

POLICY BRIEF



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Enhancing Global Value Chains for Sustainable and Inclusive Growth

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Trade and
Investment



Abstract

Global value chains (GVCs) account for around 70% of global trade, as complex networks of cross-border production, from raw materials to finished goods, continue to grow.¹ GVCs have fuelled growth and job creation, particularly in emerging markets, by facilitating specialisation and technology transfer. However, recent crises (COVID-19, conflicts, and climate shocks) have shown significant vulnerabilities, including fragile supply networks, unequal profits, and environmental costs. Many developing countries are still 'locked into the lower end of global value chains,' missing out on high-value manufacturing and innovation.^{2 3} The task is to reinvent GVCs such that they are robust, environmentally sustainable, and inclusive (primarily benefitting small businesses and developing countries). This problem is crucial to the G20's agenda for 2025. Recent G20 communiqués underline the importance of incorporating sustainability and equity into trade. India's 2023 Summit made a clear commitment to 'create inclusive, sustainable, and resilient global value chains' and assist developing countries in moving up the chain. Similarly, in October 2024, G20 trade ministers agreed that 'trade and investments should foster sustainable development and enhance participation of women' in trade, and they urged for ecologically sustainable economic development through trade and investment. Brazil's 2024 presidency emphasised climate action and WTO reform as G20 objectives. In this context, an urgent 'future-of-work' orientation and focus on MSMEs, digitalisation, and green growth are recurring themes.⁴

Key problems persist: GVC fragility (disruptions ripple quickly, as shown in semiconductors and food chains), social exclusion (small enterprises, women, and least-developed countries lag), and environmental damage (carbon and resource depletion). For example, in many emerging nations, just 3% to 5% of manufacturing enterprises use new digital technologies, leaving the rest to rely on outmoded 'analogue' production methods.⁵ Micro, small, and medium enterprises (MSMEs) account for about 90% of businesses and more than 50% of employment globally, but only provide a small fraction of exports in poorer countries due to trade obstacles.⁶ Without action, inequalities would for about 90% of businesses and more than 50% of employment globally, but only provide a small fraction of exports in poorer countries due to trade obstacles. Without action, inequalities would deepen: affluent economies are growing trade faster than developing countries in 2024, and climate concerns threaten to 'permanently disrupt' GVCs if sections of the world lag on net-zero commitments.^{7 8 9}

¹ OECD. "Global Value and Supply Chains." OECD, accessed May 23, 2025. <https://www.oecd.org/en/topics/policy-issues/global-value-and-supply-chains.html>.

² Reuters. "G20 Ministers Agree World Trade to Foster Sustainable Development, Enhance Women's Role." Reuters, 24 October 2024. <https://www.reuters.com/sustainability/g20-ministers-agree-world-trade-foster-sustainable-development-enhance-womens-2024-10-24/>.

³ Ministry of External Affairs, Government of India. New Delhi Leaders' Declaration Final Adoption. <https://www.mea.gov.in/Images/CPV/G20-New-Delhi-Leaders-Declaration.pdf>.

⁴ G7/G20 Documents Database. "G20 Trade and Investment Ministers Meeting Annex C - High Level Principles on Digitalization of Trade Documents (25/08/2023)." Accessed May 23, 2025. <https://g7g20-documents.org/database/document/2023-g20-india-sherpa-track-trade-and-investment-ministers-ministers-annexg20-trade-and-investment-ministers-meeting-annexc>.

⁵ UNCTAD. *The Green and Digital Transition in Manufacturing Global Value Chains in Latecomer Countries*. https://unctad.org/system/files/non-official-document/tir2023_background1_en.pdf.

⁶ Global Solutions Initiative. "MSMEs' Access to Global Value Chains and Trade Finance." *Global Solutions Initiative*. <https://www.global-solutions-initiative.org/publication/msmes-access-to-global-value-chains-and-trade-finance/>.

