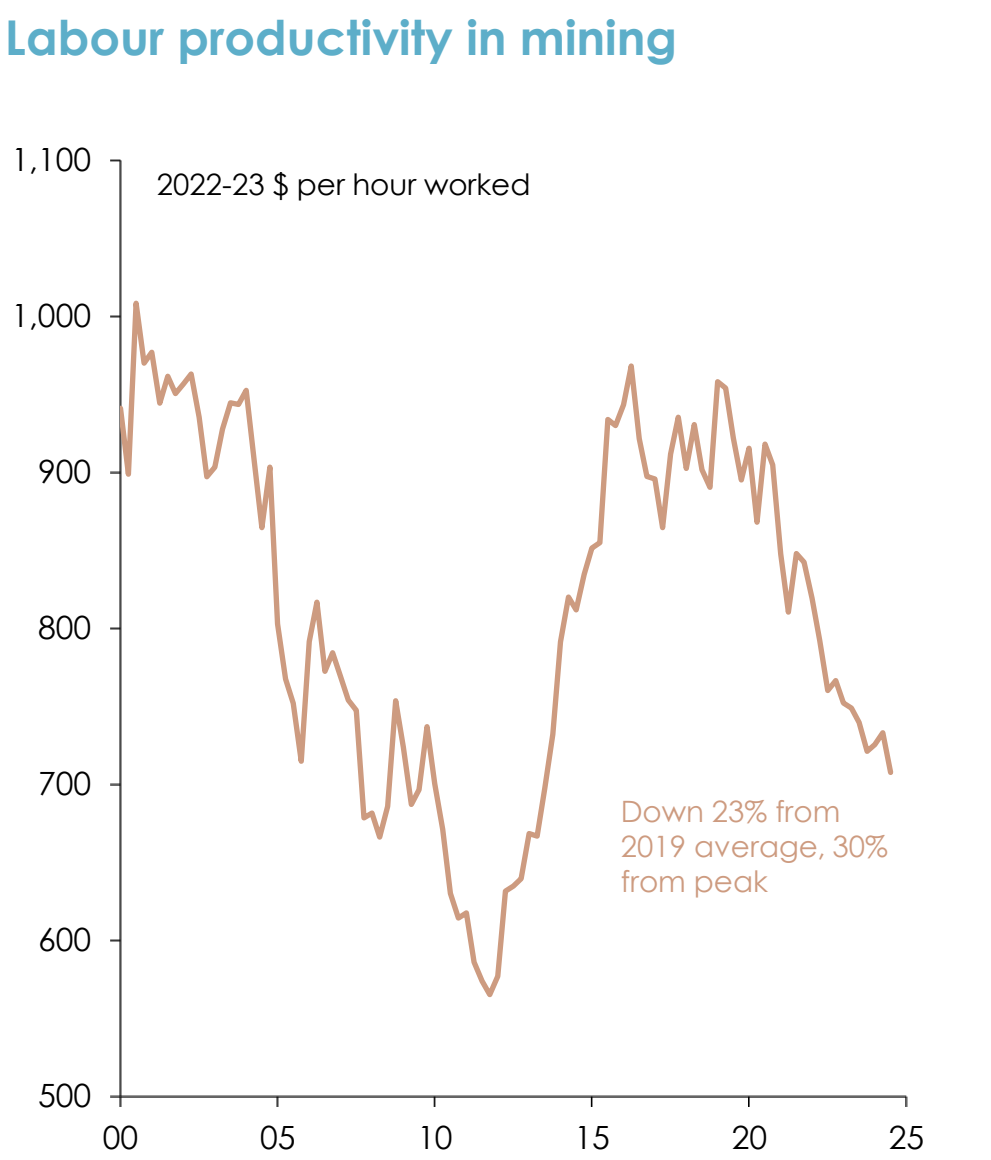
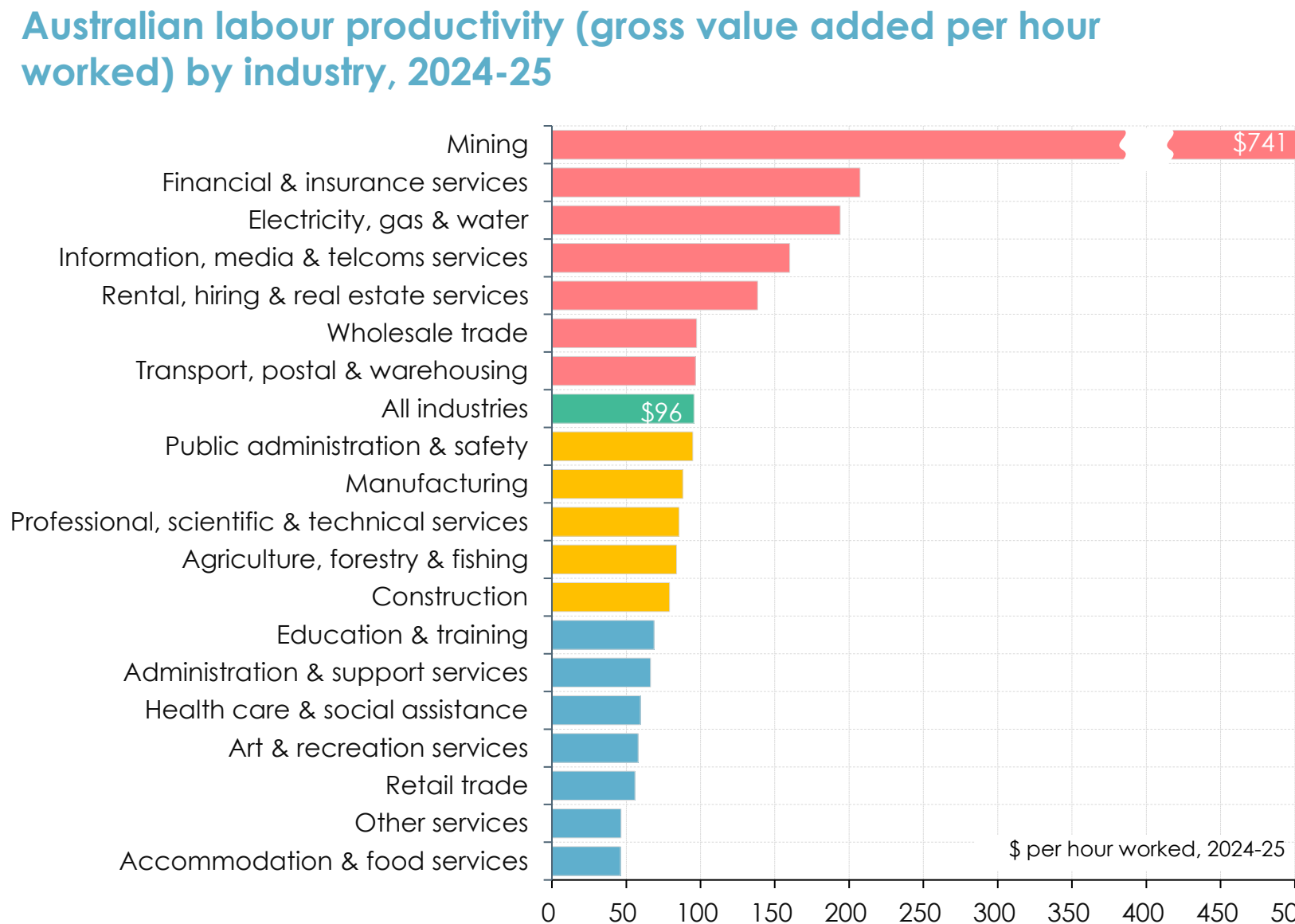
Mining is a capital-intensive business: it accounts for over 20% of Australia's total non-residential capital stock

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



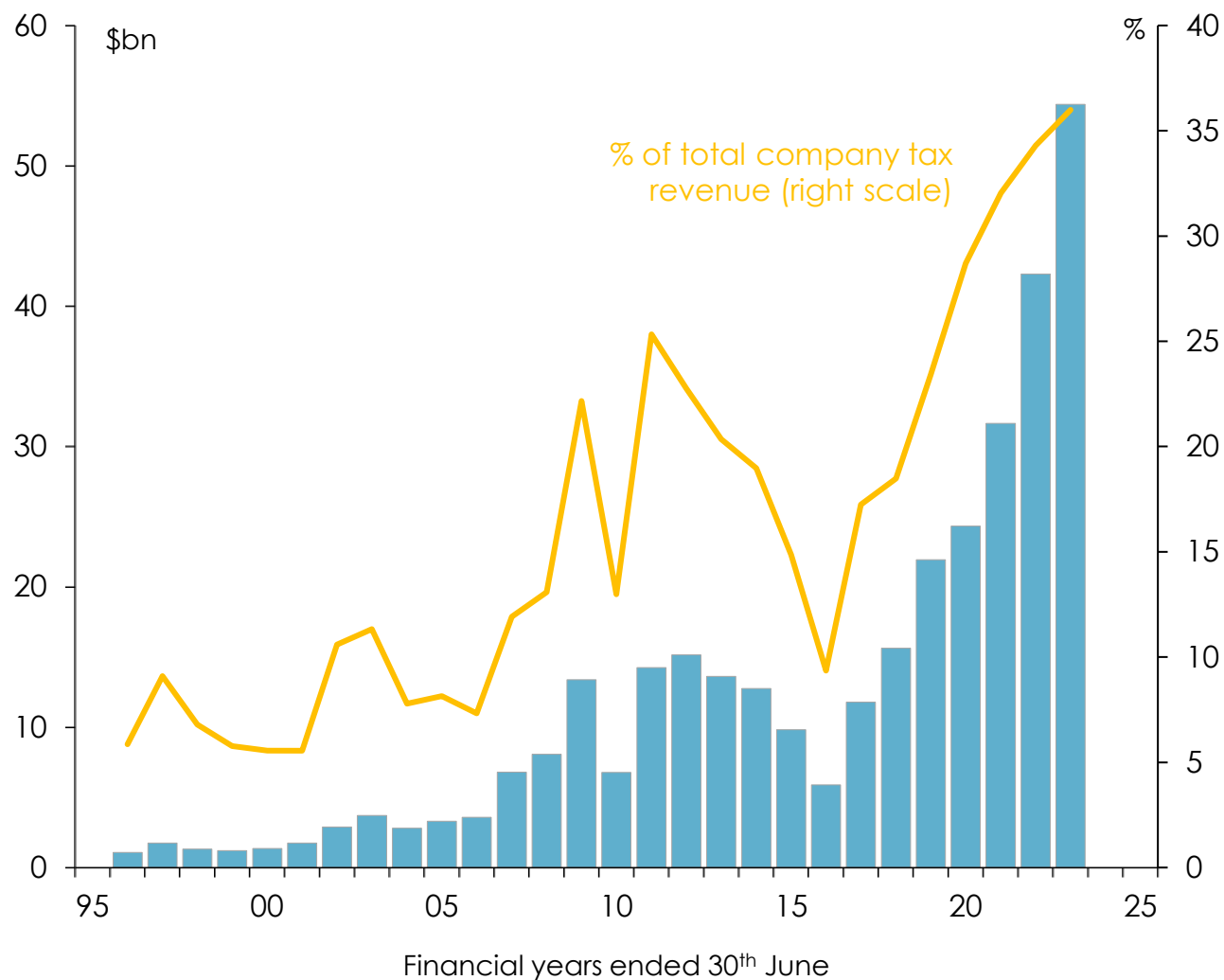
Source: ABS, [Australian System of National Accounts](#), 2023-24 financial year

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

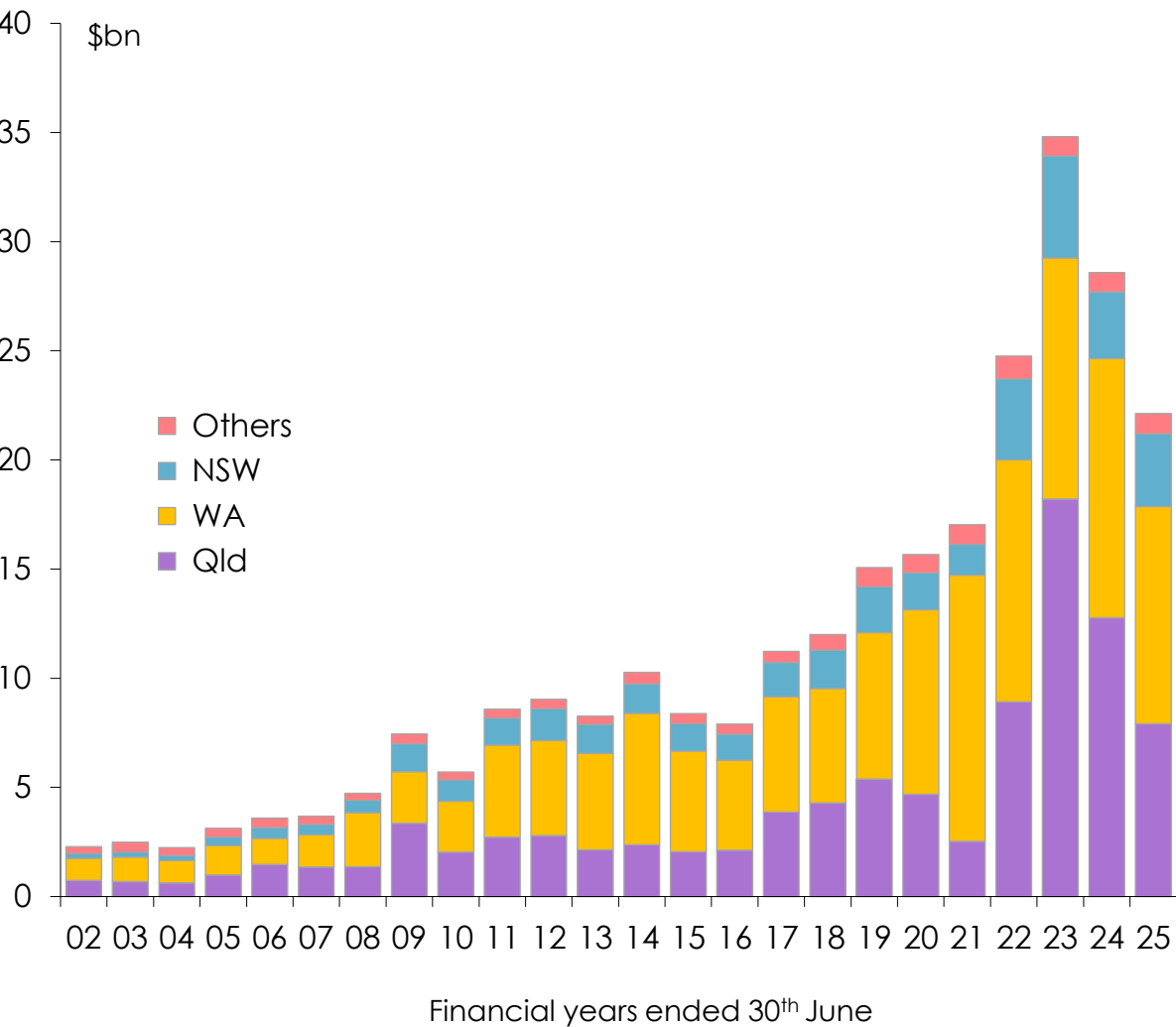


Mining is very important to Australian governments

Company income tax paid to the Federal Government by mining companies



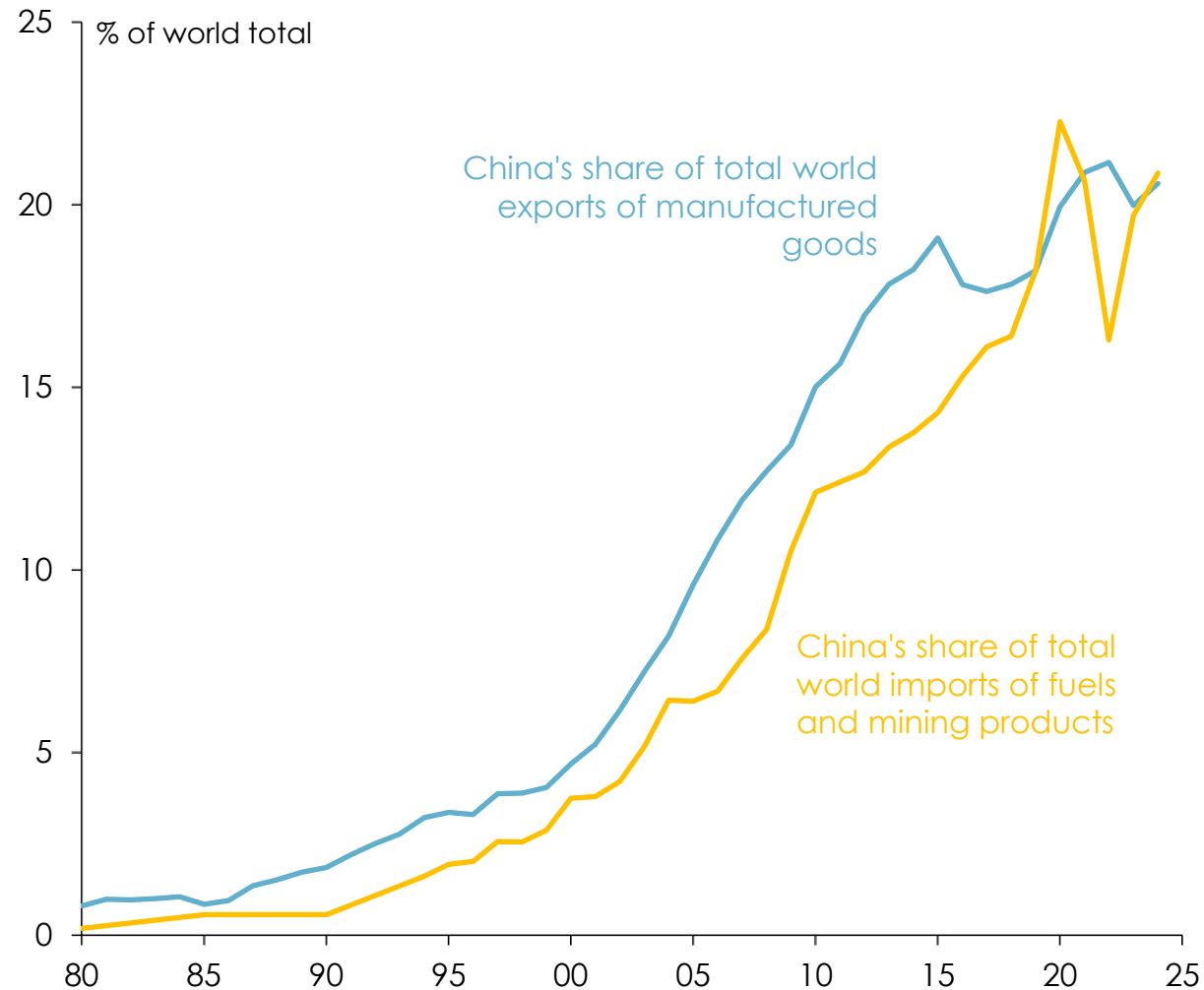
Royalties paid to state and territory governments by mining companies



