

Delivering Resilience

Look Forward Journal: Supply Chains

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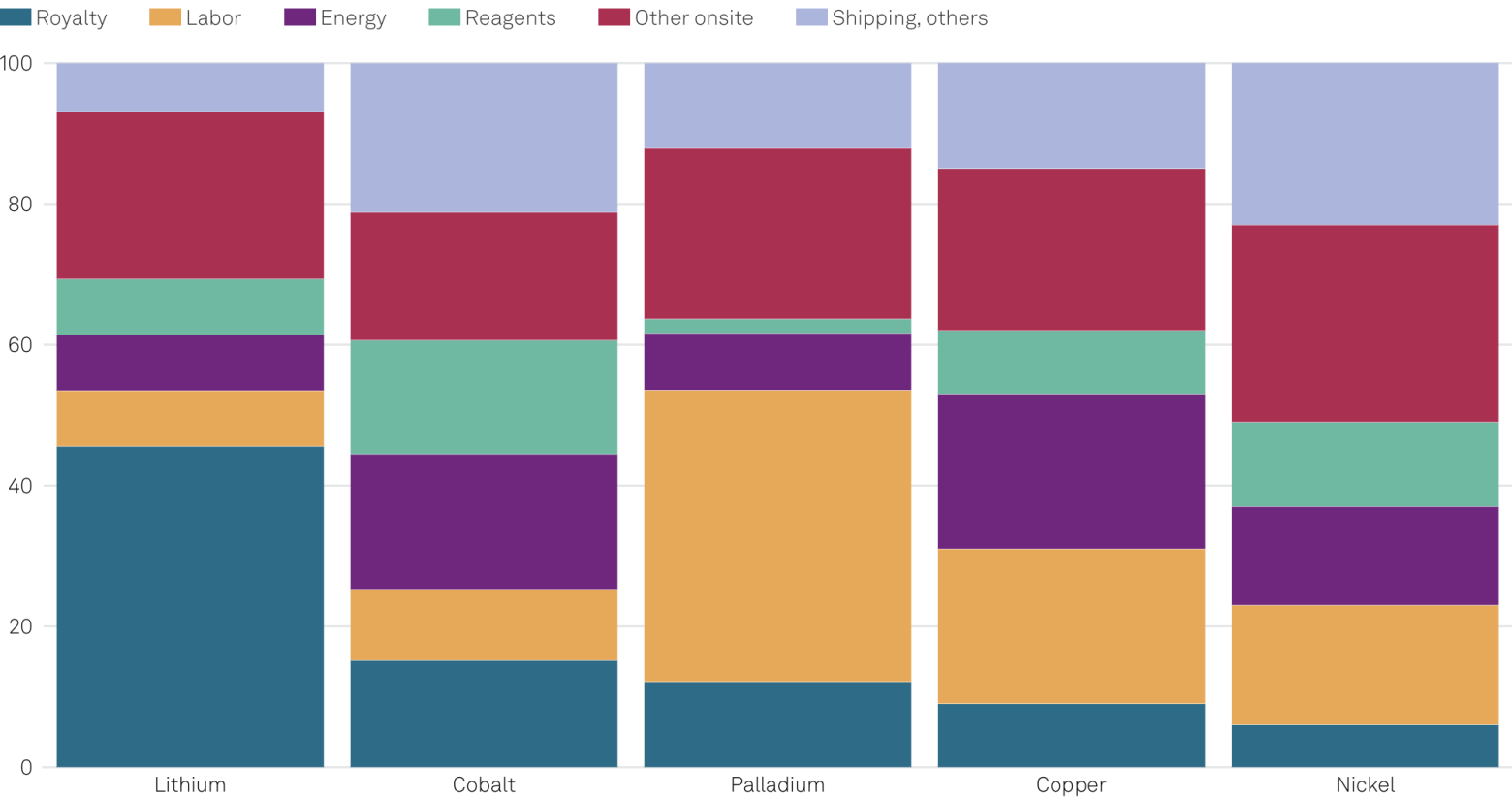


Supply chain politics – National security vs. economic growth

National security leads to resource protectionism, export restrictions and sanctions

Royalties make up 46% of lithium mines' cash costs (%)

