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GLOBAL MACRO RESEARCH

THE RISE OF GREEN PROTECTIONISM

GREEN PROTECTIONISM IS A PHENOMENON EMERGING FROM CLIMATE CHANGE, GEOPOLITICAL RIVALRY AND SUPPLY CHAIN RESHORING. IT IS RESHAPING THE GLOBAL ECONOMY AND GEOPOLITICS.

SEPTEMBER 2023



EXECUTIVE SUMMARY

IT'S NOT EASY BEING GREEN

Green protectionism refers to government policies explicitly designed to do two things at once: expedite decarbonisation efforts while incentivising domestic manufacturing.

- Green protectionism is emerging from three intersecting trends: climate change, geopolitical rivalry, and the revival of industrial policy // 2
- We believe this trend will be a major factor in geopolitical dynamics going forward // 4
- Fiscal costs associated with this trend will likely lead to more debt accumulation, at a time when many countries are already grappling with debt sustainability issues // 6

THE RISE OF GREEN PROTECTIONISM

THE US IS SPEARHEADING GREEN PROTECTIONISM

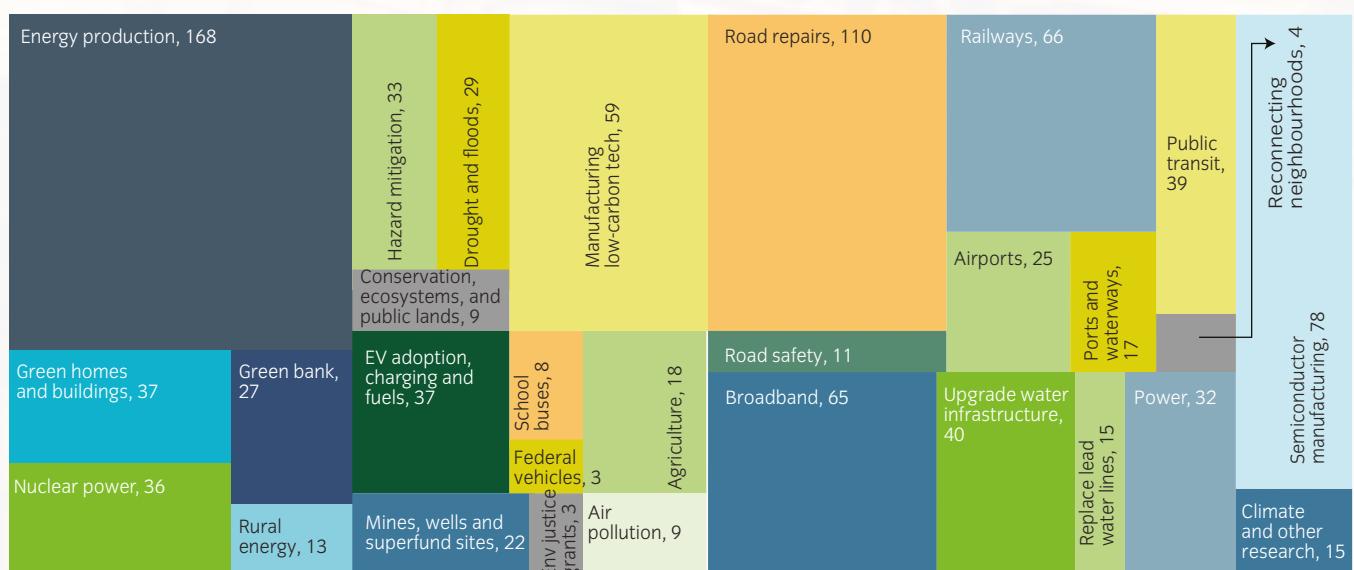
Before 2001, the US was the undisputed leader of global trade, with greater than 80% of countries globally trading more with the US than with China. However, China's accession to the WTO in 2001 was a major turning point, and by 2022, only 28% of countries traded with the US more than with China.

Although the US spearheaded globalisation and free trade, the soaring US-China trade gap has become an increasingly contentious political issue, culminating in the Trump administration's trade war with China, and now the Biden administration's export controls and investment flow restrictions.