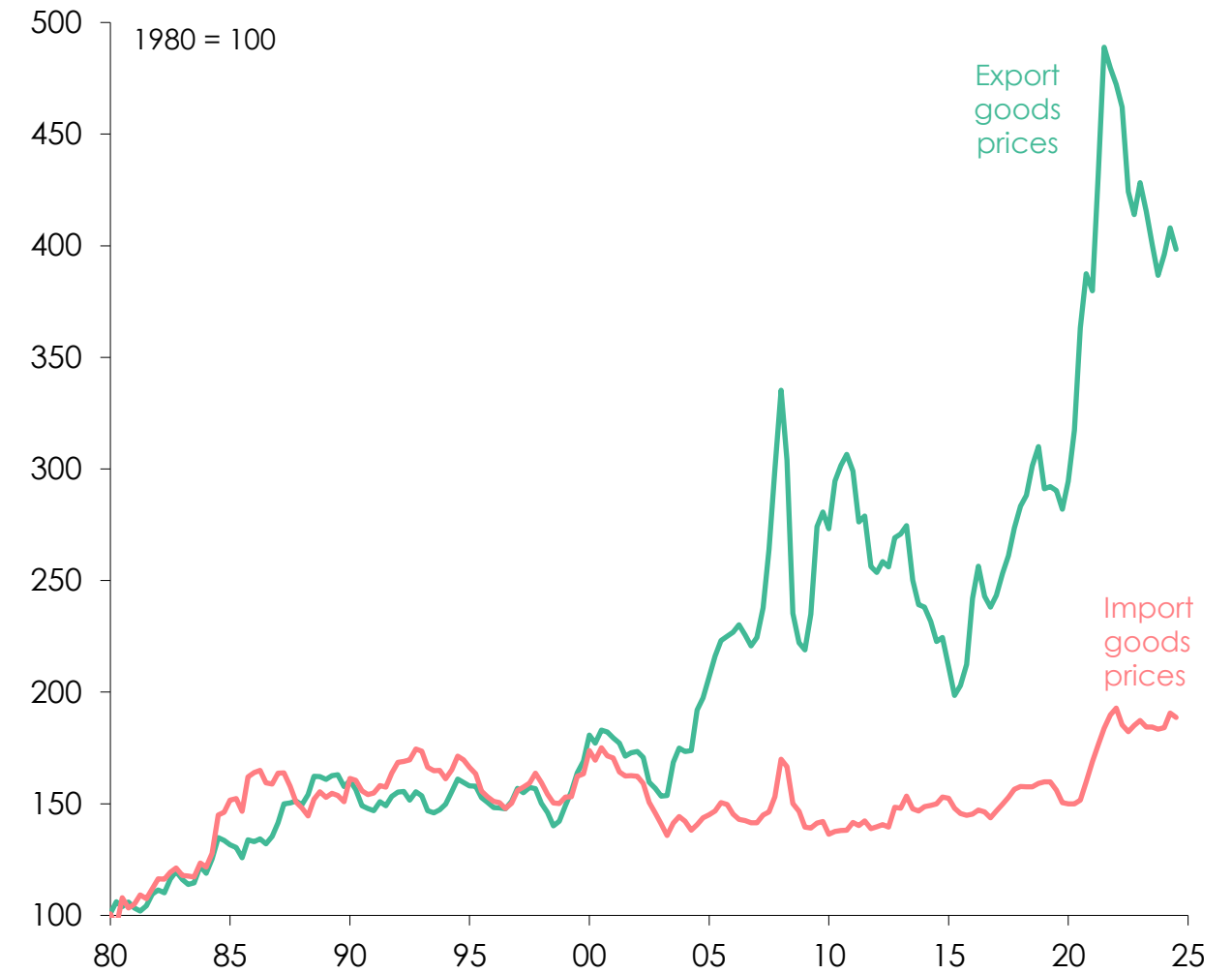
Sources: Australian Taxation Office, [Company statistics for Taxation Statistics](#), 2022-23 and previous editions; Australian Government, [Budget Paper No. 1: Budget Strategy and Outlook - Statement 4: Revenue](#), 2025-26 and previous years; state and territory Budget Papers, 2025-26 and previous years.

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



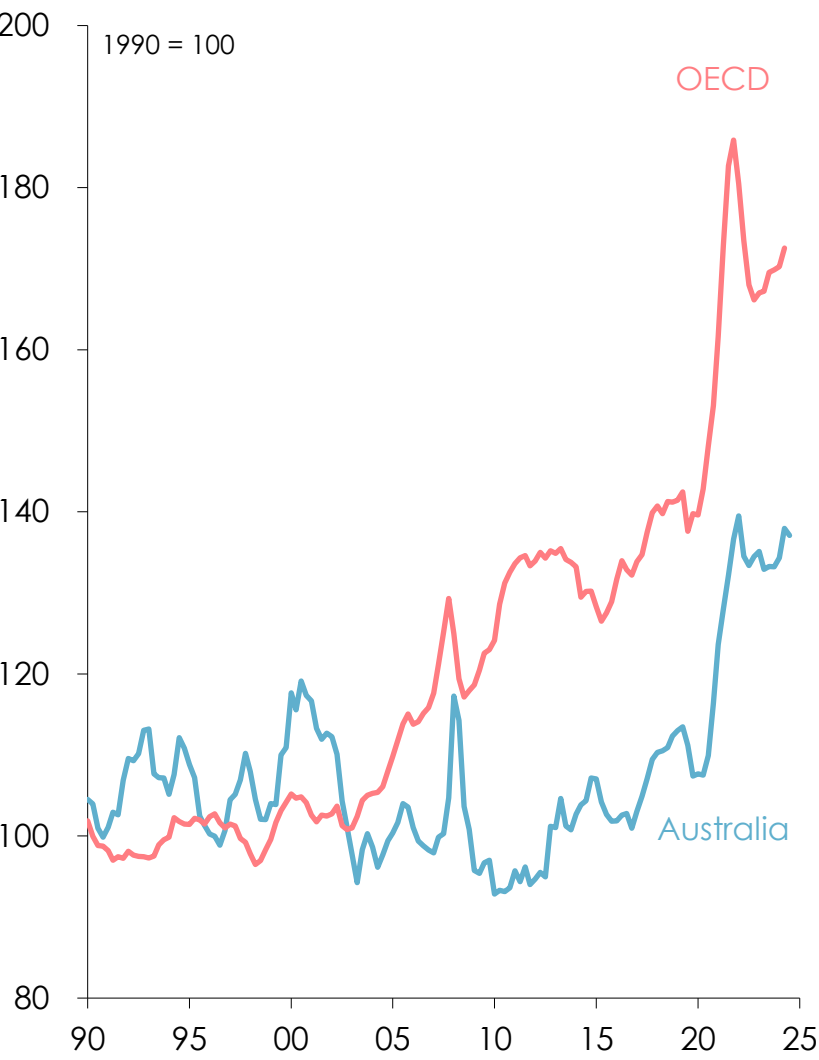
Sources: World Trade Organization, [WTO Stats](#); ABS, [Balance of Payments and International Investment Position, Australia](#), June quarter 2025.

Australia's experience of China's rapid growth and industrialization has been very different from that of most other 'advanced' economies

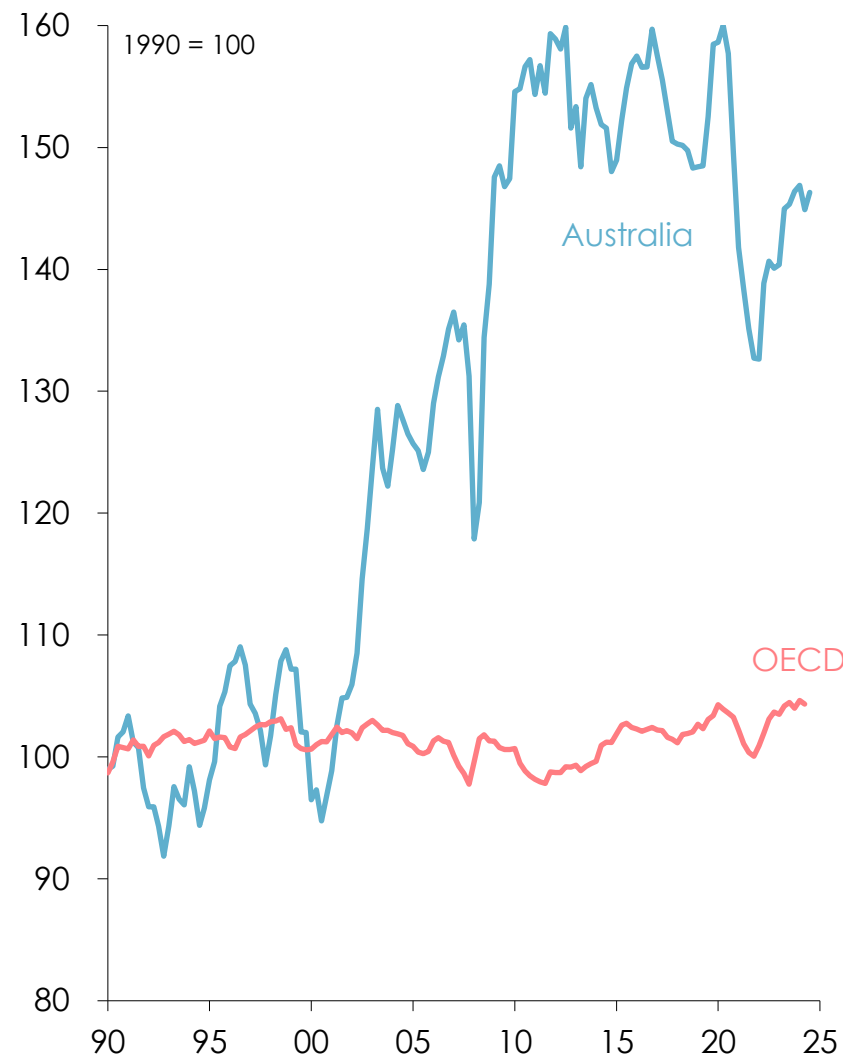
Export prices



Import prices



'Terms of trade'

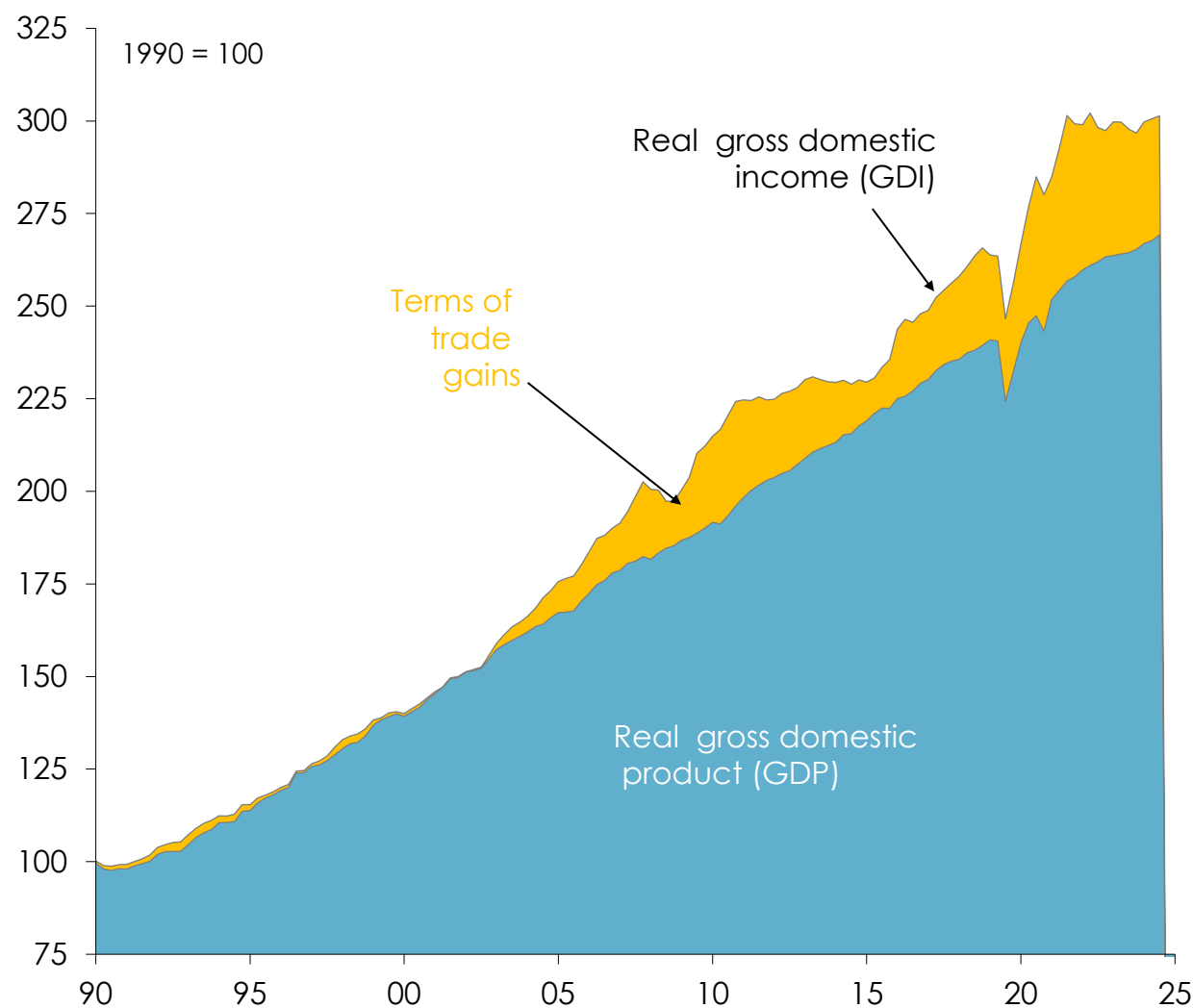


Note: The OECD (Organization for Economic Co-operation and Development) comprises 38 (mostly 'advanced') economies. The 'terms of trade' is the ratio of the implicit price deflator of exports of goods and services to the implicit price deflator of imports of goods and services.