Share of cash costs, 2023 mines in operation



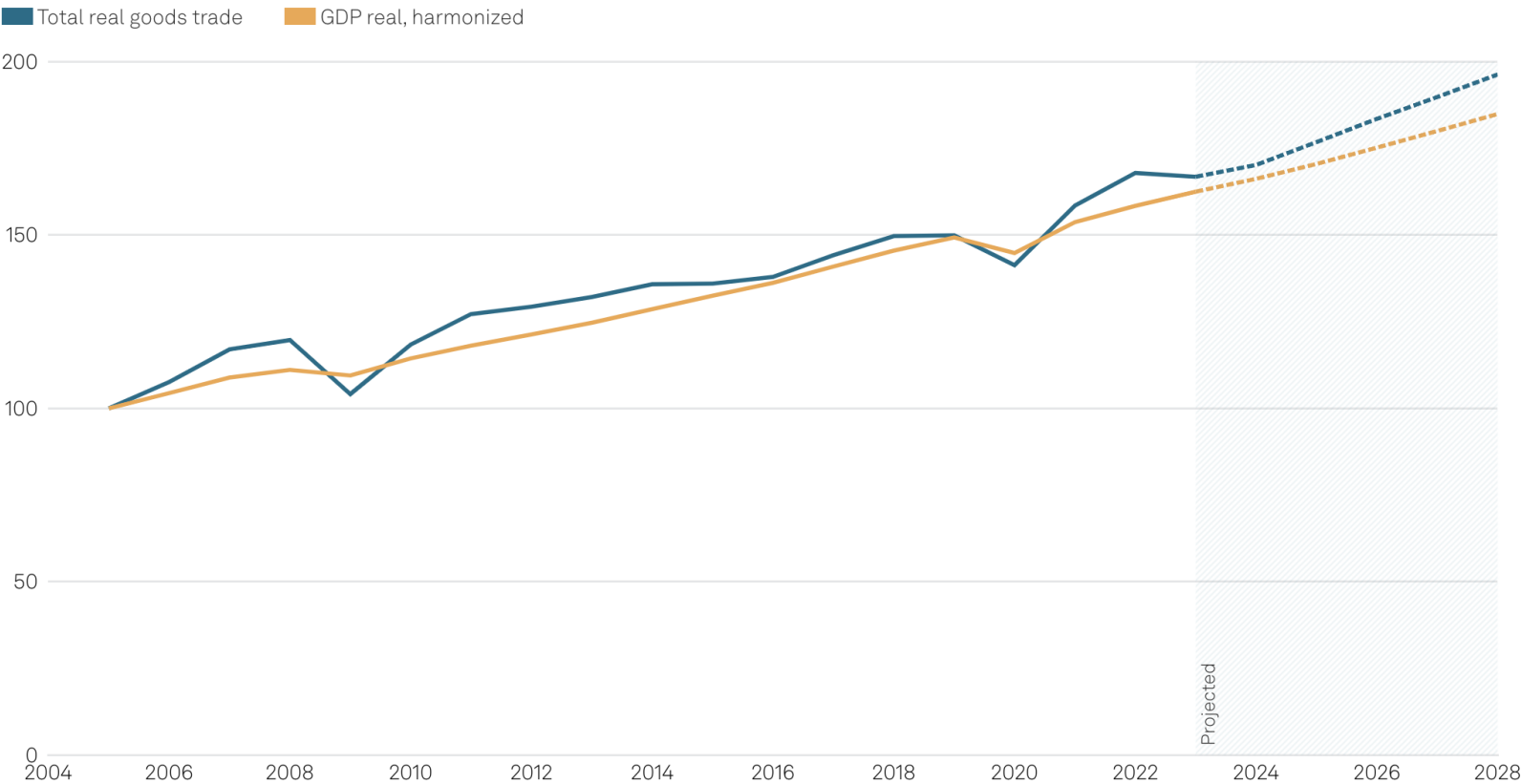
Data compiled Dec. 4, 2023.
Source: S&P Global Commodity Insights.
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Supply chain politics – National security vs. economic growth

Economic growth from investment subsidies raises inflation risks

Trade growth set to outpace GDP through 2028

Global international trade in goods and GDP, rebased 2005 = 100, adjusted for inflation