Today, the Biden administration is wrapping protectionism with climate-focused spending. To date it has passed \$1trn worth of fiscal stimulus policies, including the [Inflation Reduction Act \(IRA\)](#), the [CHIPS and Science Act](#) and the [Bipartisan Infrastructure Law](#) (Figure 1).

All are designed to boost domestic investment and manufacturing and bolster national security

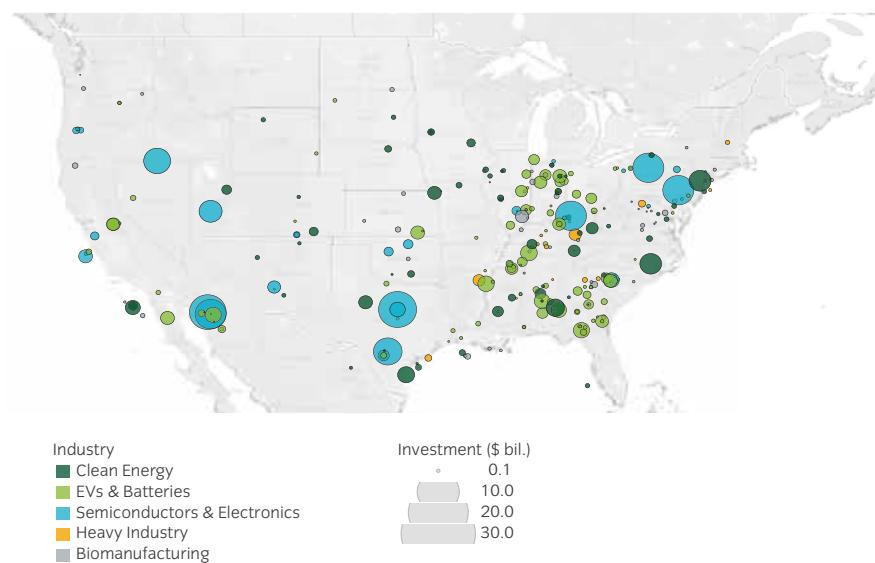
Figure 1: President Biden's trillion-dollar fiscal stimulus by sector (enacted spending in \$bn)¹



¹ Source: "See Everything the House Wanted, and Everything It Got", The New York Times, October 20, 2022, Insight Investment.

We believe this has the potential to usher in a new CAPEX Supercycle in the US.

Figure 2: Is this the beginning of a new capex supercycle (new investments in \$bn)²