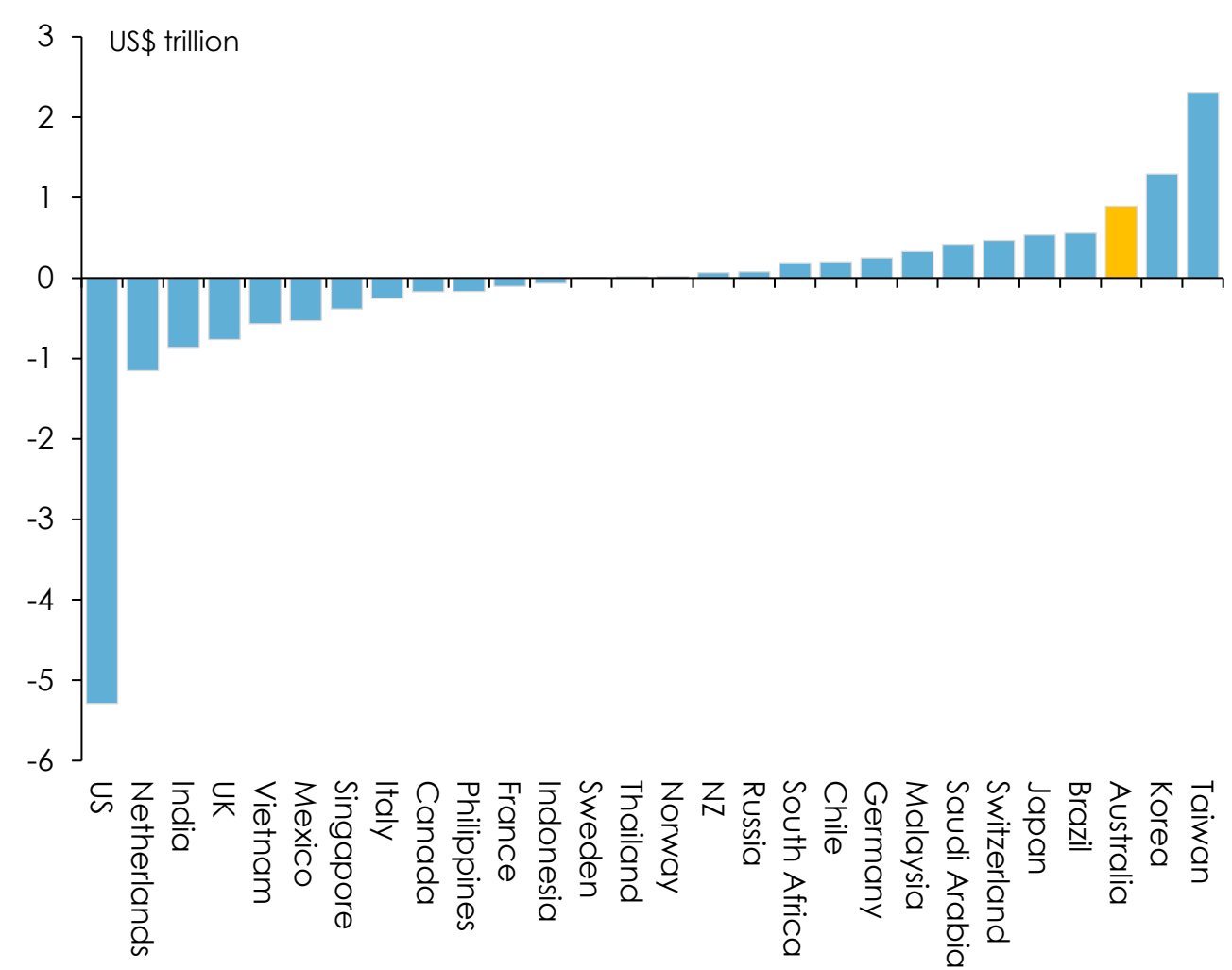
Sources: ABS, [Balance of Payments and International Investment Position, Australia](#), June quarter 2025; OECD, [Data Explorer: Quarterly GDP and components](#).

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)

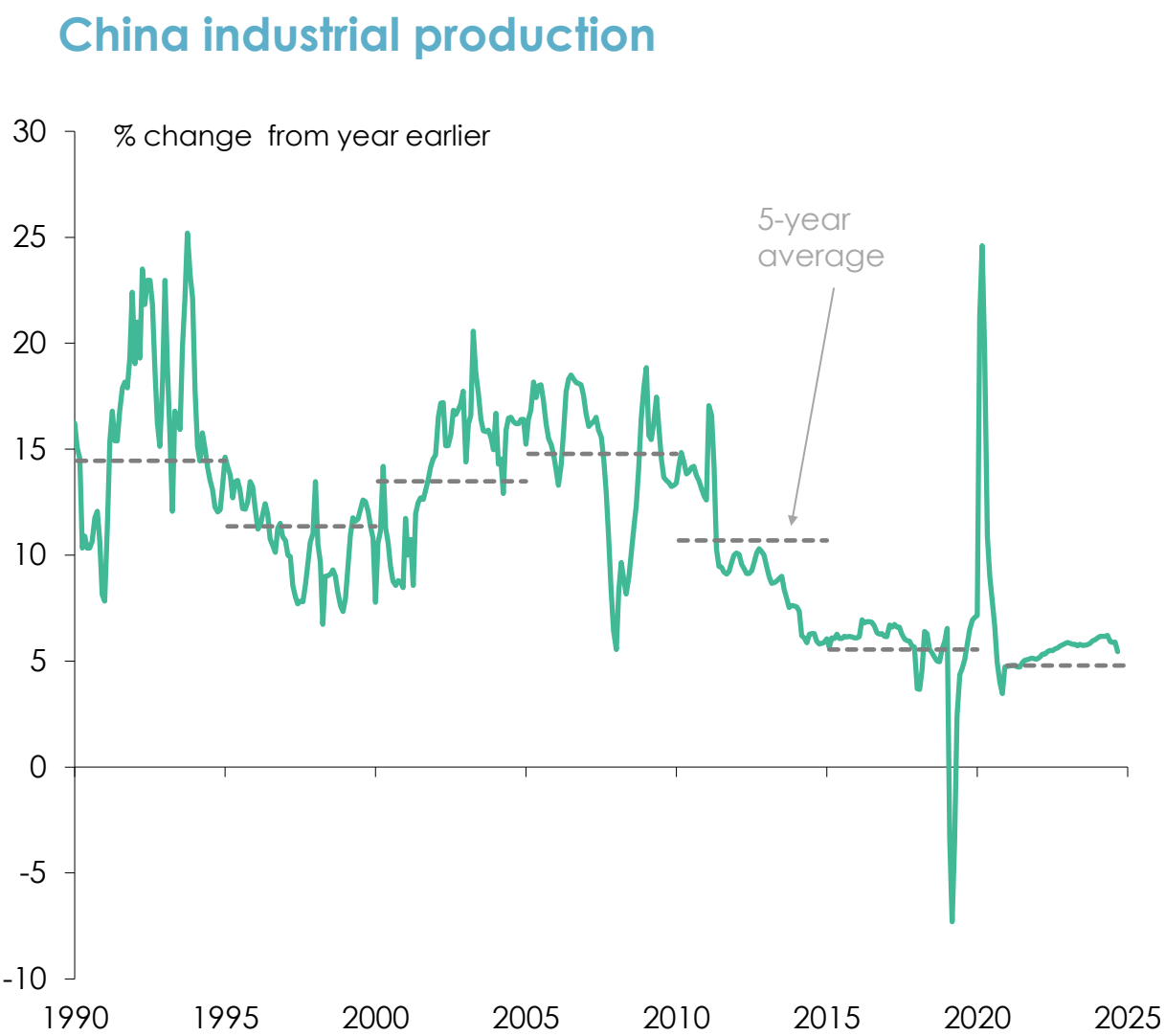
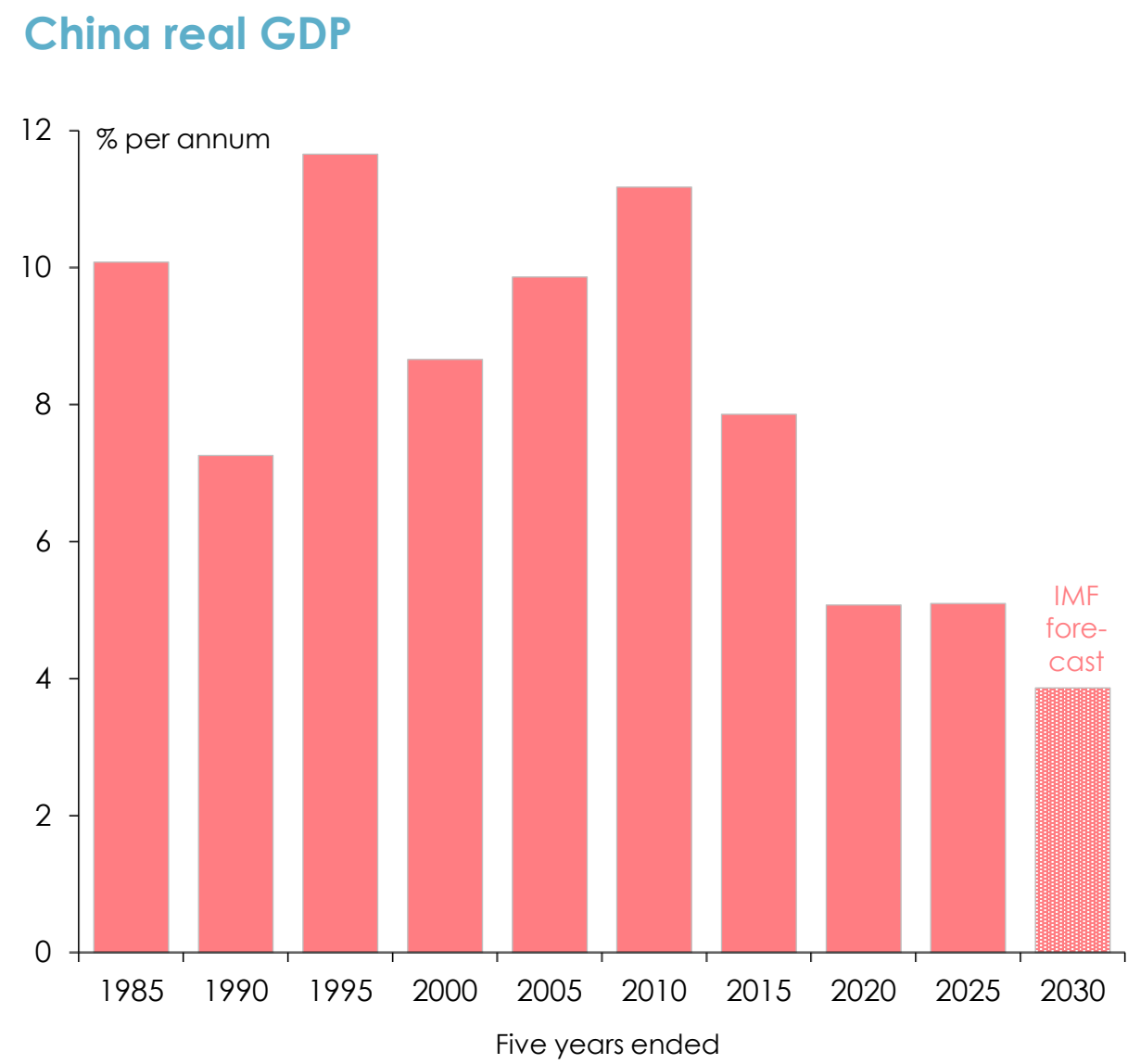


Cumulative bilateral goods trade balances with China, 2020-2024



Sources: ABS, [Australian National Accounts: National Income, Expenditure and Product](#), June quarter 2025; International Monetary Fund (IMF), [International Trade in Goods](#).

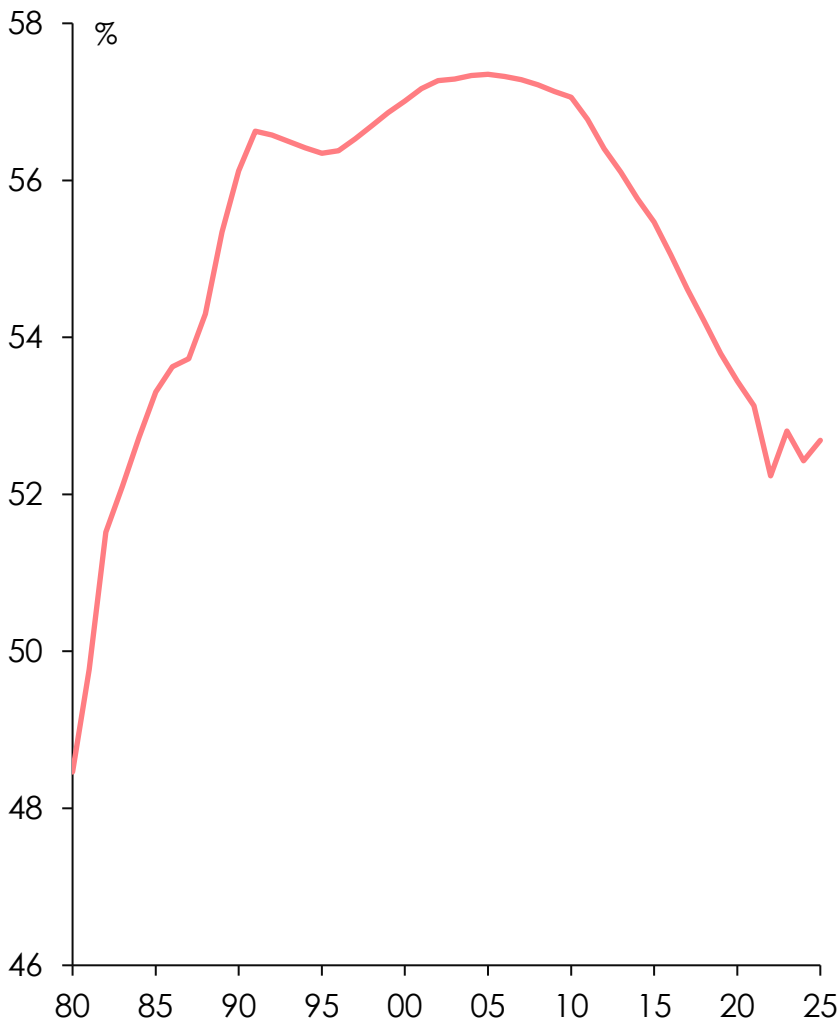
However China's 'growth engine' has been slowing for more than a decade



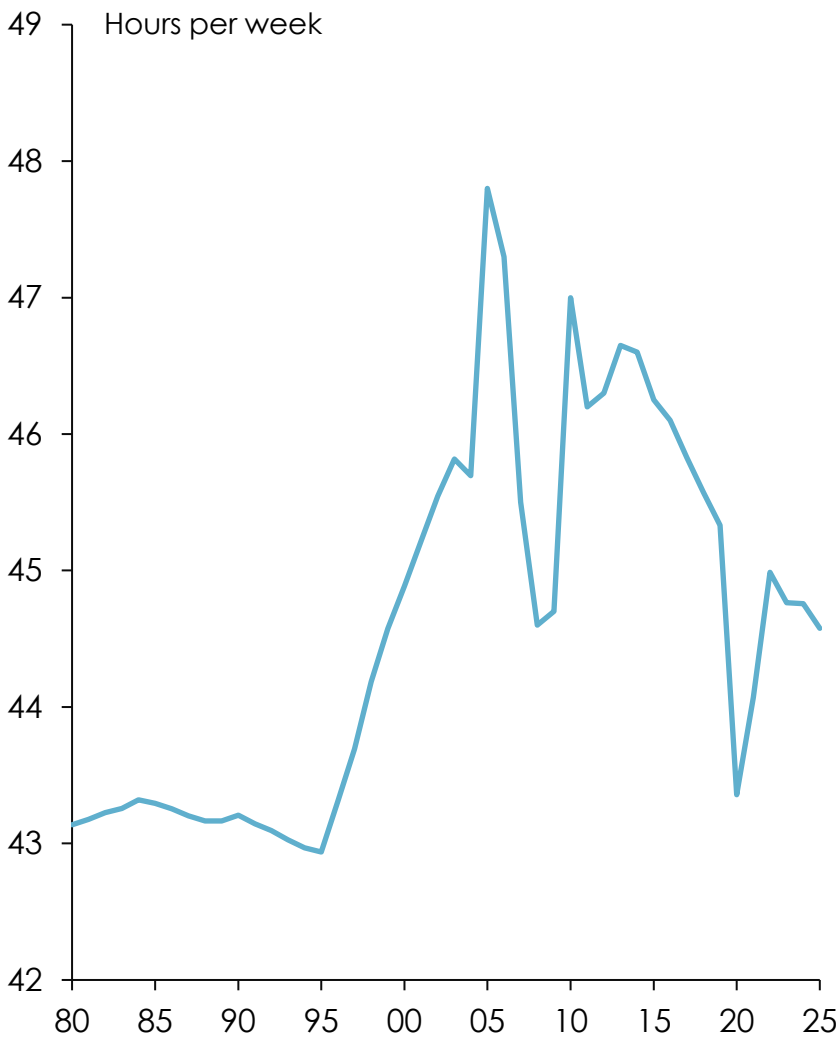
Sources: [National Bureau of Statistics of China](#); International Monetary Fund, [World Economic Outlook](#), October 2025.