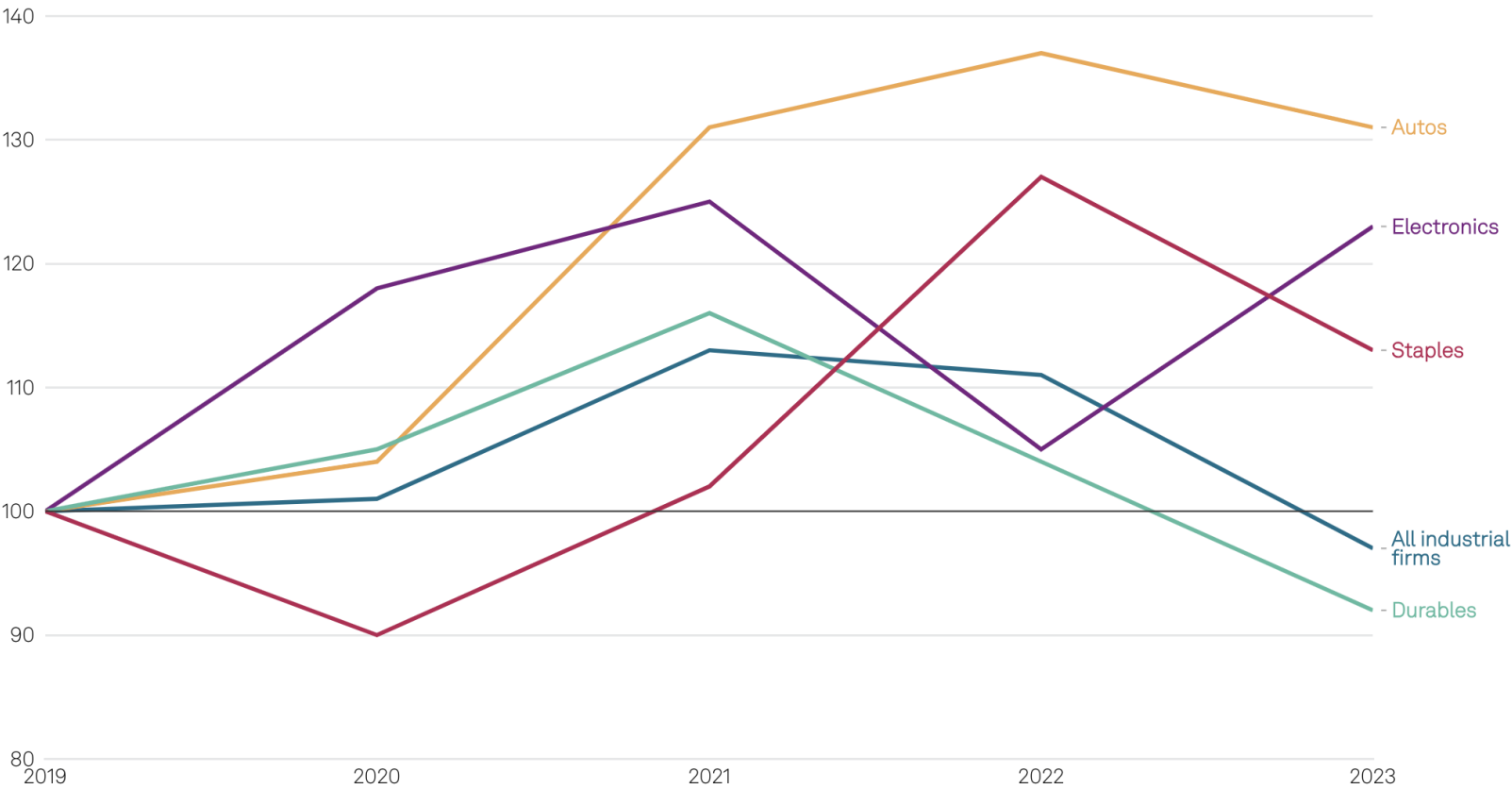
Data compiled Dec. 1, 2023.
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Footing the bill – Paying for resilience