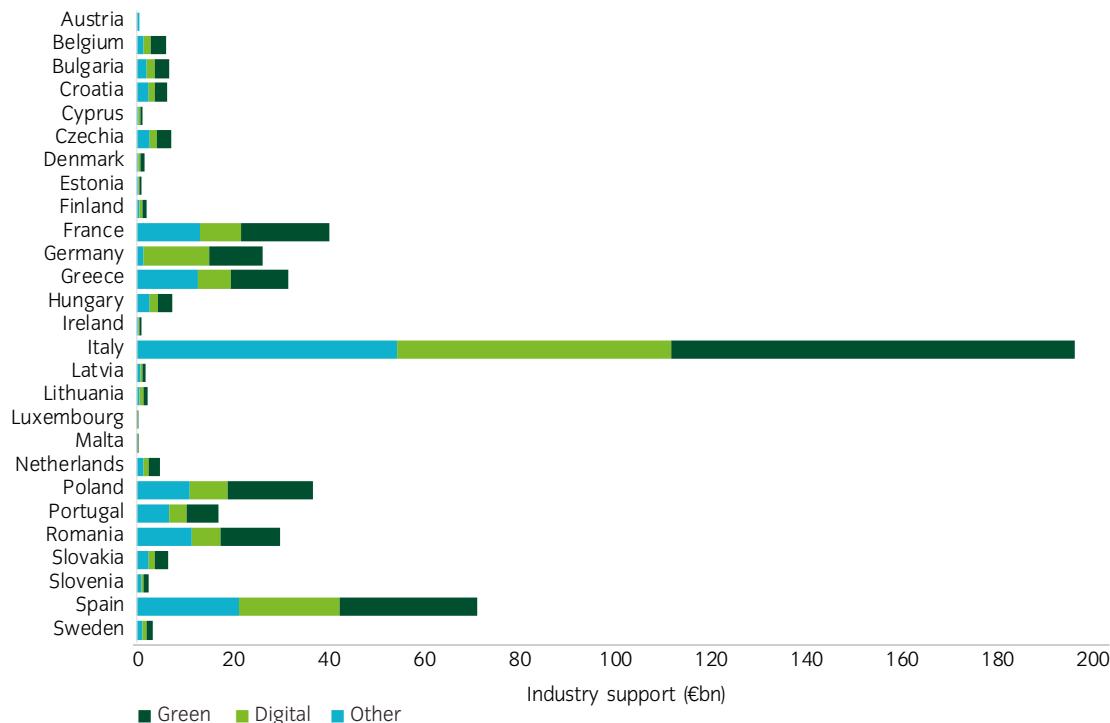


EUROPE IS RESPONDING WITH ITS OWN GREEN PROTECTIONISM

The passage of these bills in the US has concerned policymakers in other advanced economies, on the belief that their exports to the US could be adversely impacted and may even encourage non-American firms to jump ship to the US.

The EU's immediate response has been to modify state aid rules, allowing more national support of domestic industry. Authorities are also making continued use of the Recovery and Resilience Facility (RRF) – originally enacted in the wake of the pandemic, as a source of additional funding toward the green transition (Figure 3).

Figure 3: I will see your IRA and raise you RRF³



² The White House, as at 5 July 2023.

³ Brugel, Insight Investment, July 2023.

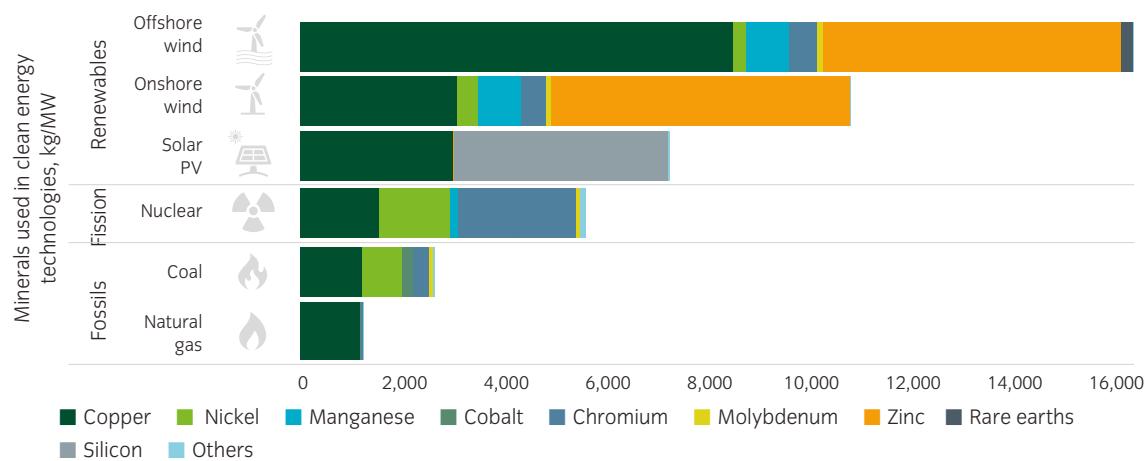
Long term, the EU has also proposed the [Green Deal Industrial Plan](#), a climate-focused stimulus initiative intended to support the domestic manufacturing sector. It includes the [Critical Raw Materials Act](#) and the [Net-Zero Industry Act](#).

Other advanced economies, like the UK, are yet to respond, although business leaders are [encouraging politicians](#) to follow suit.