China's economic slowdown is structural, not cyclical

Employment as a pc of population



Average hours worked



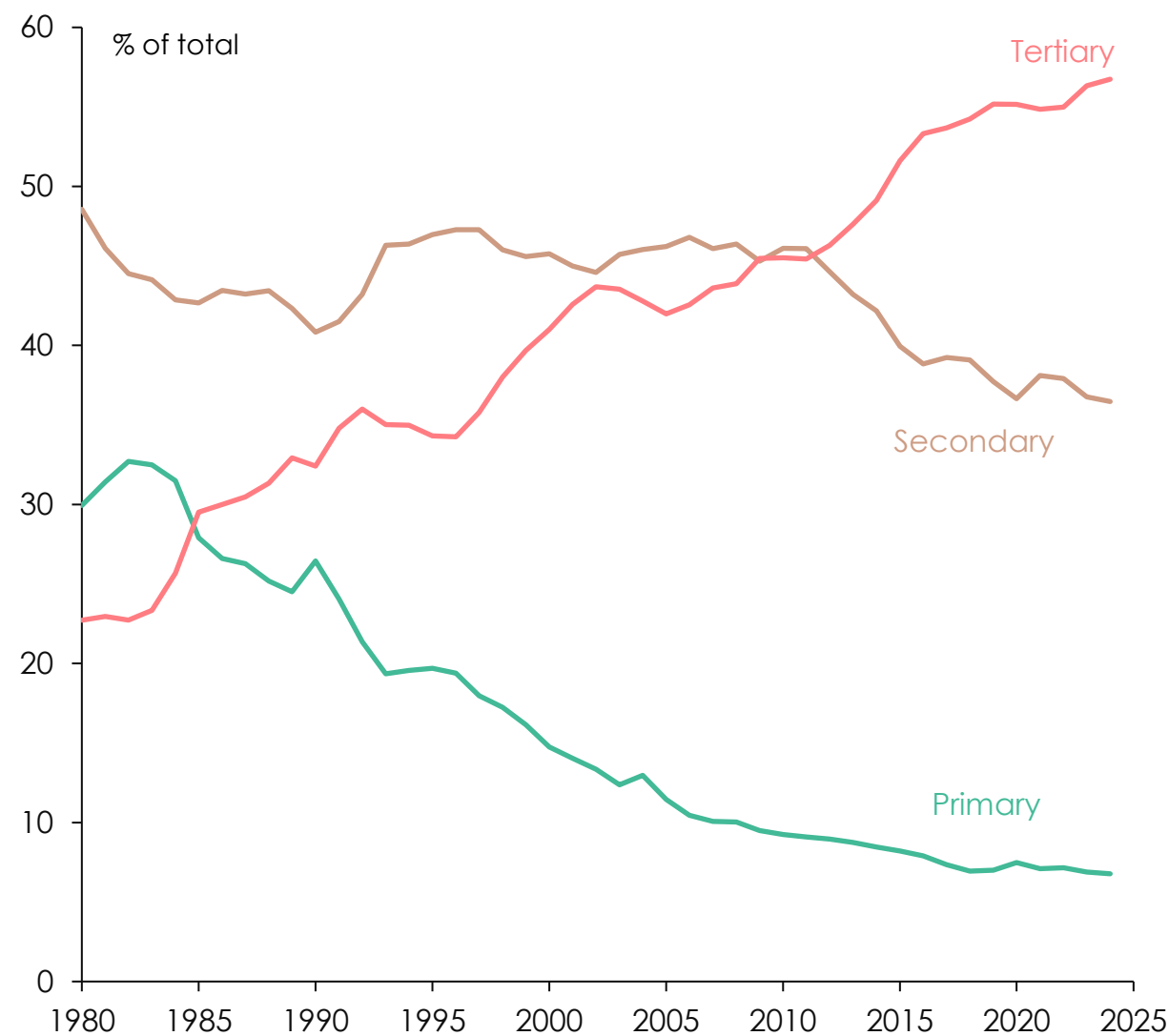
Output per hour worked (aka labour productivity)



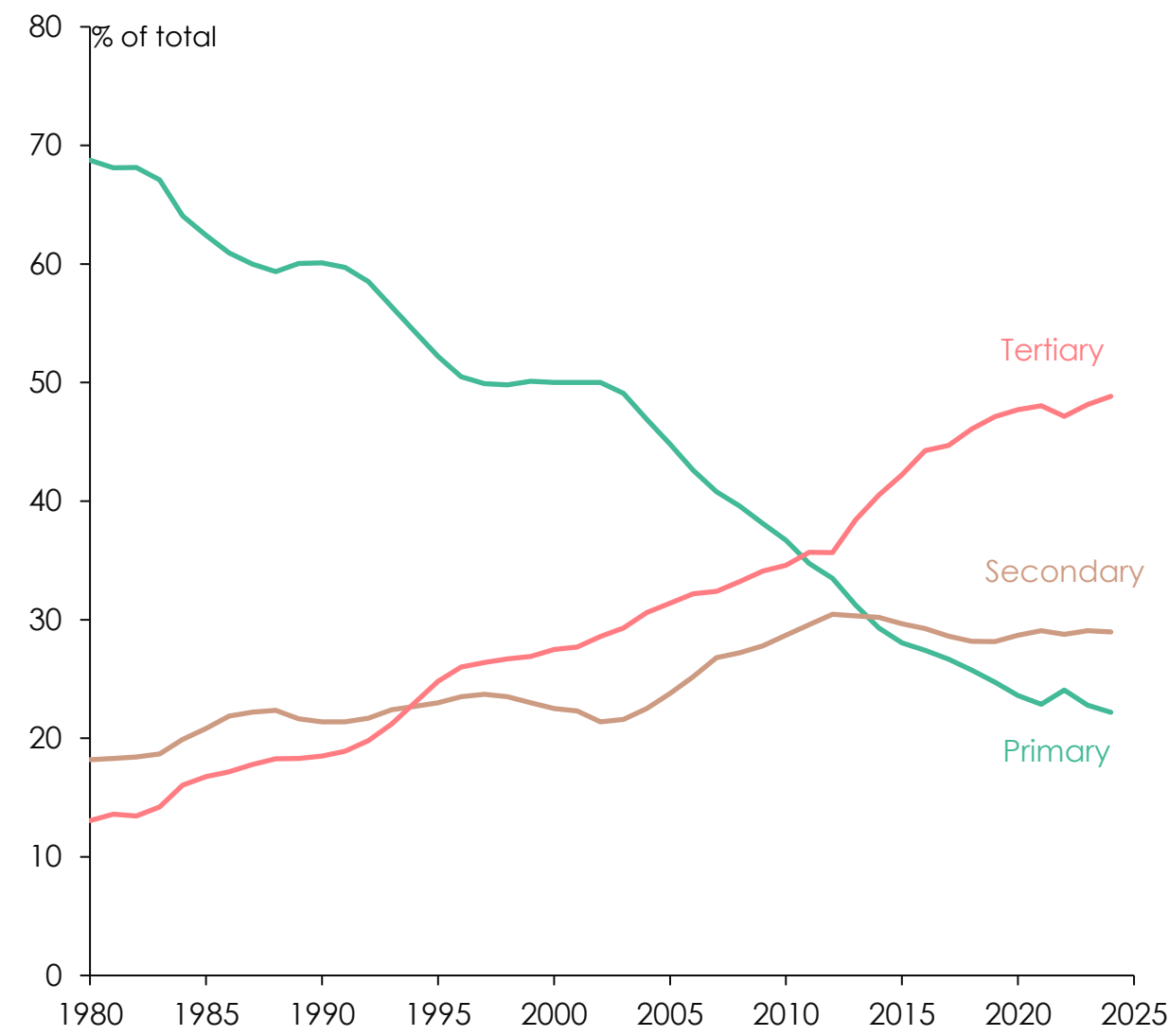
Source: The Conference Board, [Total Economy Database](#), May 2025.

China's economy is also becoming less commodity-intensive

Sector shares of GDP



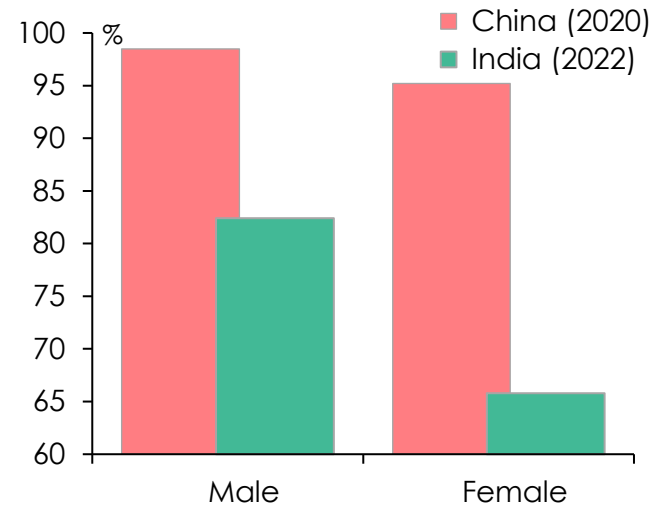
Sector shares of employment



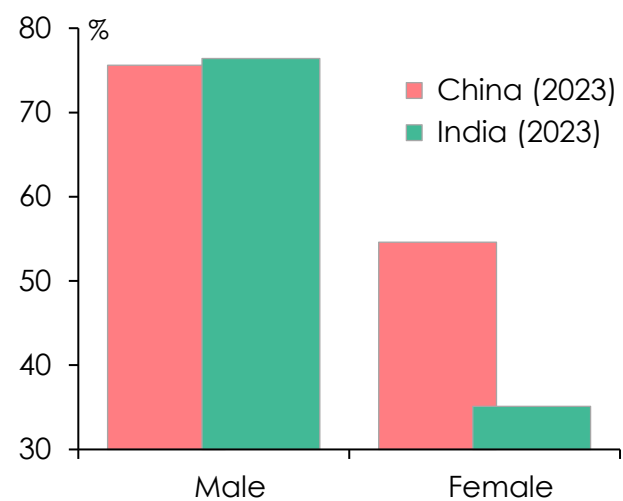
Sources: National Bureau of Statistics, [China Statistical Yearbook 2024](#).

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

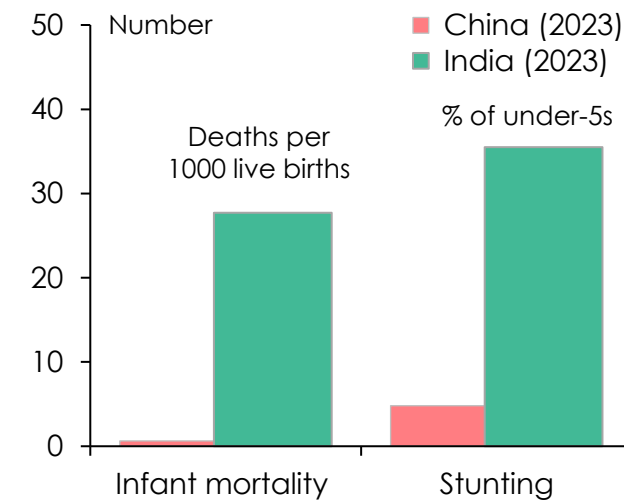
Adult literacy



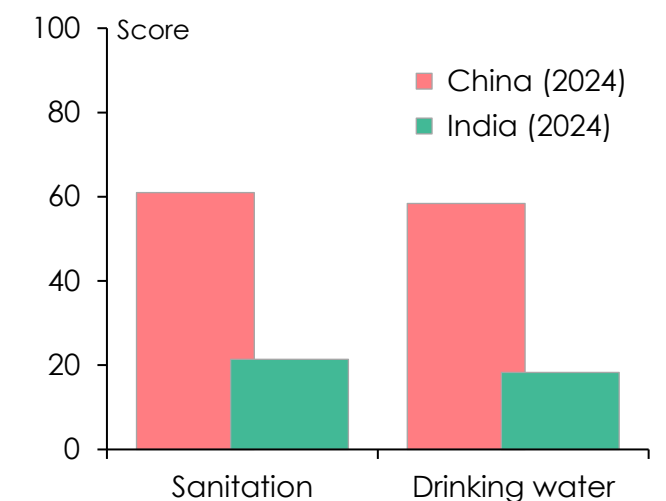
Labour force participation



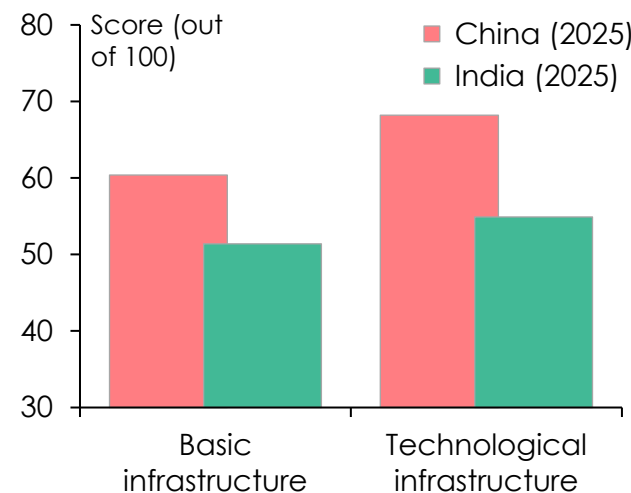
Child health



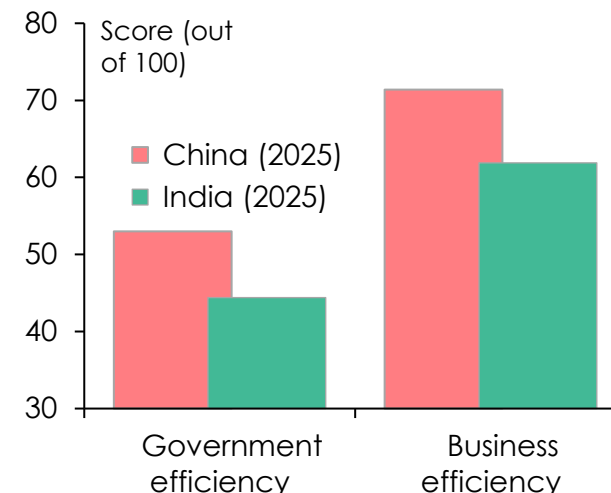
Environmental health risks



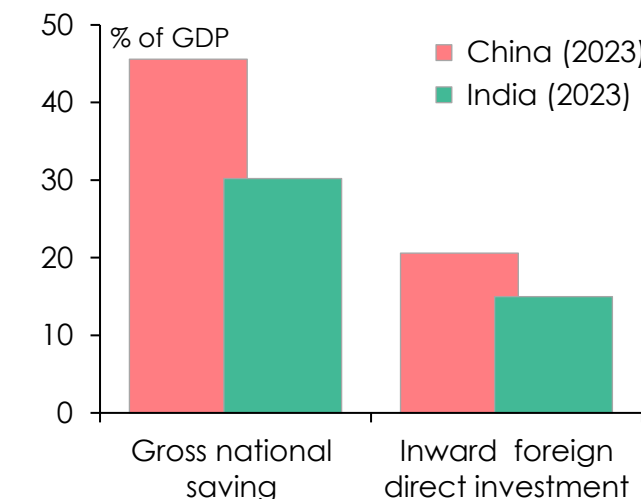
Infrastructure



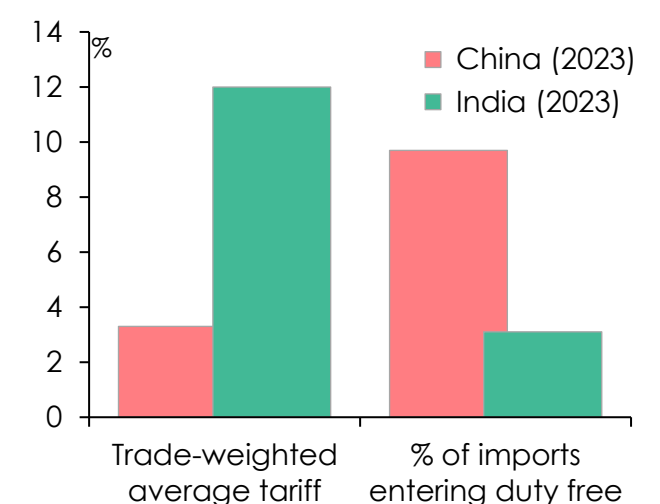
'Efficiency'



Saving & foreign investment



Trade protectionism

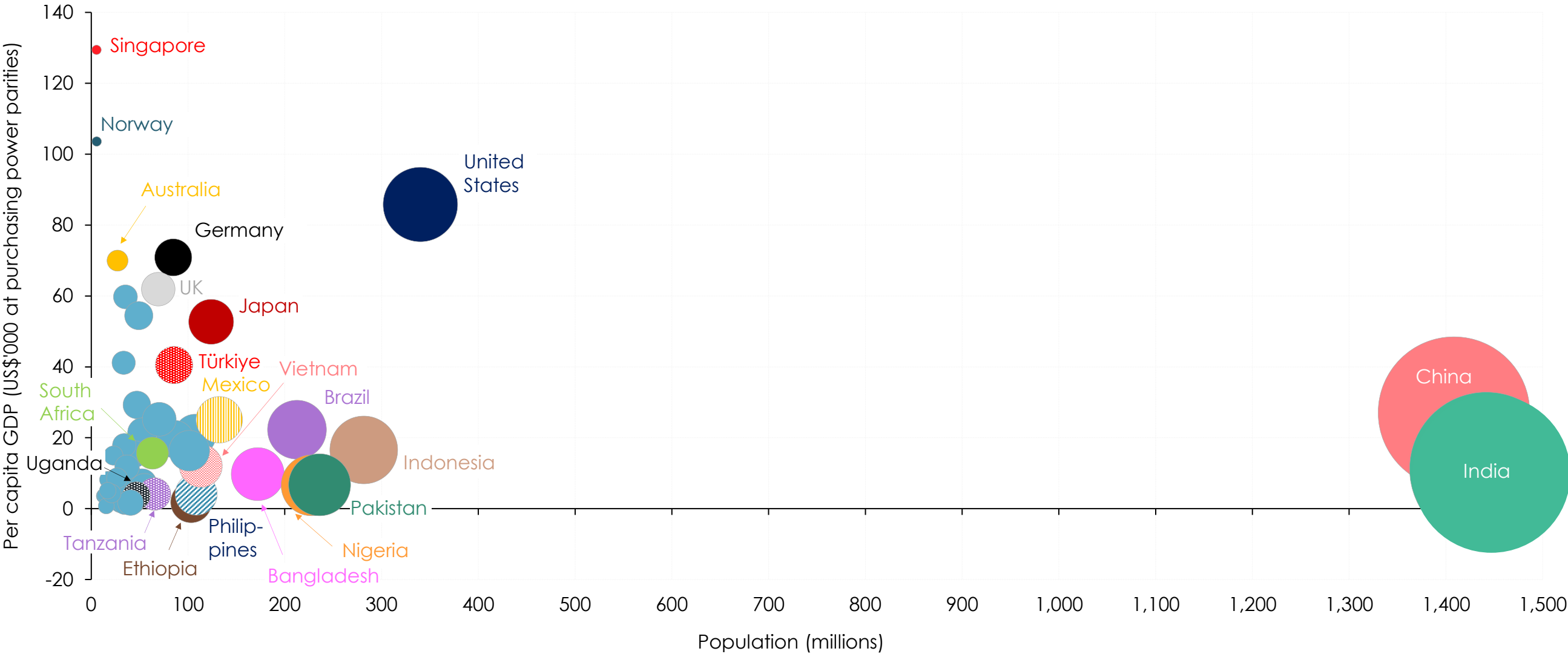


Sources: United Nations Development Program, [Human Development Report](#) 2025; Asian Development Bank, [Key Indicators for Asia and the Pacific](#) 2025; The World Bank, [World Development Indicators](#); Yale Centre for Environmental Law & Policy, [Environmental Performance Index](#); IMD, [World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

