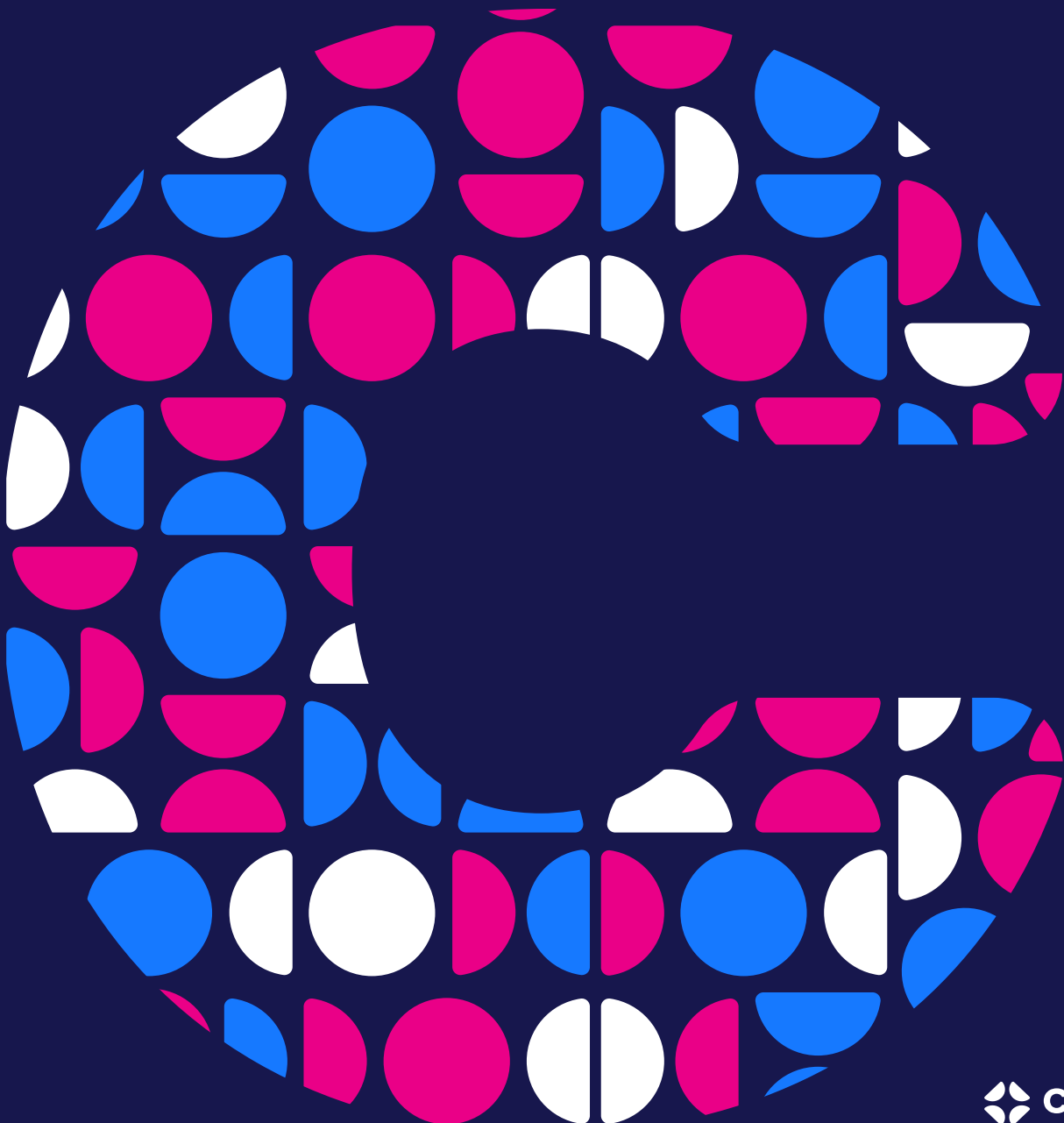


China

SEPTEMBER 2025

Country Report Macroeconomic and Sustainability Analysis



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1. Introduction

This report provides an overview of macroeconomic trends, industry dynamics, and sustainability insights into China's consumer goods manufacturing landscape, with a focus on the textile and apparel sector. It highlights the alignment between China's evolving policies and Cascale's decarbonization programs, targeting a 45 percent GHG emissions reduction across the consumer goods value chain by 2030.