Short-term cash flow prioritized over long term resilience investments

Pandemic-era supply chain diversification reverses in most sectors

Shippers per ultimate parent consignee, rebased 2019 = 100



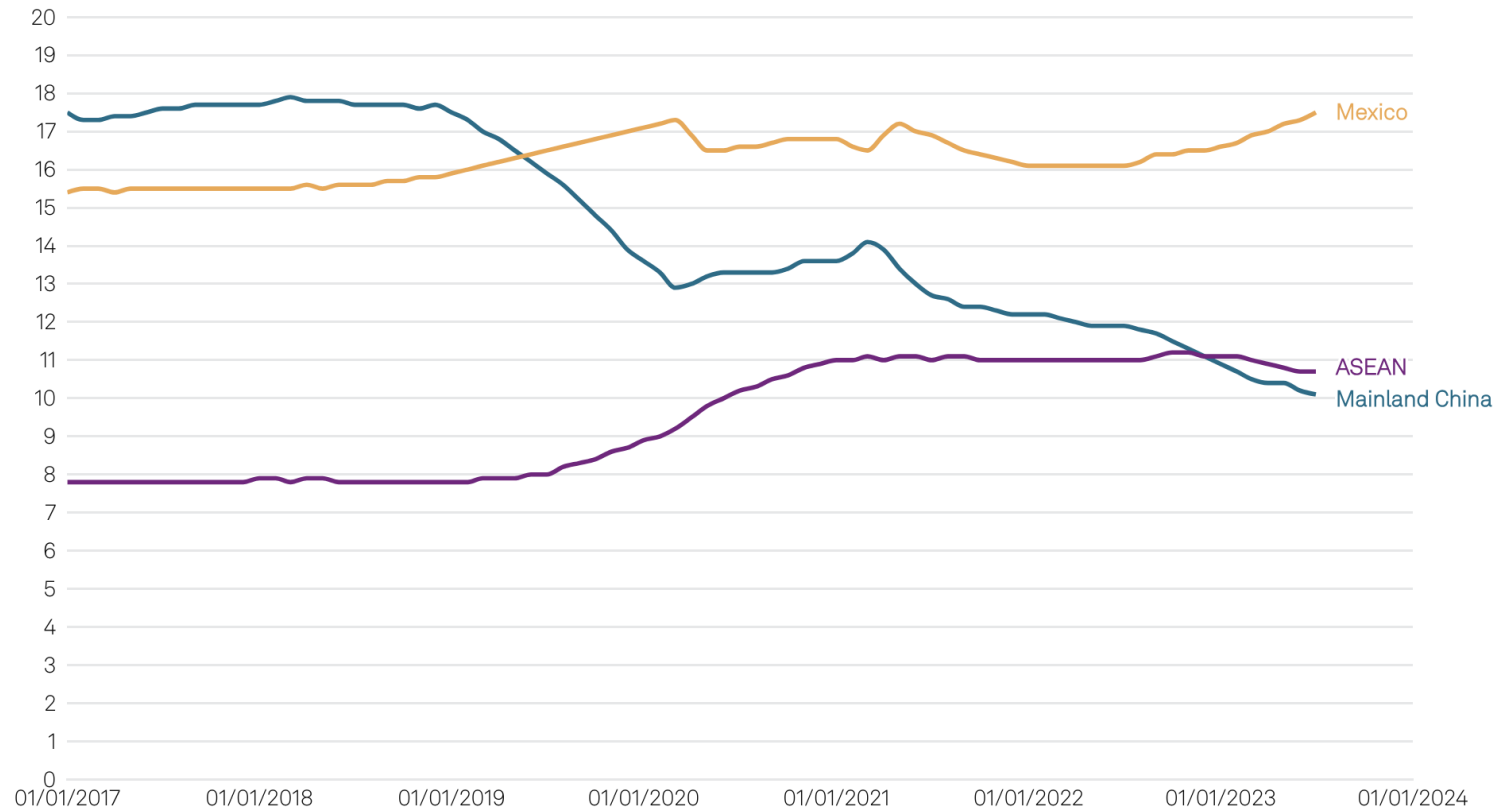
Data compiled Dec. 5, 2023.
Sources: S&P Global Market Intelligence; Panjiva, the supply chain research unit of S&P Global Market Intelligence, a division of S&P Global Inc.
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Footing the bill – Paying for resilience