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

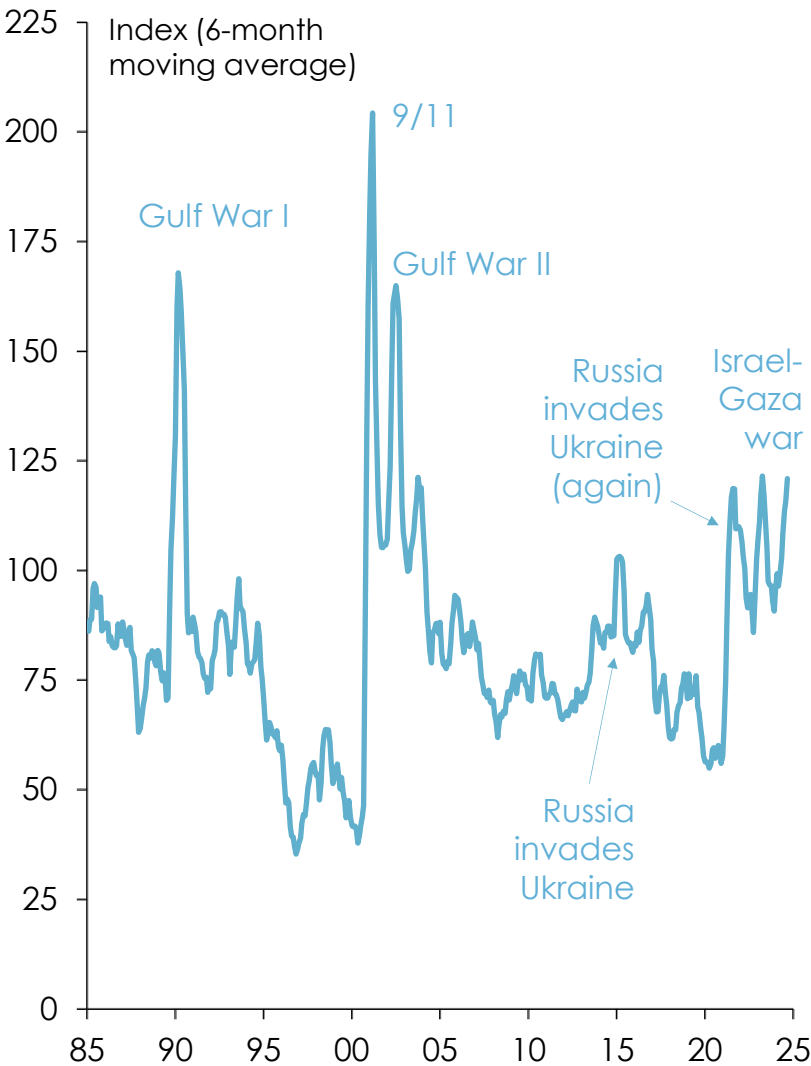
Population and per capita GDP, 2024



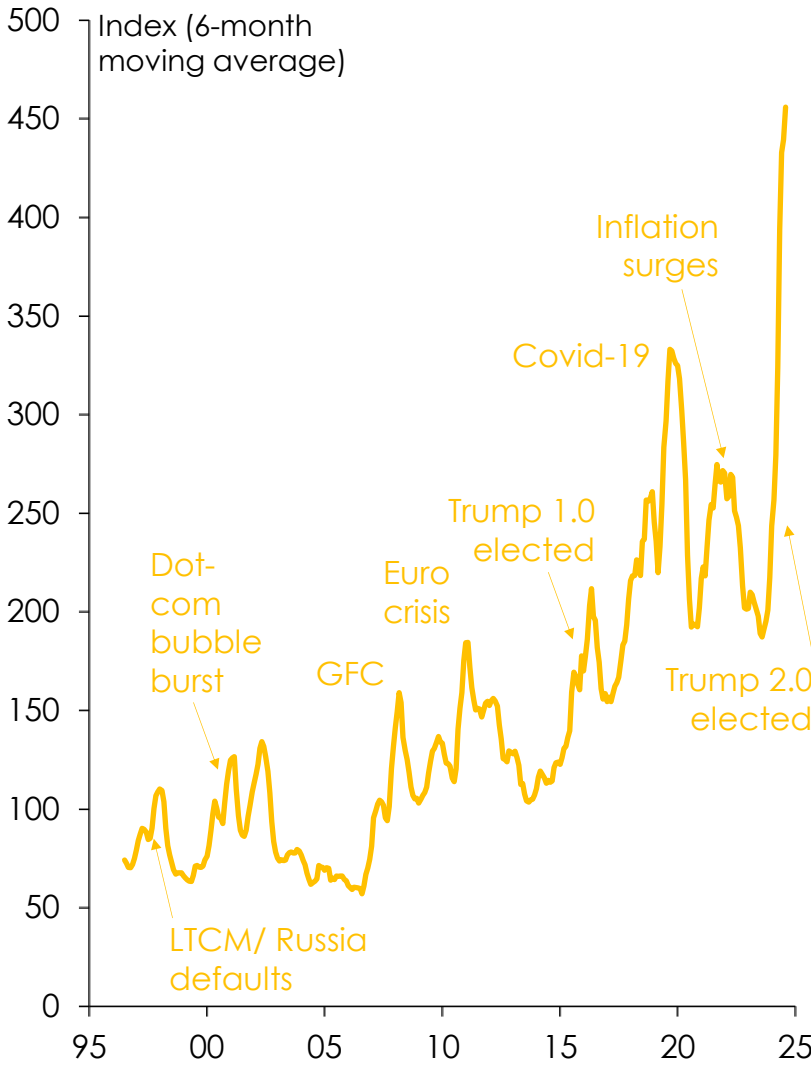
Note: bubbles are proportional to population size. Source: International Monetary Fund, [World Economic Outlook](#), April 2025.

The world is increasingly characterized by uncertainty – about geo-politics, economic policy and about trade policy

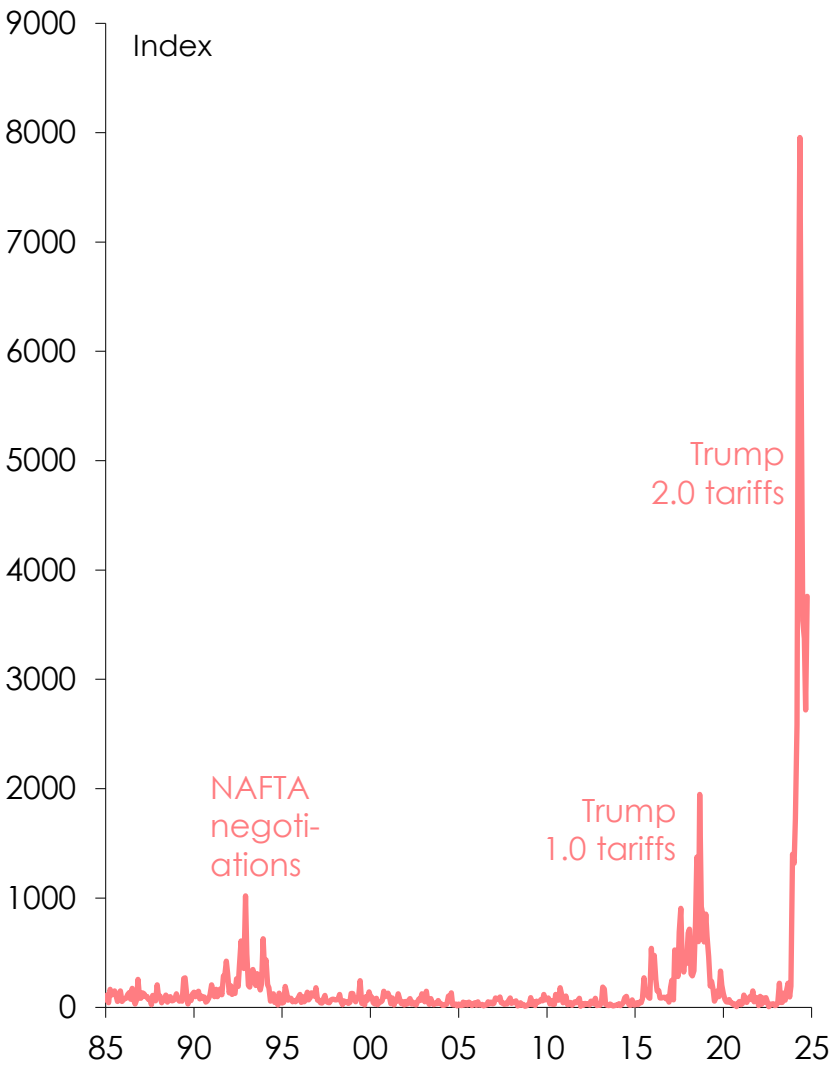
Geopolitical uncertainty



Economic policy uncertainty



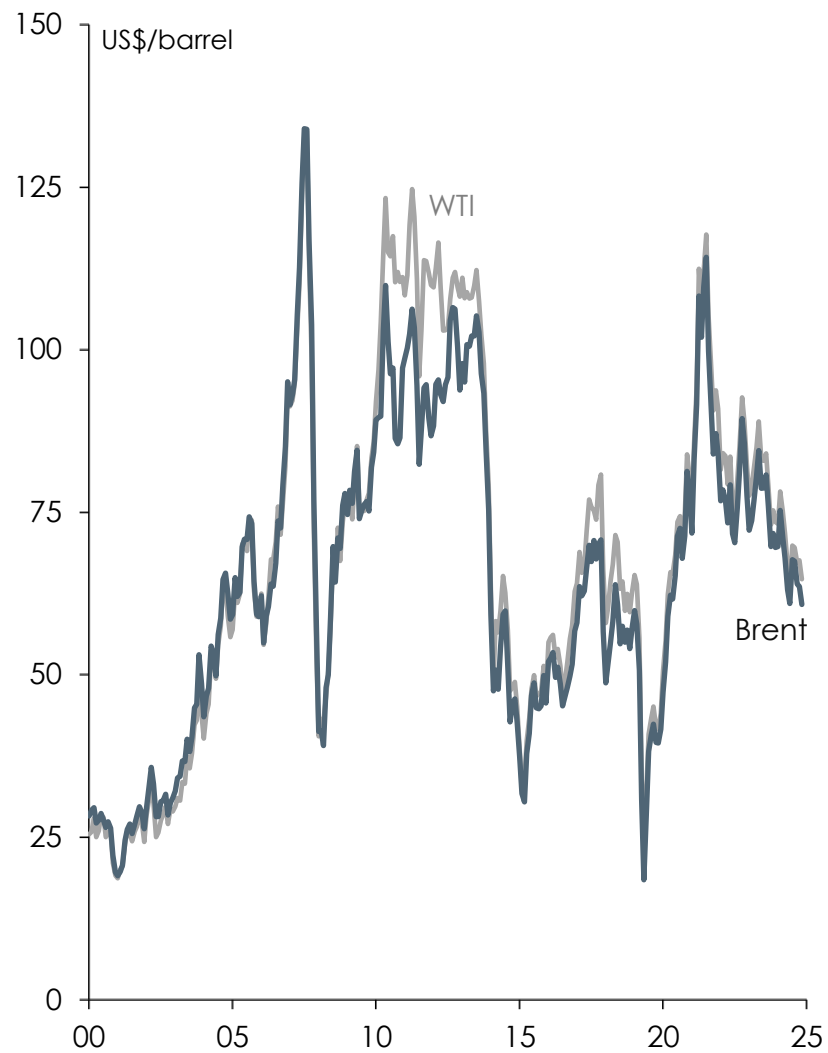
US trade policy uncertainty



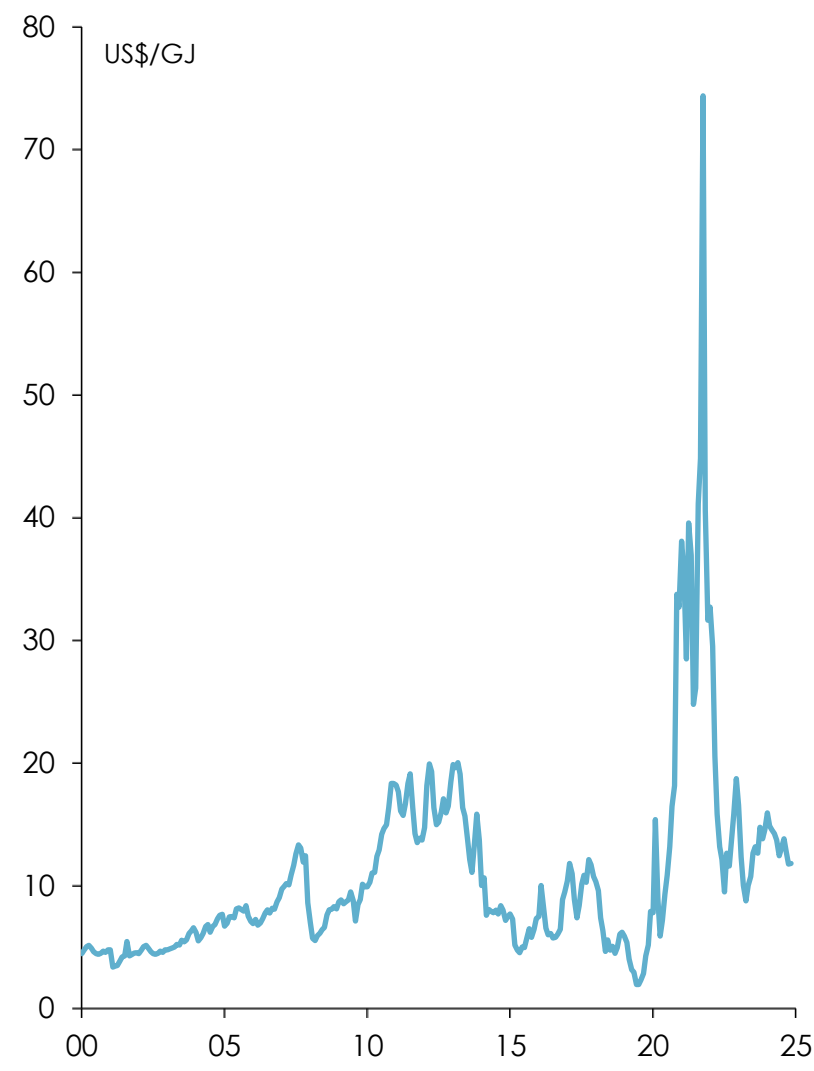
Note: The Geopolitical Risk Index is derived from text-search results of the electronic archives of ten (English-language) newspapers for mentions of eight different categories of adverse geo-political events. The Economic Policy Uncertainty Index is a GDP-weighted average of indices for 21 countries derived from newspaper articles mentioning the economy, policy and uncertainty. Sources: Dario Caldara and Matteo Iacoviello, [Geopolitical Risk Index](#), [Global Economic Policy Uncertainty Index](#) and [Trade Policy Uncertainty](#).