⁷ UNCTAD. "Global Trade Update (December 2024)." *UN Trade and Development*, accessed May 23, 2025. <https://unctad.org/publication/global-trade-update-december-2024>.

⁸ Asian Infrastructure Investment Bank. "AIIB Report: Green Infra Critical to Global Value Chain Competitiveness." AIIB, 2021. <https://www.aiib.org/en/news-events/news/2021/AIIB-Report-Green-Infra-Critical-to-Global-Value-Chain-Competitiveness.html>.

⁹ World Bank. "Free Trade Pact Could Help Lift Up to 50 Million Africans from Extreme Poverty." *World Bank*, June 30, 2022. <https://www.worldbank.org/en/news/press-release/2022/06/30/free-trade-pact-could-help-lift-up-to-50-million-africans-from-extreme-poverty>

Diagnosis

Through a sector-wise study that examines key areas, this brief offers focused and useful insights into the evolving role of GVCs and the challenges they encounter.

Manufacturing and industrial innovation¹⁰

Leading companies are implementing stricter environmental regulations and low-carbon inputs, which forces suppliers to either upgrade or degrade along the supply chain. Policies must support green technology research and development (clean fuels, low-carbon technology, and renewables) as well as eco-design and efficiency in manufacturing. While advanced robots, the Internet of Things, and artificial intelligence might boost productivity and traceability, their implementation is uneven, necessitating ongoing digital transformation. According to the UN Conference on Trade and Development (UNCTAD), high-tech digital technologies in manufacturing are concentrated in a few growing and high-income economies, whereas the majority of Global South enterprises struggle with basic automation. It is critical to close this 'digital divide.' Collaboration between governments and industry is required to create 'green and digital hubs' or innovation clusters that provide tech transfer, training, and shared facilities, especially in manufacturing industries. Strengthened intellectual-property and tech-transfer agreements can help spread cleaner processes to latecomer firms.

¹⁰ Example: a) Germany's 'Industrie 4.0' initiative has helped integrate SMEs into advanced manufacturing ecosystems through government-backed testbeds and digital innovation hubs. Similarly, in India, the Production-Linked Incentive scheme supports domestic firms in electronics and pharma sectors to move up the value chain by upgrading technology and increasing exports. b) In Kenya, the Leather Industrial Park initiative provides shared infrastructure for small leather goods producers, improving value addition and export readiness.

Sustainable trade and environmental integration¹¹

The 2023 G20 Leaders' Declaration emphasises the importance of trade policies supporting climate and sustainability goals, aligning them with World Trade Organization (WTO) and multilateral environmental agreements. This includes aligning trade rules with carbon pricing, deforestation-free supply chains, and circular economy standards. G20 members should coordinate on labelling rules and avoid green protectionism. Advanced economies can open markets for environmental goods and share green technology. Developing economies can use Aid-for-Trade funding as endorsed by the G20 to build sustainable export capacity and enhance local value creation. New South–South financing (eg, concessional loans, blended finance) should prioritise green infrastructure (ports, rail, power grids) that make GVCs more climate-resilient. A joint Institute for Global Environmental Strategies–UN Industrial Development Organization (IGES-UNIDO) brief advises revising trade and investment laws to boost circularity, increasing financing for circular initiatives, and ensuring the transition is 'just and inclusive'.¹²

MSMEs and inclusion¹³

MSMEs, the 'natural engines of growth', face significant challenges in GVCs due to lack of information, finance, and market access. The G20 2023 'Jaipur Call'

¹¹ Example: a) The EU Carbon Border Adjustment Mechanism aims to tax carbon-intensive imports, encouraging exporters in countries like India and Brazil to decarbonise their manufacturing chains to remain competitive. B) The Global Green Freight Action Plan brings together countries and companies to reduce GHG emissions from freight, promoting more sustainable logistics across GVCs. C) Japan's Ministry of Economy, Trade and Industry launched the Supply Chain Resilience Initiative with India and Australia to diversify sourcing of critical goods like semiconductors and pharmaceuticals.