Emphasizing the critical role that Cascale members and the broader industry can play, the report underscores China's potential to significantly contribute to global decarbonization efforts. With its status as the world's second-largest economy (approximately \$19 trillion GDP in 2024^{1,2}) and its ambitious climate commitments (to peak carbon emissions by 2030 and achieve carbon neutrality by 2060³), China is positioned to leverage both domestic policies and international collaboration to advance a low-carbon transition.

At the same time, ensuring decent work for the millions employed in this sector remains pivotal. Robust economic growth coupled with proactive sustainability initiatives – guided by China's 14th Five-Year Plan (FYP) and "dual carbon" strategy⁴ – suggest that the country can pursue high-quality development that balances industrial expansion with climate action and social responsibility. Amid evolving global market dynamics, China's trajectory will heavily influence progress toward Cascale's decarbonization goals.

1 <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=CN>

2 https://english.www.gov.cn/news/202501/18/content_WS678ae501c6d0868f4e8eeef7.html

3 <https://www.washingtonpost.com/world/2024/12/12/china-emissions-peak-renewable-energy/>

4 <https://www.undp.org/china/publications/issue-brief-chinas-14th-5-year-plan-spotlighting-climate-environment>

2. Relevance to Industry Decarbonization Goals

China's regulatory landscape and sustainability initiatives offer consumer goods companies substantial opportunities to align with both local and international environmental standards. The country's national targets (peaking CO₂ by 2030, net-zero by 2060) are in line with Cascale's vision for decarbonization. By engaging with China's emerging "dual carbon" policies and corporate programs, businesses can support global emissions reductions while ensuring compliance with new climate-related regulations. For example, the China National Textile and Apparel Council (CNTAC) has launched a life cycle assessment platform (LCAplus) to improve carbon data transparency across the supply chain.⁵ Such efforts dovetail with Cascale's emphasis on measurable GHG reductions and enable companies operating in China to demonstrate progress toward science-based targets. Aligning with these standards not only furthers global decarbonization goals but also enhances competitive advantage: firms that proactively cut emissions and meet China's environmental guidelines will be better positioned as global markets impose stricter carbon border measures and supply chain due diligence requirements.

In short, China's policy direction – including emissions trading schemes, green finance incentives, and sector-specific climate action plans – provides a framework through which textile and apparel manufacturers can accelerate emissions mitigation to foster a more resilient and future-proof industry.⁶

5 <http://global.chinadaily.com.cn/a/202310/27/WS653b69f0a31090682a5eb22f.html>

6 <https://www.chinadailyhk.com/hk/article/584837>

3. Macroeconomic View

China has demonstrated resilient economic performance in recent years, albeit with a moderating growth rate as the economy matures. Gross Domestic Product (GDP) reached approximately \$18 trillion in 2022 and was around \$19 trillion in 2024.⁷ The government set a five percent growth target for 2024 and reported earlier this year that it had surpassed its goal, reaching 5.4 percent,⁸ citing high-tech investments and strong exports as key drivers. Even this more modest growth is “incredibly relevant for the global economy,” as an economist at Boston Consulting Group noted,⁹ given China’s sheer size. The robust expansion over past decades has been driven by industrialization and manufacturing – including in the textile and apparel sector – though the government is now pivoting toward “high-quality growth” with greater emphasis on technology, services, and sustainability.¹⁰

China is a cornerstone of the global textile and apparel supply chain, standing as the world’s largest garment exporter. Manufacturing (of which textiles and clothing play a part) remains a key pillar of the economy and a major employer. The textile and apparel industry alone accounted for about 8.7 percent of China’s total export revenue in 2023 and provides livelihoods for almost eight million workers.¹¹ Notably, China’s consumer goods manufacturing has broad scope: it produces everything from basic t-shirts and denim to high-end technical apparel, supported by an expansive domestic supply chain. The country’s strong backward linkages – e.g. a massive domestic textile fiber and fabric industry – makes it uniquely self-sufficient in terms of raw materials. This vertical integration reduces lead times and adds value domestically, underpinning China’s competitiveness.