Geo-political factors have pushed energy prices lower, but the gold price higher

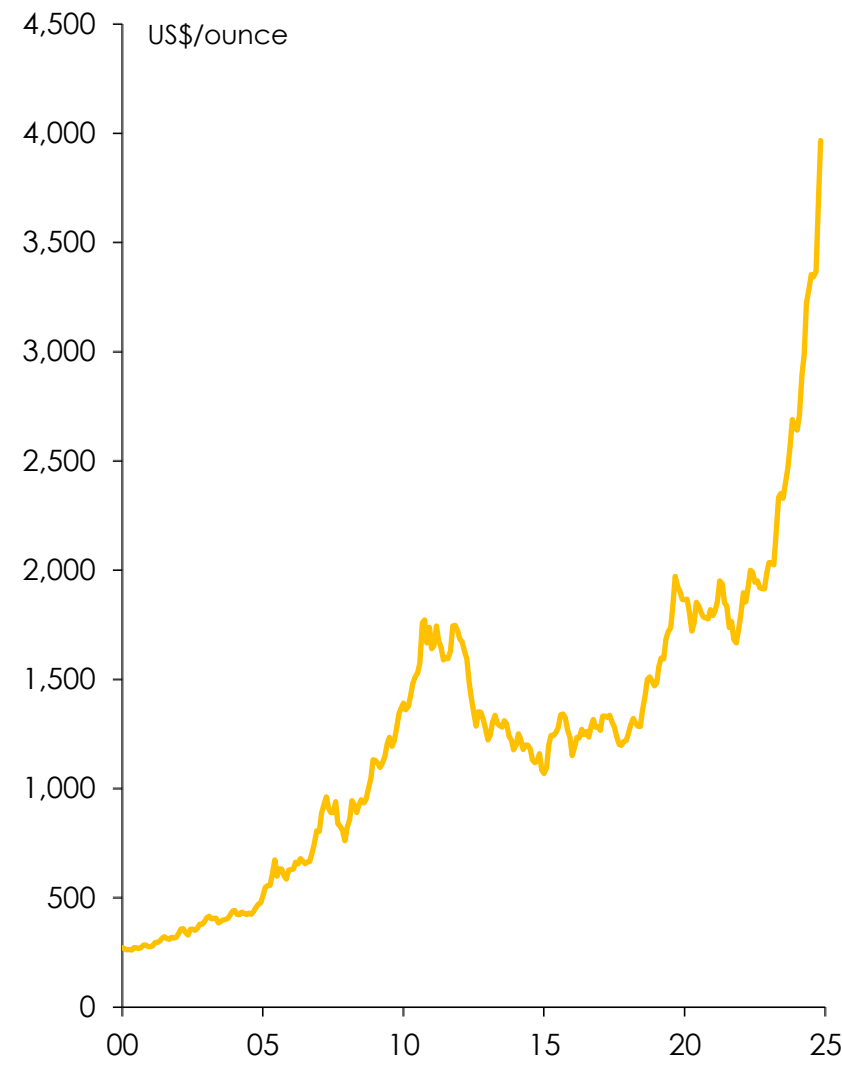
Crude oil price



Asian LNG price



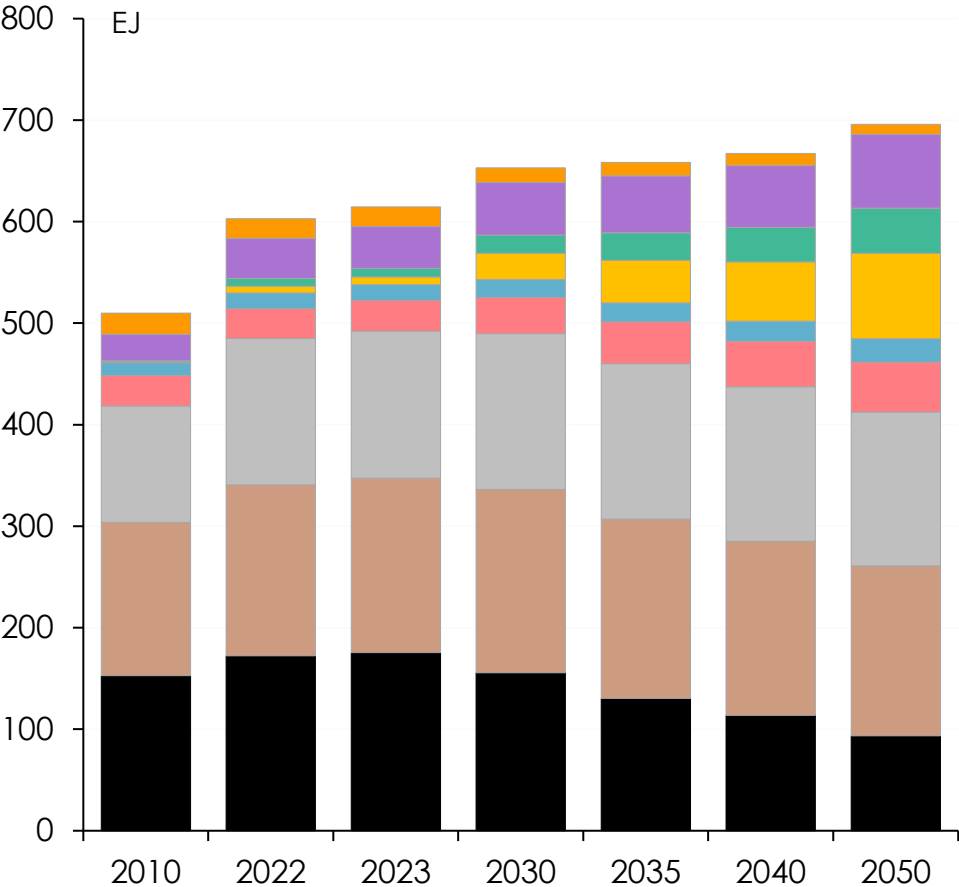
Gold price



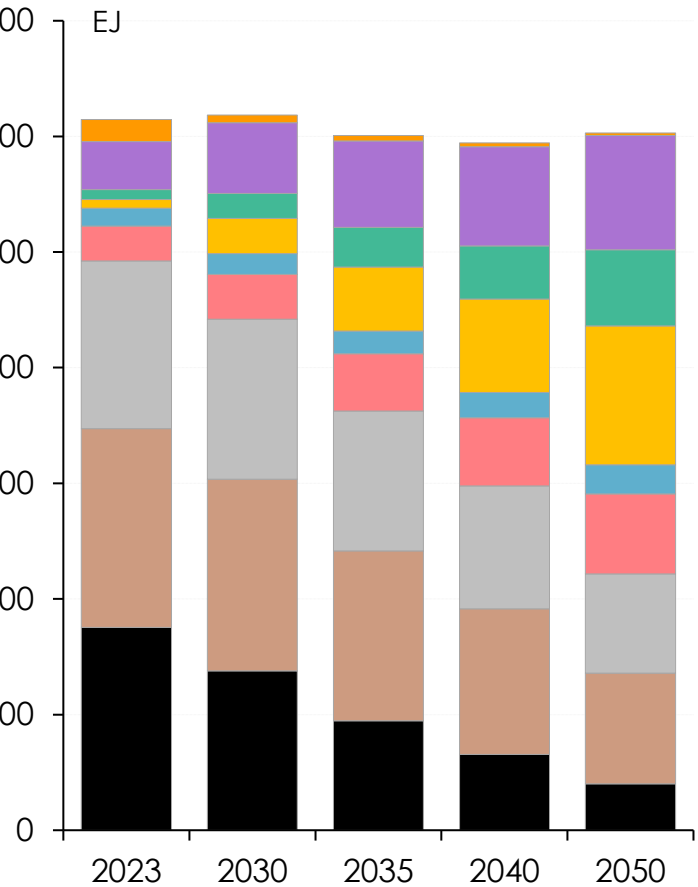
Note: Data are monthly averages up to 13th October 2024. Source: LSEG Datastream.

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

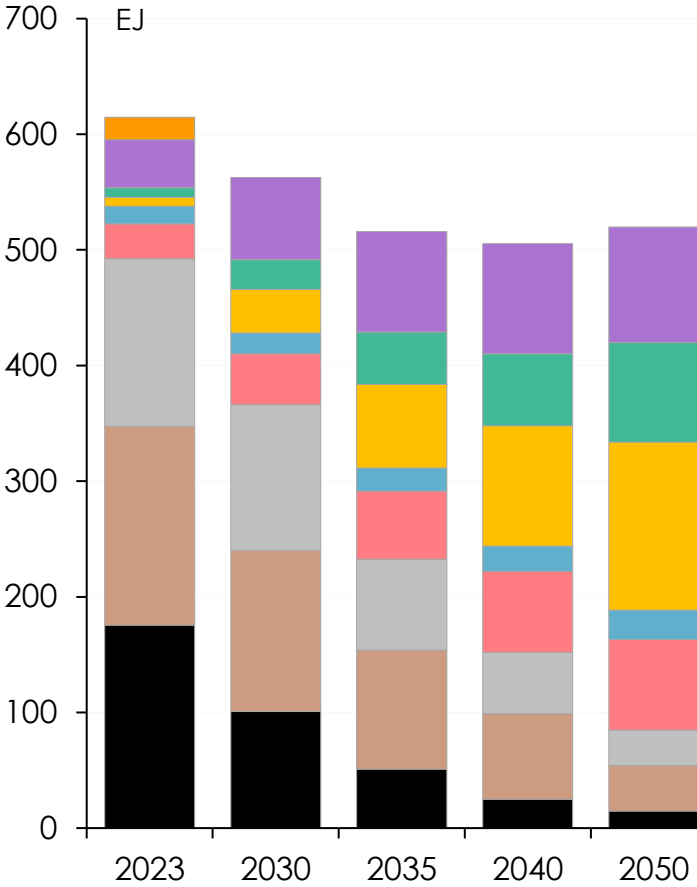
Global energy supply sources under 'Stated Policies'



Global energy supply sources under 'Announced Pledges'



Global energy supply sources under 'Net zero by 2050'



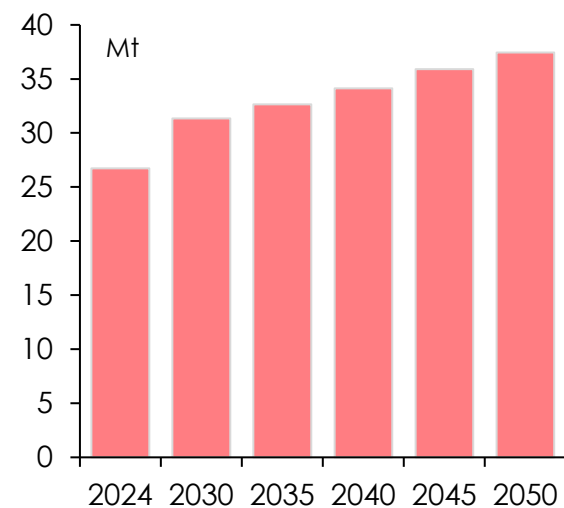
■ Coal ■ Oil ■ Gas ■ Nuclear ■ Hydro ■ Solar ■ Wind ■ Bio-energy ■ Biomass

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.

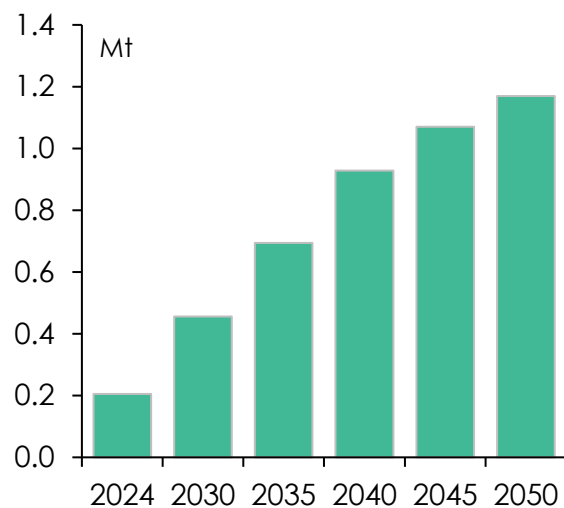
Source: International Energy Agency, [World Energy Outlook 2024](#).

The ‘energy transition’ will result in substantial increases in demand for a range of ‘critical minerals’ over the next 25 years – even in the ‘base case’

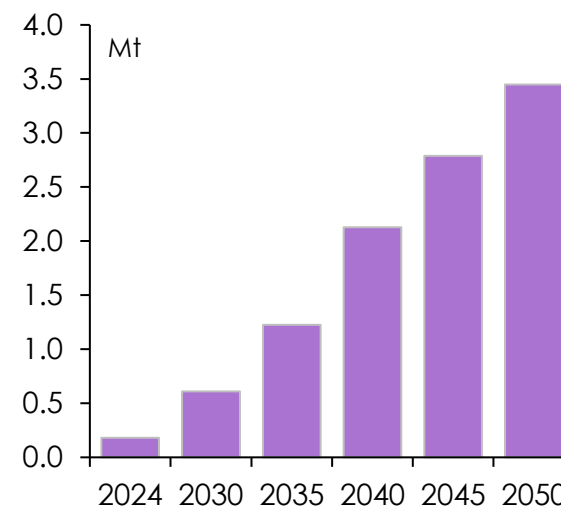
Copper (+41%)



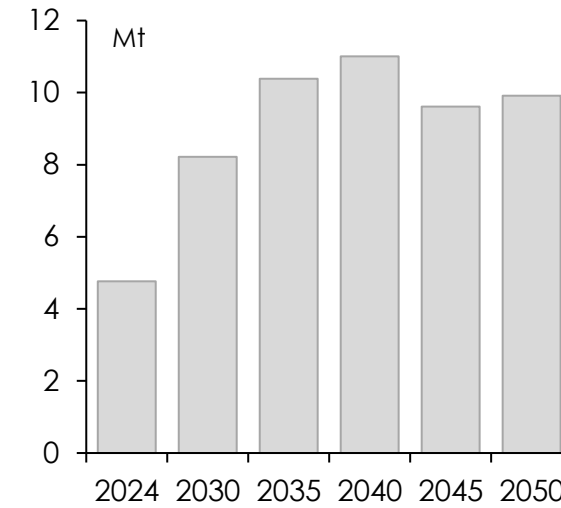
Lithium (+471%)



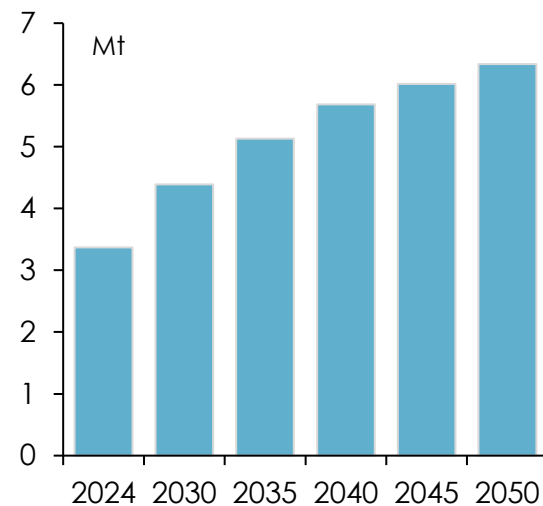
Manganese (+1805%)



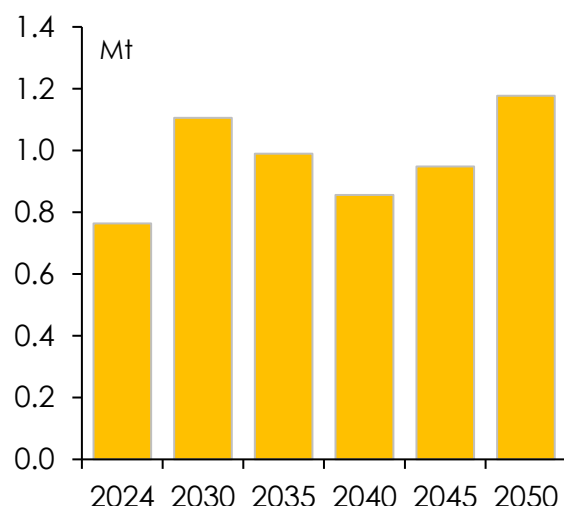
Graphite (+113%)



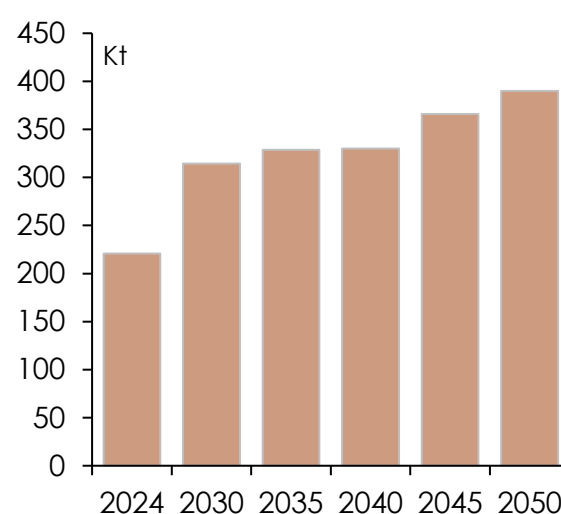
Nickel (+88%)



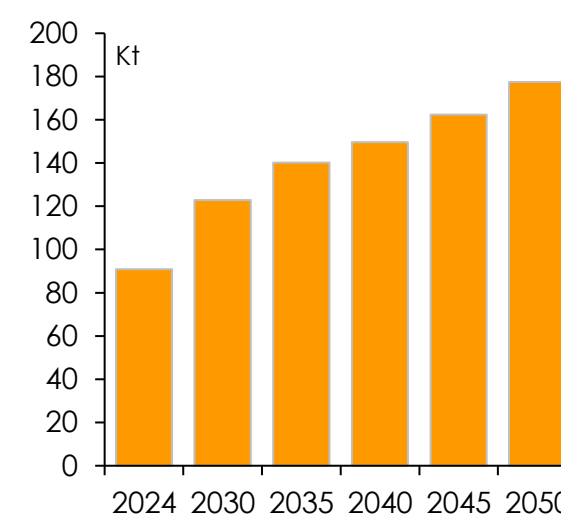
Zinc (+54%)



Cobalt (+76%)