¹² IGES. *Embedding the Circular Economy in Global Value Chains: Strategies and Frameworks*. https://www.iges.or.jp/en/publication_documents/pub/policy/en/12803/TF3_EMBEDDING-THE-CIRCULAR-ECONOMY-IN-GLOBALVALUE-CHAINS.pdf.

¹³ Example: a) Alibaba's 'Rural Taobao' platform connects rural Chinese entrepreneurs to global e-commerce markets, offering training, warehousing, and logistics support – demonstrating how digital platforms can scale MSME participation in GVCs. B) In Rwanda, the SheTrades Hub (by ITC) helps women-led businesses meet international quality standards and link with global buyers, facilitating gender-inclusive trade participation.

highlights information asymmetry. The G20 countries should aim to address this by scaling up digital trade platforms, investing in single-window e-portals and mobile apps, and providing digital literacy training.¹⁴ Trade finance should be expanded through guarantees and fintech solutions tailored to small exporters. Special attention should be given to women-owned small and medium-sized enterprises (SMEs), as Brazil's 2024 G20 emphasised increasing women's role in trade. Linking SMEs to lead firms through clusters or supplier development programmes can increase productivity and technology spillovers.

Digital trade and connectivity¹⁵

The G20 has emphasised the importance of a digital economy for inclusive GVCs. Digital trade, including e-commerce and cross-border data flows, can enable remote producers to sell globally. The G20 supports high-level principles for paperless trade documents, highlighting the potential for productivity and efficiency gains. Countries should adopt these principles and harmonise regulations for digital services and data. Investing in broadband and 5G, especially in rural areas, is crucial for connecting small suppliers. Expanding mobile payment and digital banking systems, ensuring cybersecurity and trustworthy data rules, and modernising logistics can reduce delays and costs. Even modest improvements in document processing will disproportionately benefit smaller traders and developing economies.

¹⁴ G7/G20 Documents Database. "G20 Trade and Investment Ministers Meeting Annex B - Jaipur Call for Action for Enhancing MSMEs' Access to Information (25/08/2023)." Accessed May 23, 2025. <https://g7g20-documents.org/database/document/2023-g20-india-sherpa-track-trade-and-investment-ministers-ministers-annexg20-trade-and-investment-ministers-meeting-annexb>.

¹⁵ Example: a. Singapore's Networked Trade Platform (NTP) is a paperless, end-to-end digital system that reduces customs clearance time by 60% and integrates trade data across supply chain actors. b. In Latin America, CAF (Development Bank of Latin America) has financed cross-border fiber optic networks and cloud-based trade facilitation for small traders, supporting regional digital connectivity.

Trade policy, treaties and global governance¹⁶

With the WTO at its core, the G20 reaffirms a 'rules-based, non-discriminatory, fair, open, inclusive multilateral trading system. The G20 nations should advocate for WTO reforms that allow the organisation to handle modern concerns, such as supply-chain notification, environmental goods, and binding regulations on digital trade. Regional trade agreements provide quick platforms: recent accords, such as the African Continental Free Trade Area (AfCFTA), the Regional Comprehensive Economic Partnership, and the EU–Mercosur agreement, can serve as vehicles for technical standards and sustainability provisions that promote digital and green trade. One example of the inclusive potential is the AfCFTA. According to World Bank projections, the AfCFTA could increase African incomes by around 9%, provide over 18 million jobs, and help up to 50 million people escape poverty. Investment, scale economies, and standardised regulations are the sources of these benefits. Therefore, the G20 should encourage regional trade blocs to strengthen their capacities and make sure that international trade regulations do not impede them (eg, enable sensible flexibilities for developing countries). The G20 should also renew its commitment to Aid for Trade and climate finance. Experts caution that meeting trade finance and climate-aid commitments can assist developing nations in navigating the 'green squeeze' of new laws.¹⁷

¹⁶ Example: a) Under the AfCFTA, Ghana has begun exporting processed cocoa products instead of raw beans, moving up the value chain and capturing more value locally. B) The EU–Vietnam Free Trade Agreement includes enforceable labour and environmental standards, setting a precedent for using trade policy to advance sustainability and inclusivity goals.