At a Glance – Key Industry Facts:

- **Global Export Leadership:** China is the world’s number-one apparel exporter, commanding roughly 31.6 percent of global ready-made garment (RMG) export market share in 2023. In that year, China’s apparel exports were valued at about \$165 billion, far outpacing any other country (including textiles and yarns); textile and apparel exports reached \$293.6 billion.¹²
- **Workplace Impact:** The textile and apparel sector in China directly employs approximately 7.8 million workers (2023). Over 60 percent are women, reflecting the sector’s significant role in female employment. The industry comprises over 300,000 enterprises – ranging from small workshops to huge integrated mills.¹³

7 <https://www.imf.org/external/datamapper/NGDPD@WEO/CHN/USA>

8 https://english.www.gov.cn/news/202501/18/content_WS678ae501c6d0868f4e8eeef7.html

9 <https://www.weforum.org/stories/2024/06/china-economic-outlook-growth-trade>

10 <https://www.weforum.org/stories/2024/06/china-economic-outlook-growth-trade>

11 <https://asiagarmenthub.net/agh-countries/china>

12 <https://www.fibre2fashion.com/news/apparel-news/china-2023-s-top-global-rmg-exporter-bangladesh-2nd-vietnam-3rd-wto-297174-newsdetails.htm>

13 <https://asiagarmenthub.net/agh-countries/china>

- **Domestic Market & Supply Chain:** China's domestic consumer market is immense: 70–80 percent of clothing produced in China is purchased domestically.¹⁴ The country's fully integrated supply chain (from fiber production and spinning to garment assembly) means that most raw materials are sourced domestically, including cotton and polyester.¹⁵ This integration enables Chinese manufacturers to rapidly turn designs into products and scale production to meet both domestic and export demand.
- **Product Mix and Innovation:** Chinese manufacturers produce a full spectrum of products – from low-cost basics to premium fashion and technical textiles. They are increasingly investing in automation and advanced technology to boost efficiency. China's manufacturing sector has one of the world's highest robot adoption rates (around 392 robots per 10,000 workers in 2023, more than double the 141 global average),¹⁶ illustrating the drive toward "smart factories." This push toward digitization and innovation (e.g. AI-driven design, 3D knitting, and process automation) is helping offset rising labor costs and maintaining China's competitiveness in the global market.

China's strong macroeconomic foundation and vast internal market have also helped it weather external shocks. Even as overall GDP growth has slowed from the double-digit rates of the past, economic planners are guiding the transition to a more sustainable and consumption-driven model. Notably, green growth is being treated as a new engine of development.¹⁷ This orientation bodes well for the textile and apparel industry's sustainability transition, as described in later sections. Policymakers are confident that, with reforms and innovation, China can maintain steady growth; indeed, China's leadership in Beijing appears confident they can maintain a five percent GDP in 2025.¹⁸

In summary, China's macroeconomic outlook is one of moderate but steady growth, increasing domestic demand, and a strategic shift toward quality over quantity – all of which set the context for the textile and apparel sector's evolution.