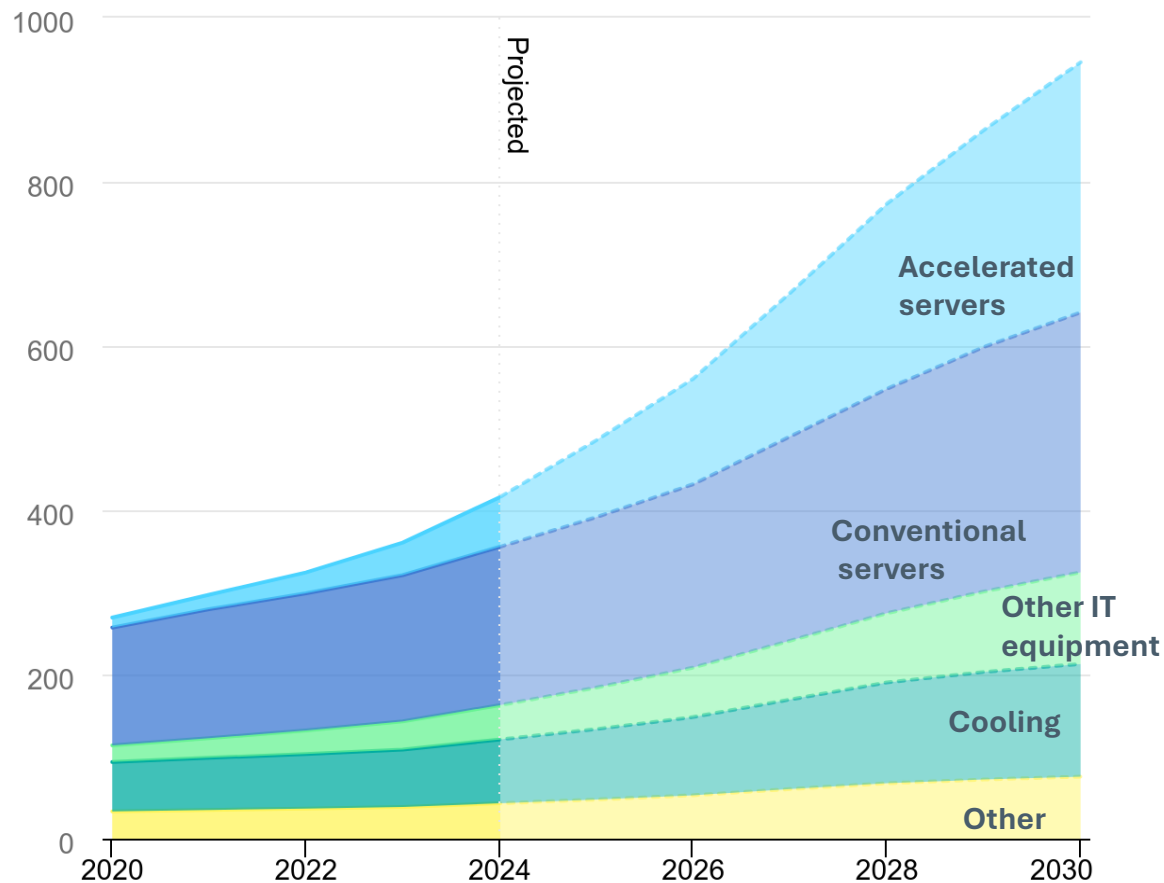
Rare earths (+95%)



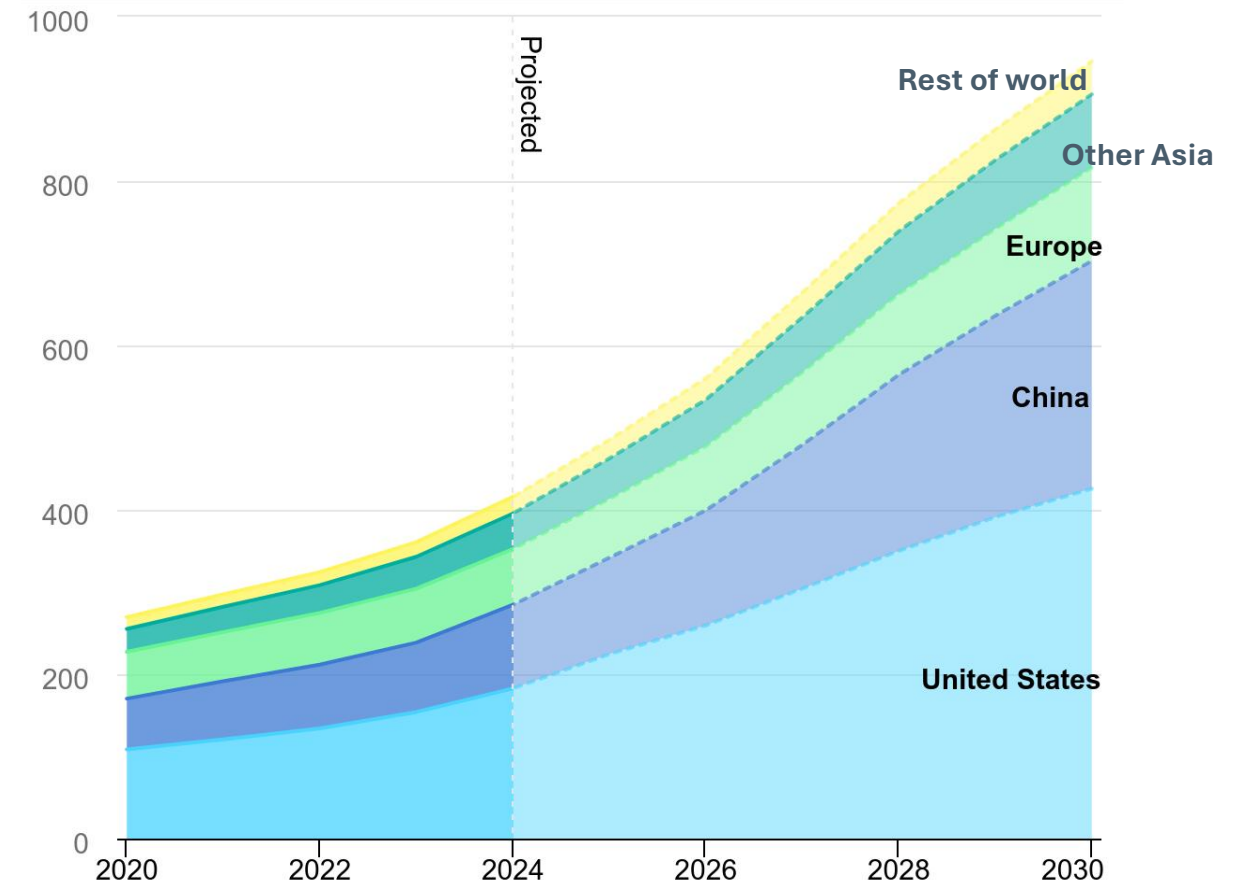
Note: Projections shown in these charts are based on currently Stated Policies of national governments. Percentage changes are from 2024 to 2050.
Source: International Energy Agency, [Global Critical Minerals Outlook 2025](#).

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

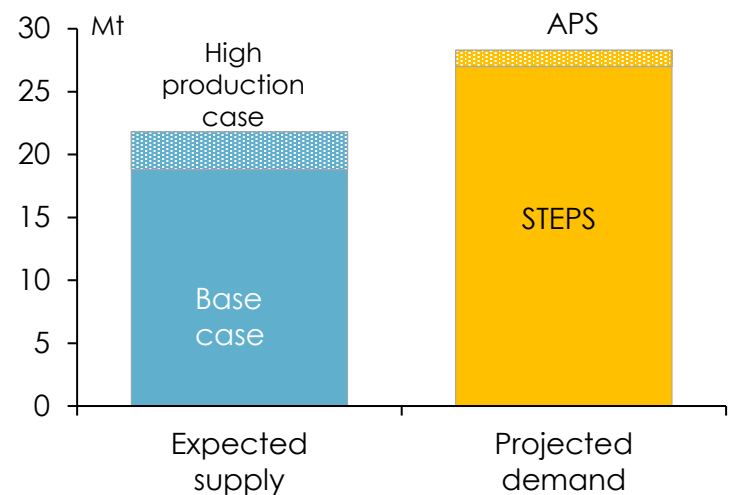


❑ IEA's 'base case' see electricity consumption from data centres rising from 415 TWh in 2024 to 945 TWh by 2030

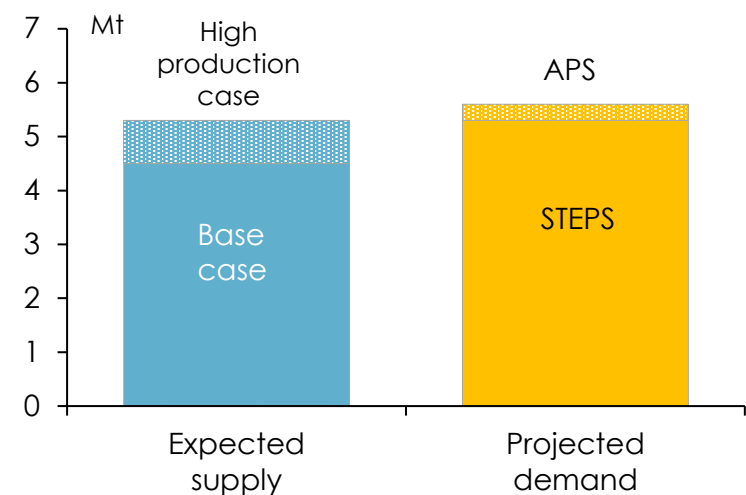
❑ IEA's 'lift off case' has data centres' electricity consumption reaching 1,260 TWh by 2030

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

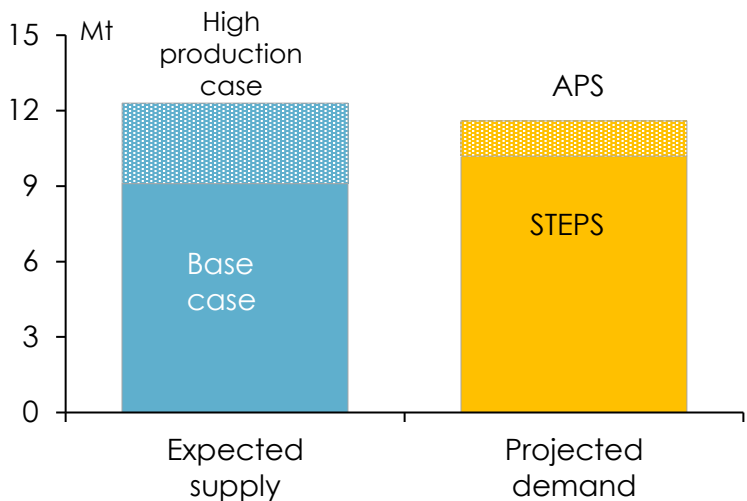
Copper



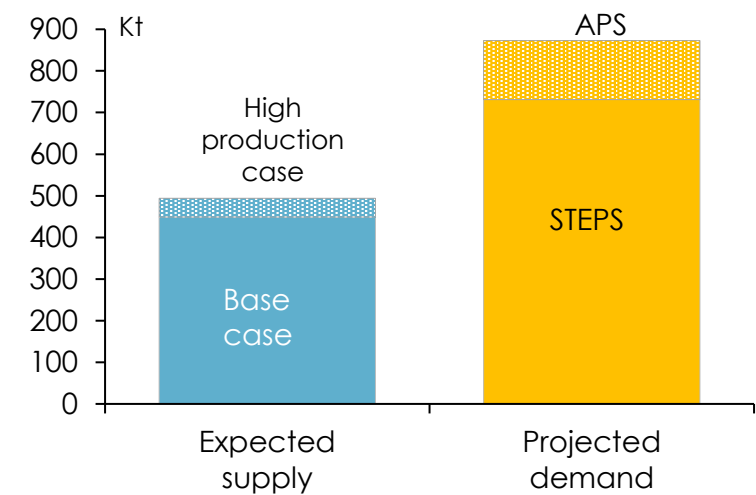
Nickel



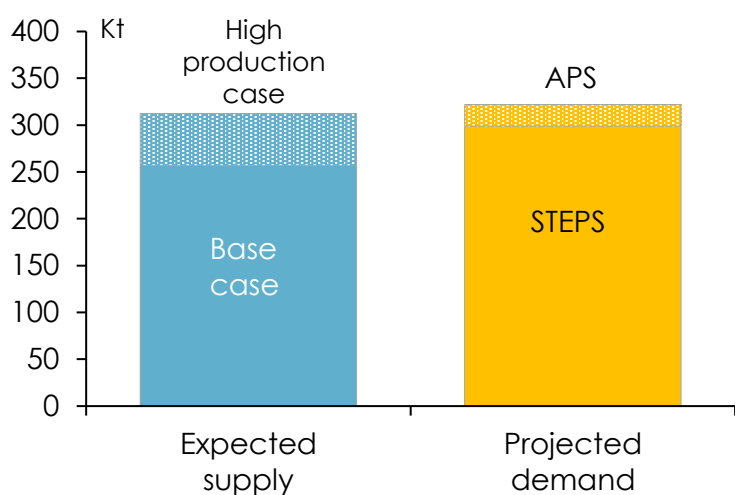
Graphite



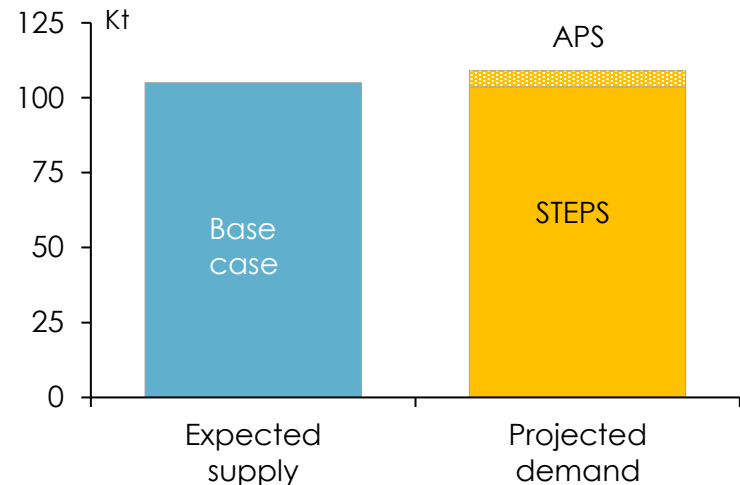
Lithium



Cobalt



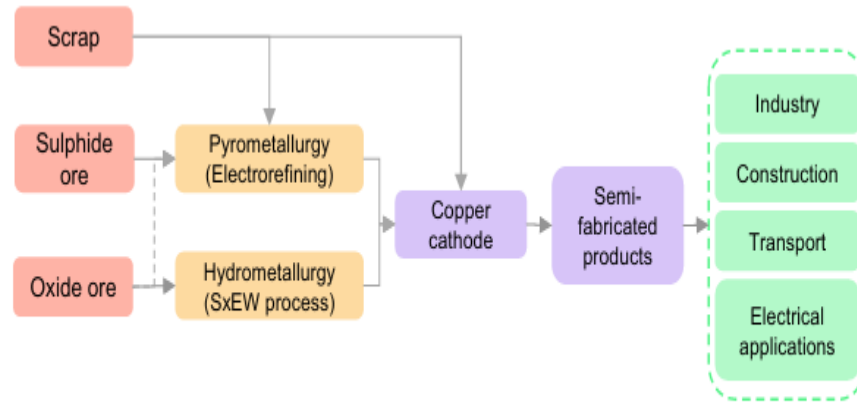
Rare earths



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](#).

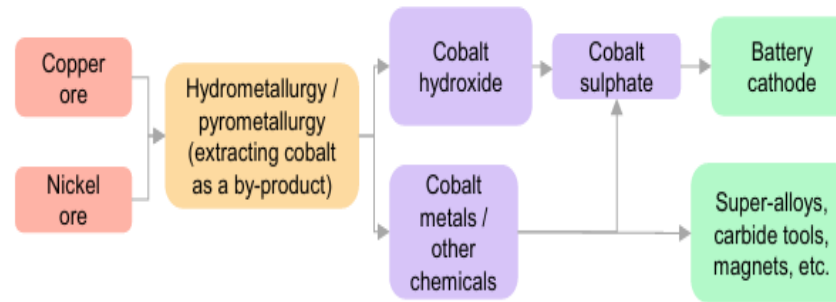
'Critical minerals' typically have more complex supply chains ...