THE RUSH FOR GREEN RESOURCES IS SHIFTING GLOBAL POWER DYNAMICS

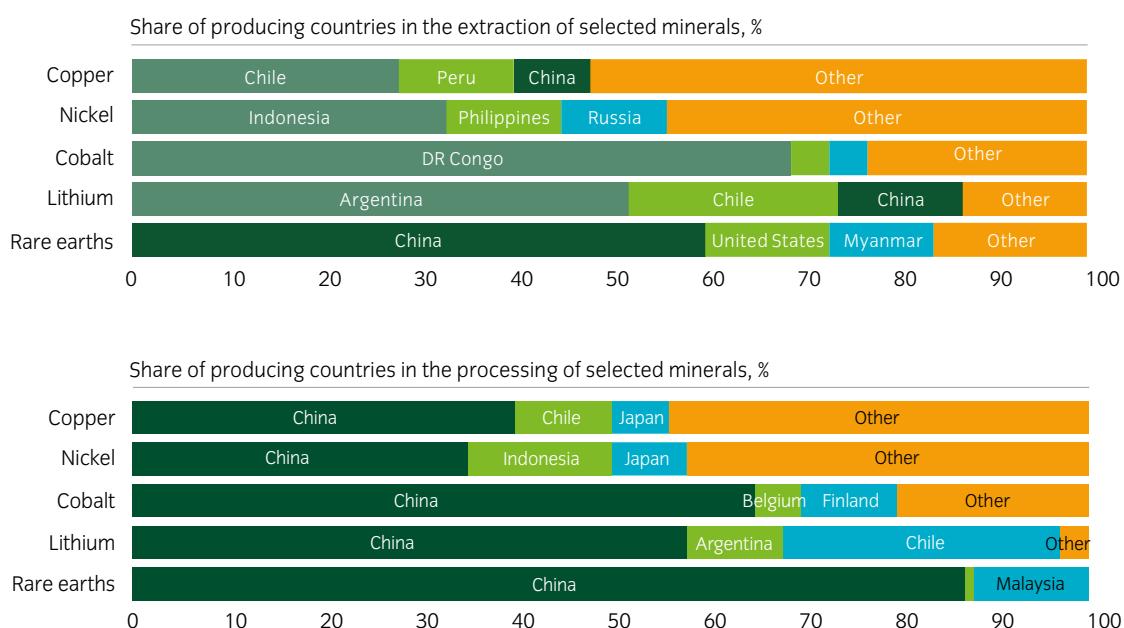
Other than traditional bulk materials such as copper, aluminium and nickel, green technologies also require technology-specific critical materials such as lithium, cobalt, and various rare earth minerals. (Figure 4).

Figure 4: Demand for green energy related raw materials is shifting⁴



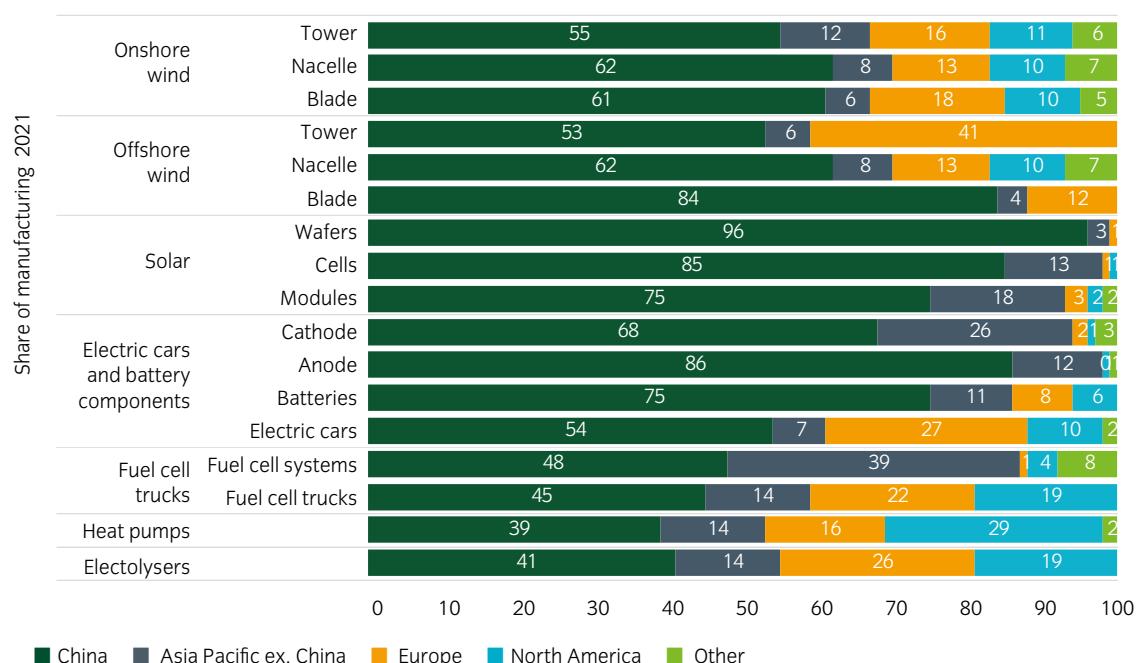
Production of many of these resources is also geographically concentrated. For example, the world's top three producers of lithium (Australia, Chile, and China) control almost 90% of global output. Meanwhile, Democratic Republic of the Congo is responsible for nearly 70% of global production of cobalt, while China accounts for 60% of global production of rare earths. China also dominates the processing of many critical minerals and the manufacturing of most clean energy technologies (Figures 5 and 6), a position it built thanks to a combination of its low-cost manufacturing base and concerted policy support over the past few decades.