¹⁷ ODI. "Green Industrial Policy: How G20 Members Can Foster Better Practices through Disclosure, Evaluation and Dialogue." ODI: *Think Change*, accessed May 23, 2025. <https://odi.org/en/publications/green-industrial-policy-how-g20-members-can-foster-better-practices-through-disclosureevaluation-and-dialogue/>.

Recommendations

1. Manufacturing and industrial innovation

Facilitate widespread deployment of advanced manufacturing ('Industry 4.0') technologies such as automation, artificial intelligence, 3D printing, and clean technology, and invest extensively in research and development and worker training.¹⁸ Build innovation clusters and smart factories through public-private collaborations, such as the UNIDO and the World Economic Forum initiatives. To improve supply chain resilience, diversify input sources and nearshore crucial components. Consider providing tax incentives and technology transfers to industrial parks or zones in developing nations. Encourage eco-efficient production (eg, energy-efficient equipment, circular economy processes) to lower emissions. G20 countries must share best practices: wealthier economies can provide technology and standards, while other countries can focus on fundamental infrastructure and skills. A G20 'Advanced Manufacturing Alliance' (eg, through UNIDO or the World Economic Forum's manufacturing centre) might assist countries in developing competitive yet sustainable industrial policy.

2. Sustainable trade and environmental integration

Establish green standards in trading. To prevent protectionism, G20 countries should align carbon prices and border measures (eg, coordinated Carbon Border Adjustment Mechanism initiatives).^{19,20} Consider following the WTO-led Task

¹⁸ World Economic Forum. *Industrial Strategies for the Future of Supply Chains*. Accessed May 23, 2025. <https://www.weforum.org/projects/the-future-of-industrial-strategies-initiative/>.

¹⁹ TESS Forum. *Greening Supply Chains: Sleepwalking Into a New Era of Trade Policy?* Accessed May 23, 2025. <https://tessforum.org/latest/greening-supply-chains-sleepwalking-into-a-new-era-of-trade-policy>.

²⁰ OECD. *Joint Report Explores Scope for Co-ordinated Approaches on Climate Action, Carbon Pricing, and Policy Spillovers*. October 2024. <https://www.oecd.org/en/about/news/press-releases/2024/10/joint-report-explores-scope-for-co-ordinated-approaches-on-climate-action-carbon-pricing-and-policy-spillovers.html>

Force's recommendation for uniform carbon-pricing metrics and clear border-tax rules. Increase Aid-for-Trade and development funding to establish climate-resilient infrastructure and clean-energy initiatives in emerging economies.²¹ Environmental criteria (sustainable forestry, fisheries, and emissions reporting) should be included in trade agreements, with technical assistance and concessional financing available to enable developing G20 nations to comply. Encourage trade in green goods (renewable technology, climate-smart agriculture) by streamlining customs and certification. Such policies align with WTO conclusions that trade instruments can magnify climate action, such as the UN Framework Convention on Climate Change and multilateral development bank support for developing nations to invest in low-carbon industries.

3. MSMEs and inclusion

Reduce hurdles and increase support for bringing MSMEs into GVCs. Simplify trade procedures (single windows, harmonised standards) and lower 'nuisance' tariffs on intermediaries.^{22,23} Create online platforms and matchmaking forums like the proposed 'Link20' programme to connect small suppliers, particularly women and youth-led firms, with multinational customers. Scaling up trade finance (credit guarantees, export lines, mobile payments) for MSMEs has a significant return on investment (closing the SME-large company productivity gap may add over \$15 trillion globally). Provide digital literacy and managerial training through G20/UN programmes, such as WTO e-commerce capacity-building and Asian Development Bank/International Finance Corporation SME schemes, to share best practices. Developed G20 nations can share digital market platforms and

²¹ OECD. *Aid for Trade at a Glance 2024*. Paris: OECD Publishing, 2024. https://www.oecd.org/en/publications/aid-for-trade-at-a-glance-2024_7a4e356a-en.html.