Technology, reshoring offer risk and cost benefits but require organizational change, takes time, shift risks

Mexico, ASEAN gain from mainland China's loss of share

Share of US imports of products covered by Section 301 tariffs applied to mainland China, trailing-12-month total basis



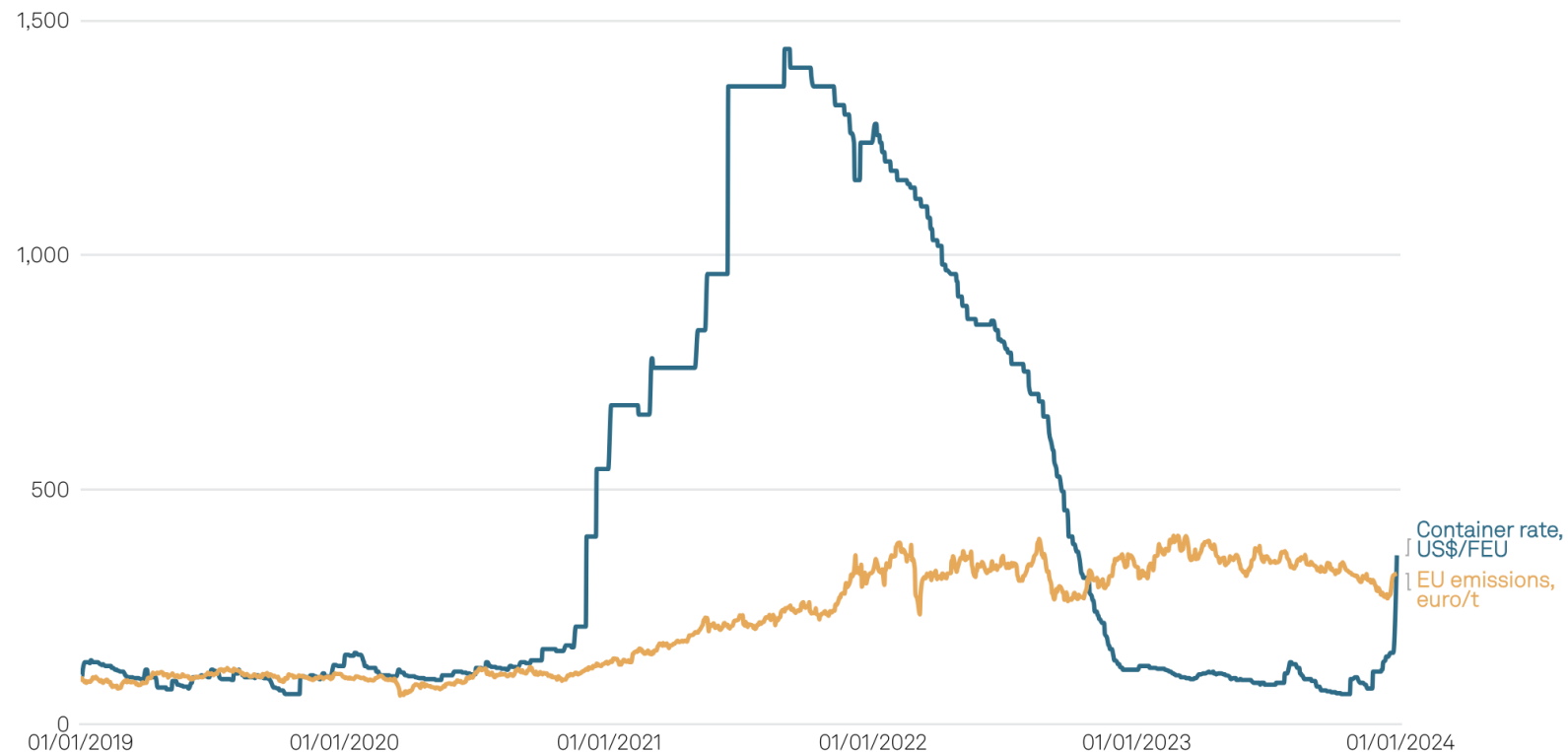
Data compiled Oct. 13, 2023.
ASEAN = Association of Southeast Asian Nations.
Source: S&P Global Market Intelligence.
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Decarbonization and development – Logistics network investments