Figure 5: China dominates the supply of rare earths and the processing of most metals needed for green energy⁵



^{4,5} International Energy Agency, "The role of critical minerals in clean energy transitions", May 2021: <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions>

Figure 6: China also dominates clean energy manufacturing⁶



China is not afraid to play the cards it holds. The former Chinese leader Deng Xiaoping once famously quipped that "the Middle East has oil, China has rare earths". In 2010, China suspended rare earth exports to Japan following tensions in the East China Sea. More recently, in summer 2023, China announced that it would impose restrictions on the exports of gallium and germanium, two niche elements used in the production of semiconductors and other high-tech products. The move came as a retaliation against technology export restrictions imposed by the US and its allies against Chinese companies.

China has also been consolidating its relationships with Latin American and African nations as part of its "One Belt One Road" initiative, to access more critical minerals. Reportedly, more than half of Congo's cobalt mines are owned or controlled by Chinese companies. China has also invested heavily in building integrated supply chains from mining to processing and manufacturing.

China is not the only country with new-found geopolitical leverage

Rising demand for critical commodities has spurred the US and the European Union to build their own refining capacities, but securing raw material supplies is getting more challenging, as the number of emerging, resource-rich nations have moved to restrict exports of raw materials.

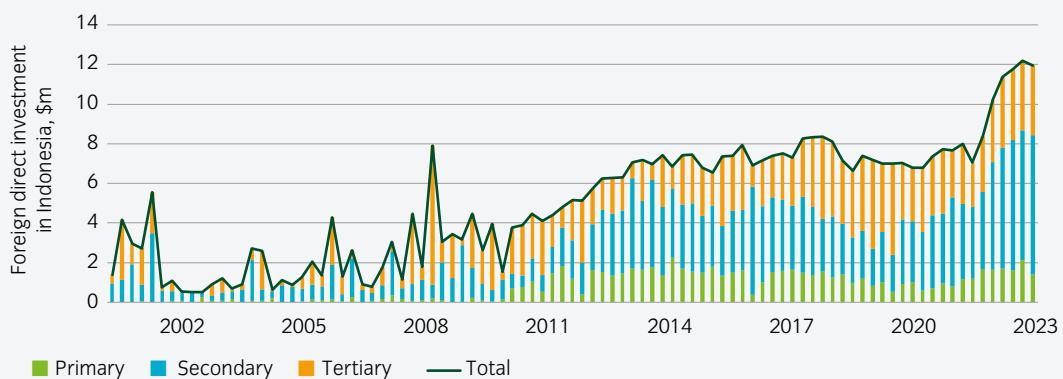
CASE STUDY: INDONESIA'S MONOPOLY ON NICKEL ORE SUPPLY

Nickel is an important element for the green energy transition. It is best known for its use in lithium-ion batteries, (which can contain up to 80% nickel). But nickel is also applied in geothermal energy, wind, water and concentrated solar power technologies.

The mineral-rich Indonesian islands are by far the world's largest producers of nickel. In August 2019, as the green transition was gathering steam, Indonesia announced a blanket ban on exports of the raw material, nickel ore. The government required foreign buyers to process the element locally before exporting it from January 2020. The result was a five-fold increase in foreign direct investment relating to metal processing (Figure 7).