²² World Bank. *Towards a G20 Strategy for Promoting More Inclusive Global Value Chains*. Accessed May 23, 2025. <https://www.worldbank.org/en/topic/trade/publication/towards-a-g20-strategy-for-promoting-more-inclusive-global-value-chains>.

²³ Global Solutions Initiative. *MSMEs' Access to Global Value Chains and Trade Finance*. Accessed May 23, 2025. <https://www.global-solutions-initiative.org/publication/msmes-access-to-global-value-chains-and-trade-finance/>.

regulatory frameworks, while developing members should focus on infrastructure (electricity, internet, and basic banking access). The G20 leadership should ensure no small supplier is left out of global supply chains.

4. Digital trade and connectivity

Ensure universal, affordable broadband and digital access. According to the International Telecommunication Union (ITU), nearly one-third of people (even in the G20) remain unconnected due to poor infrastructure.²⁴ The G20 should support rural broadband/5G (via spectrum auctions, public–private partnerships, or development funding) and digital public goods. For example, Brazil's G20 presidency tested 'Connected Schools' (fibre to 140 000 schools) for India's Unified Payments Interface. Harmonise e-commerce and data standards by advancing WTO negotiations on digital trade (data flows, online consumer safeguards) and Organisation for Economic Co-operation and Development (OECD)/UN guidelines on privacy and cybersecurity. Provide targeted aid and training for low-income members, as UNCTAD cautions that enterprises with low 'digital preparedness' risk falling behind.²⁵ The G20 can use the Digital Economy Working Group and ITU partnership to bridge the digital divide.

5. Trade policy, treaties and global governance

Reform and activate the international trade system to ensure inclusion and sustainability. Push for WTO renewal (enhance dispute resolution, finalise e-commerce rules, and improve trade facilitation) and make sure the Ministerial Conference 14/ Ministerial Conference 15 agendas address the environment,

²⁴ International Telecommunication Union (ITU). *G20: Digital Connectivity to Advance Sustainable Development*. October 2024. <https://www.itu.int/hub/2024/10/g20-digital-connectivity-to-advance-sustainable-development/>.

²⁵ United Nations Conference on Trade and Development (UNCTAD). *Digital Trade: Opportunities and Actions for Developing Countries*. Accessed May 23, 2025. <https://unctad.org/publication/digital-trade-opportunities-and-actions-developing-countries>.

labour, and development. OECD/WTO research suggests harmonising carbon pricing and designing border adjustment mechanisms to avoid trade frictions using G20 communiqués to coordinate climate-trade policy. Broaden Aid-for-Trade to include climate adaptation and digital infrastructure – the OECD/WTO notes that this is critical for meeting new challenges. Encourage regional trade agreements (such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and the Regional Comprehensive Economic Partnership) to embrace high sustainability and inclusiveness standards. Overall, the G20 should use its influence to reiterate that ‘trade remains important’ for growth and the SDGs, mirroring the WTO’s Trade Report.²⁶ Mechanisms: Use G20 Working Groups (Trade and Investment, Development), multilateral development banks, and WTO/OECD forums to harmonise policies. These coordinated measures will assist in harnessing GVCs for equal prosperity, in line with South Africa’s presidency theme of ‘Solidarity, Equality and Sustainability’.

Strengthening GVCs for sustainability and inclusion is urgent and feasible.

²⁶ Hinrich Foundation. *WTO World Trade Report 2024: How to Use It*. Accessed May 23, 2025. <https://www.hinrichfoundation.com/research/how-to-use-it/wto-world-trade-report-2024-trade-and-inclusiveness>.

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