Investment routes for achieving net zero are clear; who pays and how isn't

Shipping, carbon emissions largely uncorrelated, both volatile

Container shipping and EU emissions rates, rebased 2019 average = 100



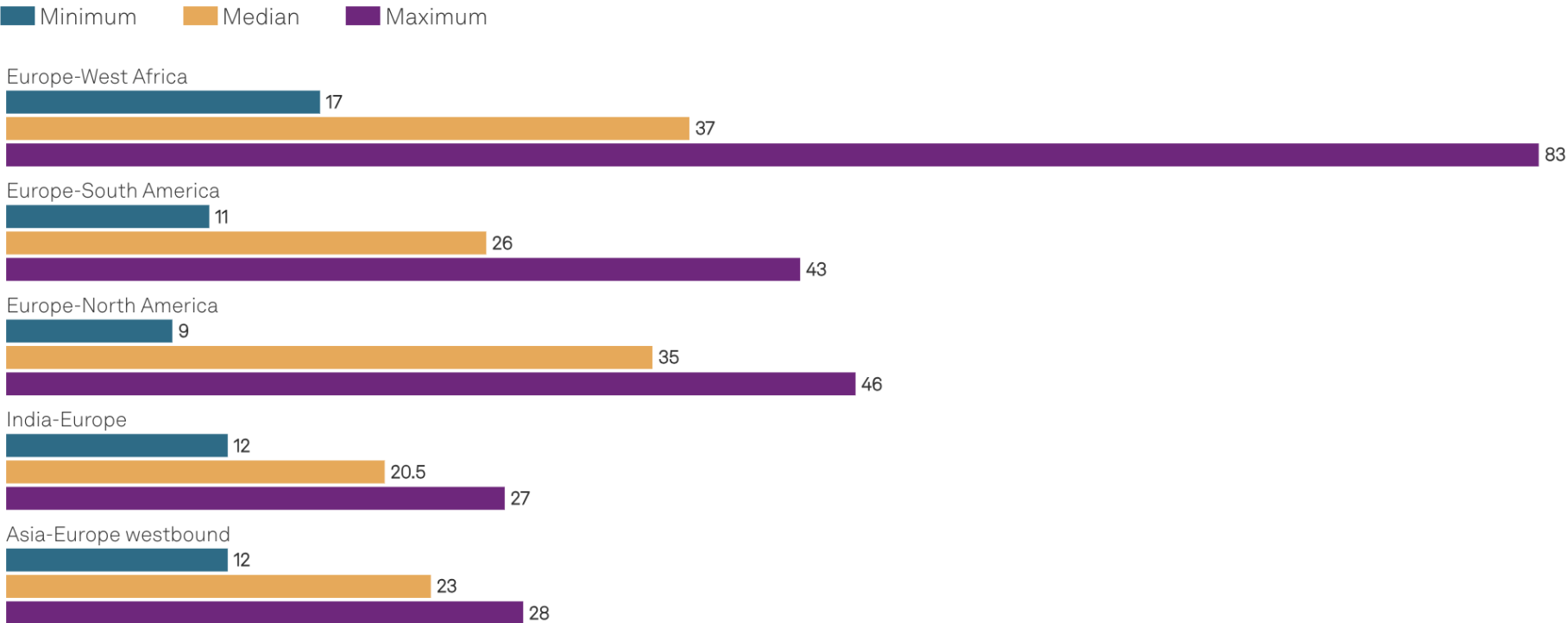
Data compiled Dec. 28, 2023.
FEU = 40-foot equivalent unit; t = metric ton.
Source: S&P Global Commodity Insights.
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Decarbonization and development – Logistics network investments

Who pays is a rapidly evolving topic, EU ETS provides a real-time case study

Wide range of EU Emissions Trading System surcharges

EU Emissions Trading System surcharge, euros per 20-foot equivalent unit, Jan. 1, 2024