Copper



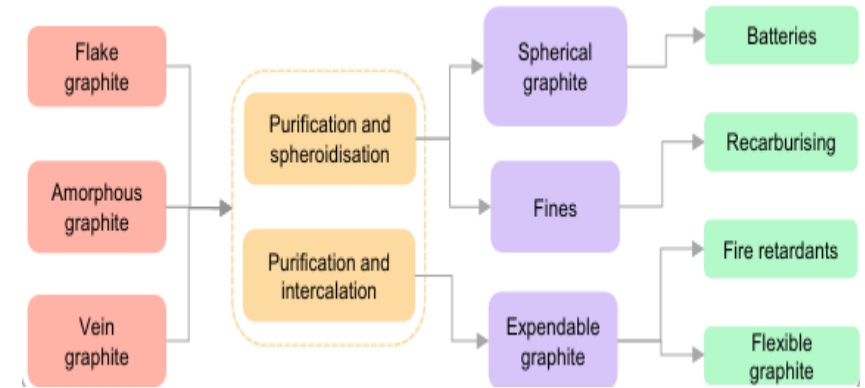
Primary material Processing step Refined material End-use

Cobalt



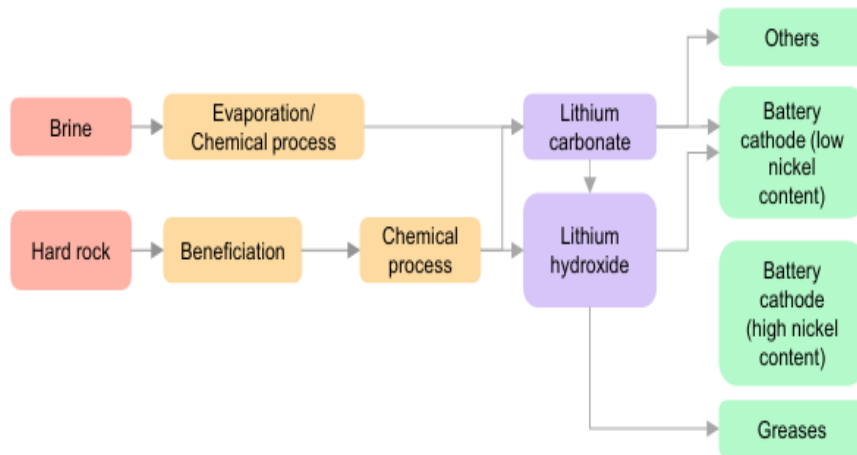
Primary material Processing step Refined material End-use

Graphite



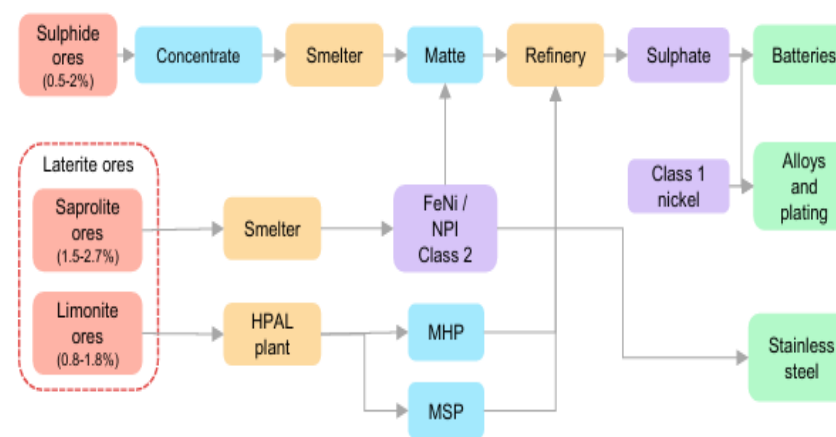
Primary material Processing step Refined material End-use

Lithium



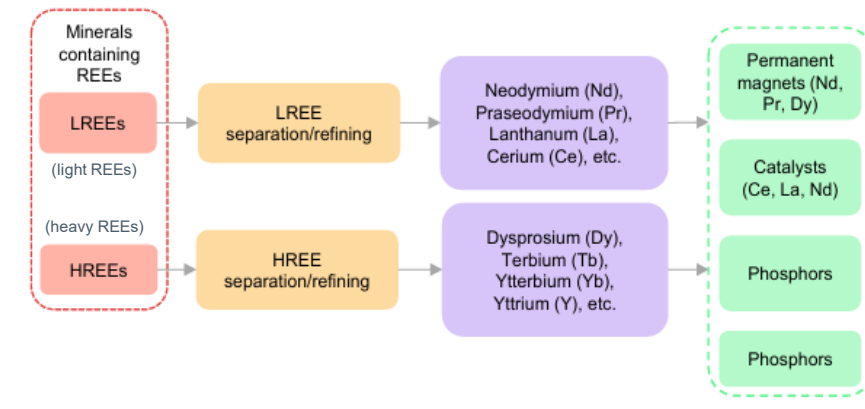
Primary material Processing step Refined material End-use

Nickel



Primary material Processing step Refined material End-use

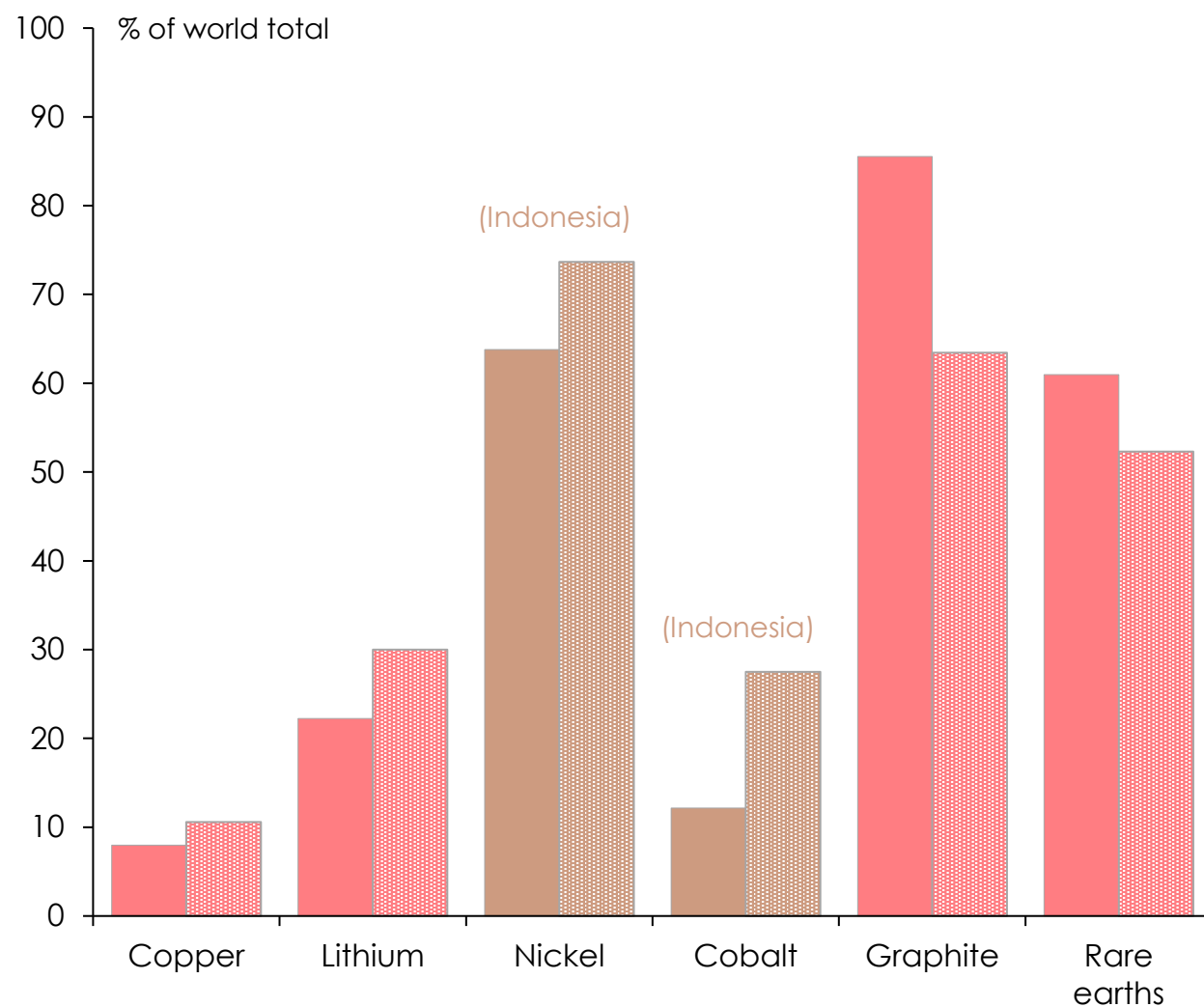
Rare earth elements (REEs)



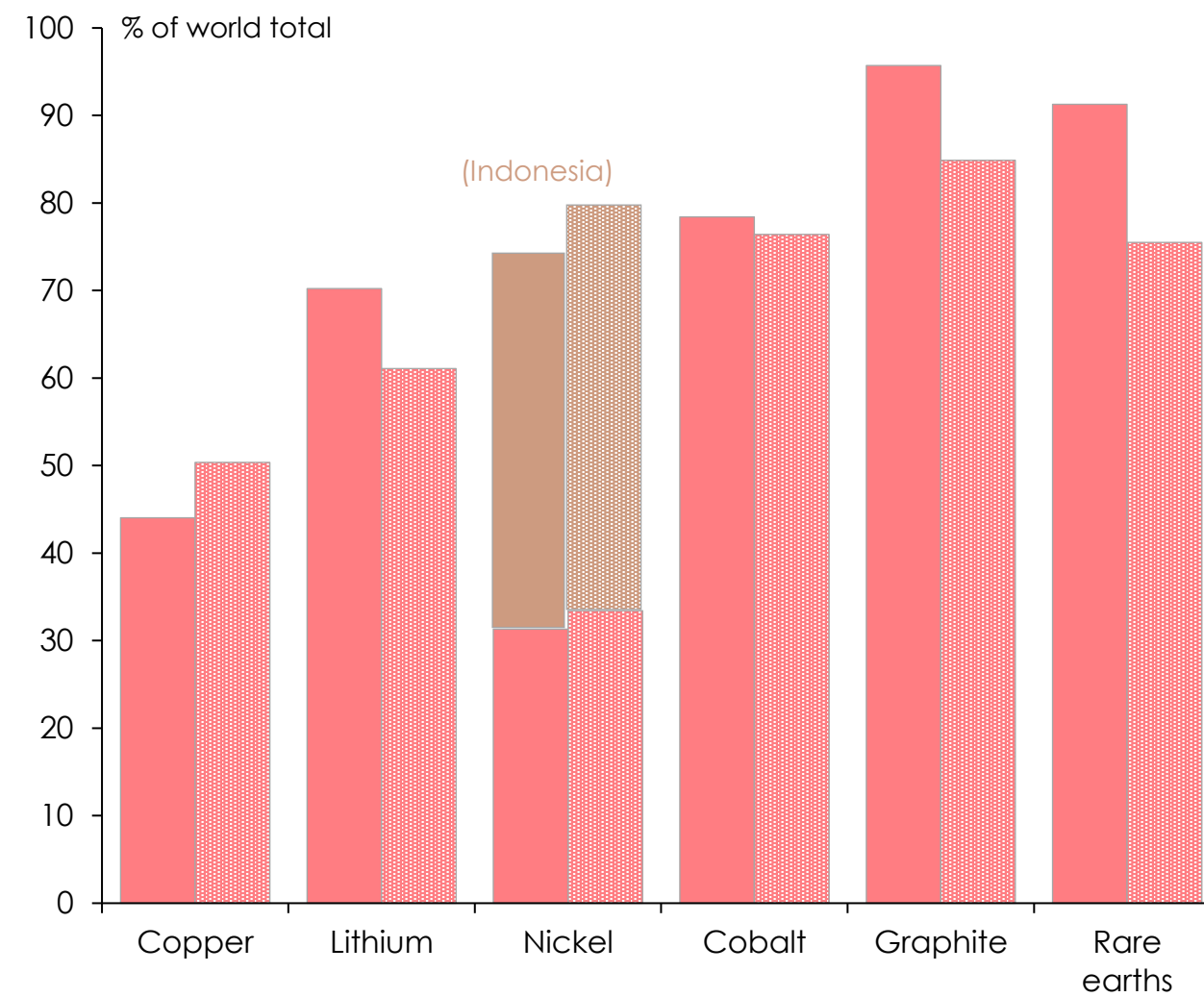
Primary material Processing step Refined material End-use

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

China's share of 'critical minerals' mining



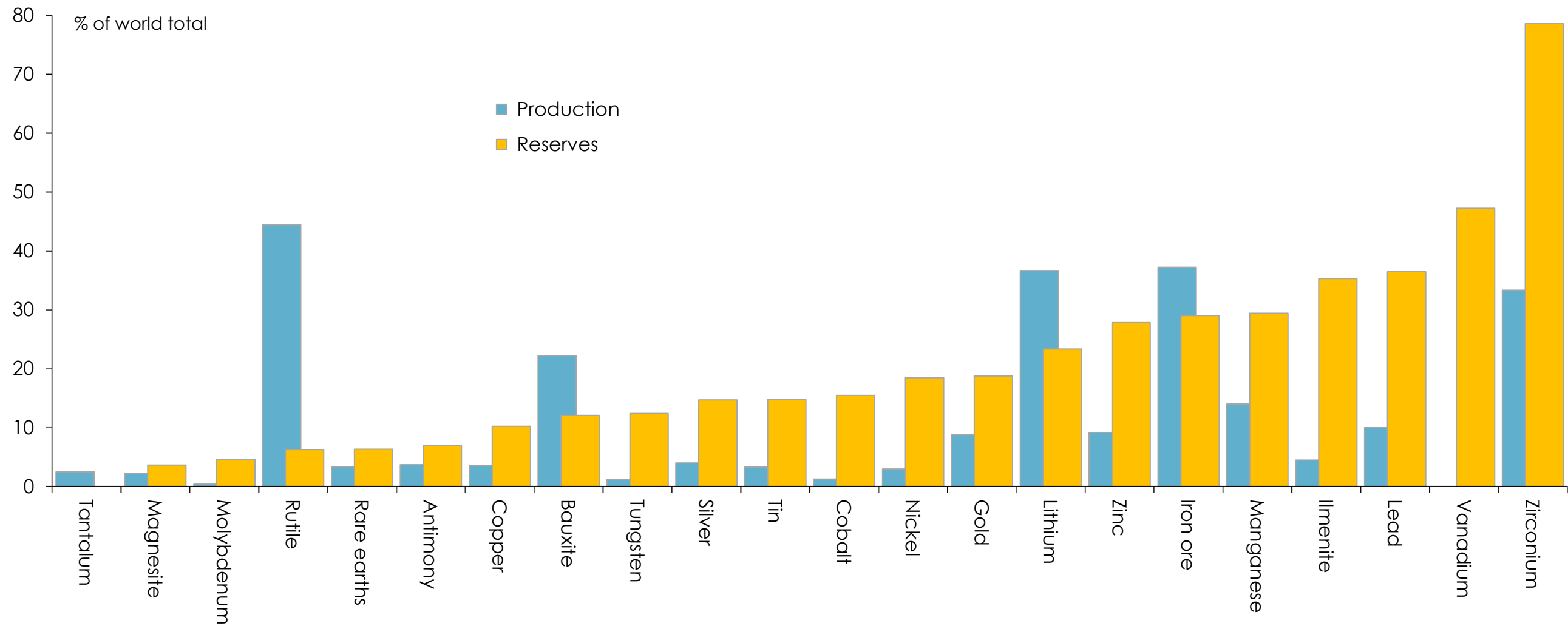
China's share of 'critical minerals' refining



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

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

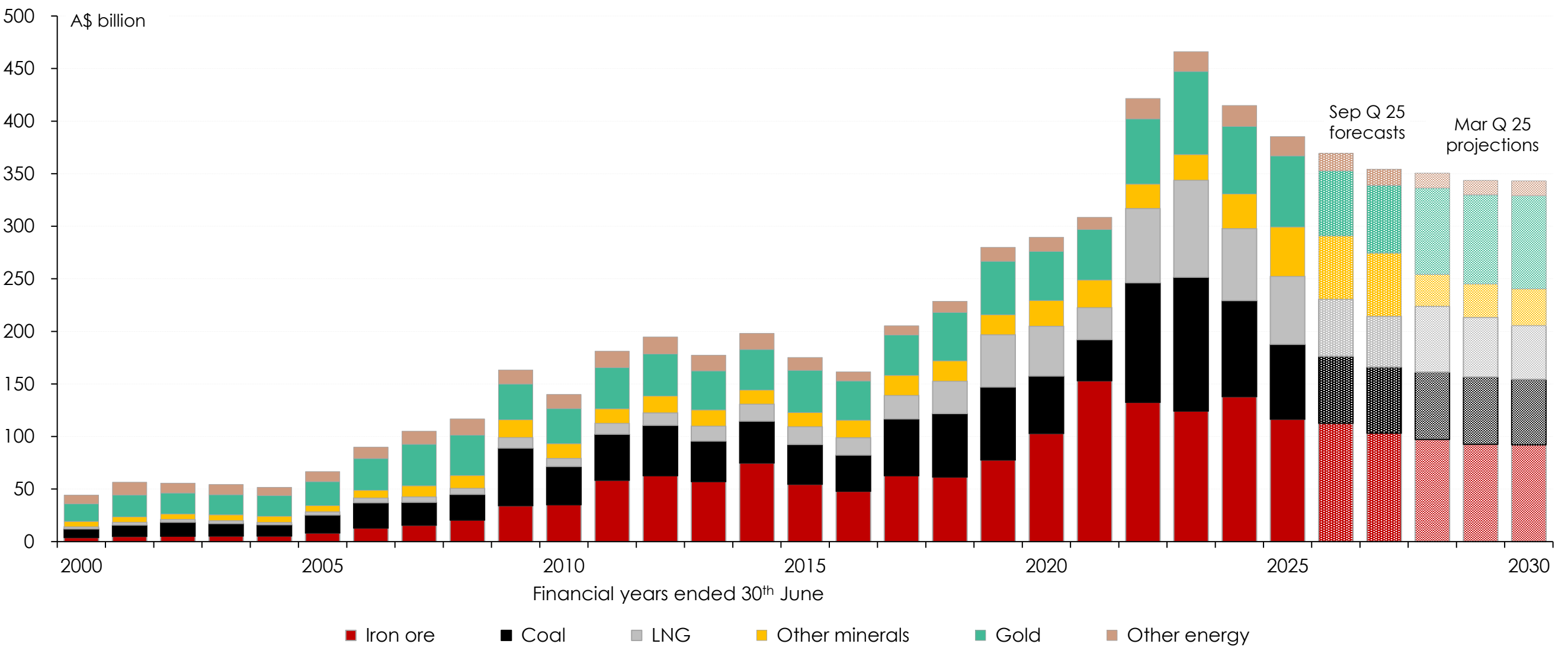
Australia’s share of global mineral production and reserves, 2024



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



Sources: Office of the Chief Economist, Australian Department of Industry, Science & Resources, [Resources and energy quarterly](#), March 2025 and September 2025. Note that the September 2025 edition of REQ assumed substantially lower LNG prices and substantially higher gold prices, and substantially higher volumes of gold, zinc and nickel exports, than the March 2025 edition; projections for 2027-28 through 2029-30 have not been updated since the publication of the March edition.

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

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