⁶ International Energy Agency, "The role of critical minerals in clean energy transitions", May 2021: <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions>

Figure 7: Indonesia's nationalist approach to its nickel ore resources has boosted FDI⁷



The ban was nonetheless controversial. The EU launched a challenge at The World Trade Organisation (WTO) given the impact on its domestic stainless-steel industries. The WTO ruled in the EU's favor stating the ban violated 1994's General Agreement on Tariffs and Trade. Indonesia is currently appealing the decision.

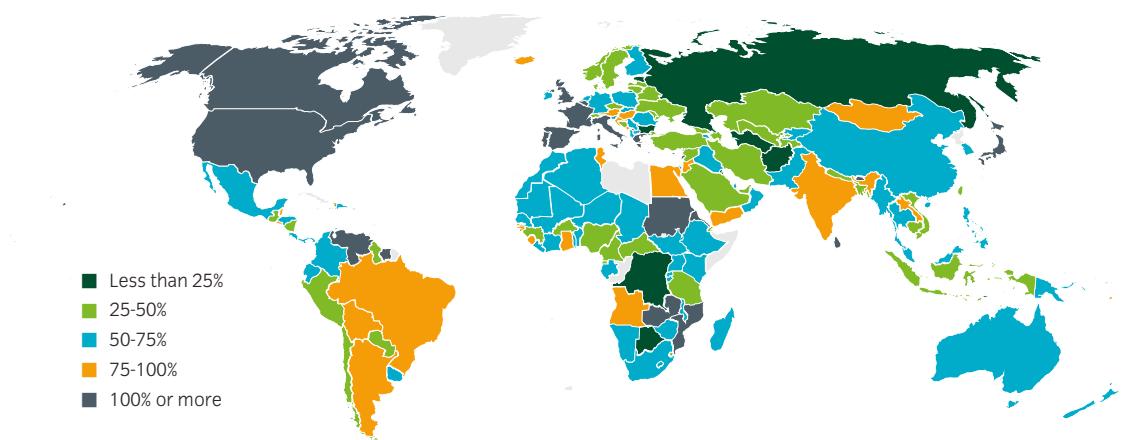
This could be a taste of the protectionism and geopolitical wrangling to come.

THE PRICE OF THE GREEN “ARMS RACE” IS YET MORE DEBT

Fiscal costs associated with a “green transition” will likely lead to increased borrowing and debt accumulation in the short term, raising concerns around debt sustainability at a time when countries are already grappling with their COVID-era spending.

Massive subsidies, incentives, tax credits, and debt-financed funds will likely lead to higher public and private debt levels in the near term. Moreover, the recent surge in global inflation has pushed interest rates to decades-high levels and the prevailing expectation these days is for rates to stay “higher-for-longer”. Hence, servicing debt will become meaningfully more expensive. A US [credit rating downgrade](#) by Fitch highlights concerns over large fiscal deficits and growing debt burdens.

Figure 8: The price of the green “arms race” (government debt to GDP in %, 2021)⁸



⁷ Macrobond Insight Investment July 2023

⁸ IMF Direction of Trade Statistics. Insight Investment. July 2023.

CONCLUSION: GREEN PROTECTION CONSOLIDATES GLOBALISATION'S RETREAT INTO “REGIONALISATION”

Green Protectionism continues the trend of globalisation giving way to “regionalisation”, characterised by large trading blocks, each dominated by competing global superpowers. It is notable that this process is taking place on the heels of a pandemic-induced debate about global supply chain vulnerabilities and the need to address those vulnerabilities through supply chain diversification and restructuring, and the recent flaring of geopolitical tensions. We expect the US and its allies on one side and China on the other to continue developing competing spheres of influence.

On the margin, the global green transition will present a distinct set of opportunities and challenges with outcomes depending on, but not limited to, access to critical minerals and new technologies; availability of savings/resources to orchestrate the green transition; adoption of a relevant industrial policy or a decision to abstain from the subsidy arms race.

We believe macro investors should carefully consider the implications for growth, inflation and fiscal outlook by country.

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⁶ International Energy Agency, “The role of critical minerals in clean energy transitions”, May 2021: <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions>

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