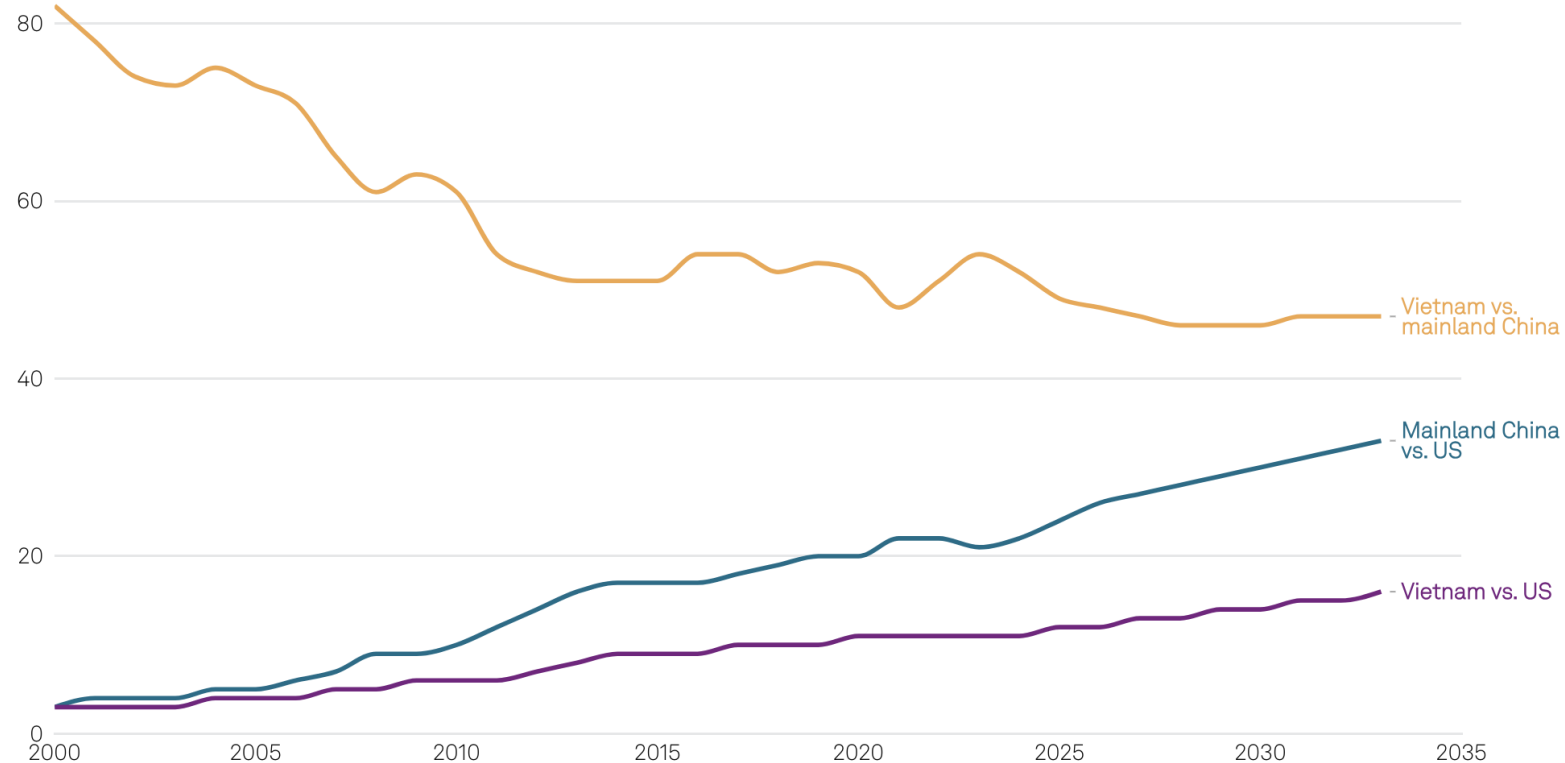
Data compiled Jan. 8, 2024.
Based on company filings.
Source: S&P Global Commodity Insights.
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Labor – Critical component of supply chains under increasing pressure

Wage growth potential vs. shortages; climate change raises worker conditions issues

Wage advantage vs. US narrowing but still wide in 2033

Ratio of manufacturing hourly wages, denominated in US dollars



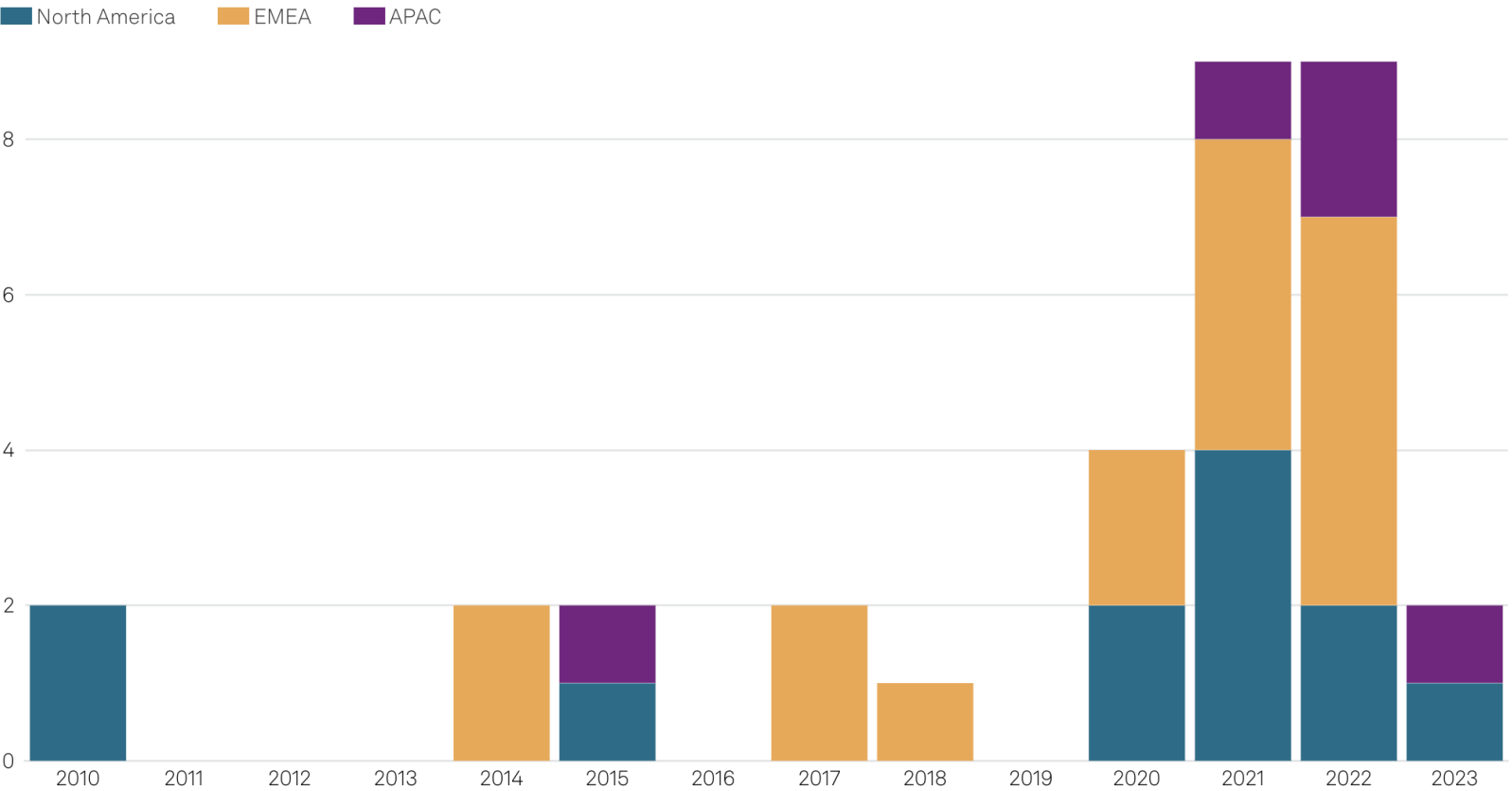
Data compiled Dec. 4, 2023.
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Labor – Critical component of supply chains under increasing pressure

Growing regulatory pressure to manage labor risks throughout supply chains, add transparency

Rise in number of mandatory due diligence laws since 2010, by region

Year mandatory due diligence law was introduced



Data compiled Jan. 3, 2024.
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PANEL DISCUSSION

March 2024



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