¹⁴ <https://shenglufashion.com/2024/08/17/chinas-textile-and-clothing-export-latest-patterns-and-trends-updated-august-2024/>

¹⁵ <https://www.investmentmonitor.ai/uncategorized/essential-sourcing-guide-chinas-apparel-sector/?cf-view>

¹⁶ <https://www.texspacetoday.com/china-enters-new-era-of-dark-factories-with-no-lights-no-workers/>

¹⁷ <https://www.weforum.org/stories/2024/06/china-economic-outlook-growth-trade/>

¹⁸ <https://www.china-briefing.com/news/decoding-chinas-local-gdp-targets-in-2025/>

4. Decarbonization and Sustainability Initiatives

China has made high-level commitments and undertaken numerous initiatives to decarbonize its economy, and the textile and apparel industry is increasingly part of this green transformation. At the national level, China's pledge to peak carbon emissions before 2030 and reach carbon neutrality by 2060 provides an overarching policy framework. These "dual carbon" goals have been integrated into national strategy, including industry-specific action plans, and the textile and apparel industry, as a major manufacturing sector, is explicitly moving to support them. On August 25, 2025, China issued a new guideline "Opinion on Accelerating Green and Low-Carbon Transition and Strengthening the Construction of the National Carbon Trading Market"¹⁹ (Chinese version²⁰), jointly issued by the General Office of the Communist Party of China Central Committee and the General Office of the State Council.

According to the China National Textile and Apparel Council (CNTAC), the sector currently emits about 230 million metric tons of CO₂ annually, accounting for roughly 2.8 percent of China's industrial emissions.²¹ Reducing this footprint is seen as critical not only for China's climate objectives but also to meet the expectations of global brands and regulators.

A number of sustainability initiatives are underway:

- **Industry Roadmaps and Standards:** Chinese industry bodies and authorities have outlined pathways for greener manufacturing. For instance, China's Ministry of Industry and Information Technology (MIIT), National Development and Reform Commission (NDRC), and Ministry of Ecology and Environment (MEE) issued an *Action Plan for Industrial Carbon Peaking by 2030* to steer industries (including textiles) toward low-carbon technologies and energy efficiency improvements.²² CNTAC has its own sustainability programs such as the *China Climate Action in Textile* initiative, which encourages mills and factories to set emissions reduction targets in line with the national goals. Guidelines promoting cleaner production, resource recycling, and pollution control have been disseminated to manufacturers through the MIIT.²³
- **Life Cycle Assessment and Transparency:** In October 2023, CNTAC launched a new LCA plus platform to facilitate life cycle assessments of textile products. This platform enables companies to calculate and disclose the carbon footprint of textiles and apparel from raw material through end-of-life. By providing reliable environmental performance data, it helps Chinese manufacturers meet international disclosure

¹⁹ https://english.www.gov.cn/policies/latestreleases/202508/25/content_WS68ac6afac6d0868f4e8f50fc.html

²⁰ https://www.gov.cn/zhengce/202508/content_7037717.htm

²¹ <https://www.chinadailyhk.com/hk/article/584837>

²² <https://climatecooperation.cn/climate/china-issues-action-plan-for-industrial-carbon-peaking-by-2030/>

²³ <https://www.chinadailyhk.com/hk/article/584837>

standards. Similarly, carbon labeling of products is gaining traction domestically as a tool to guide green consumer behavior.²⁴ These efforts improve traceability and aim to build confidence that Chinese-made goods can be verifiably sustainable.

- **Renewable Energy and Energy Efficiency:** Many Chinese textile and apparel companies are investing in cleaner energy and efficiency upgrades. Government programs support the adoption of rooftop solar panels, biomass boilers, and electrification of processes in industrial parks. As a result, an increasing number of textile and apparel factories are powered (at least partially) by renewables or high-efficiency cogeneration systems. The carbon intensity of China's power grid remains high due to coal (see Section 6), but rapid growth in wind and solar capacity is expected to gradually reduce the emissions factor of purchased electricity.²⁵ The MIIT has also promoted **equipment renewal** – replacing old, energy-intensive machinery (looms, dyeing apparatus, etc.) with modern, energy-efficient models. Such upgrades not only cut GHG emissions but often improve productivity.
- **Manufacturer Climate Action Program:** Welcoming members and non-members alike, Cascale's Manufacturer Climate Action Program (MCAP) helps manufacturers develop and validate Science-Aligned Targets (SATs) to reduce Scope 1 and 2 greenhouse gas emissions across the consumer goods industry. Within this 18-month program, MCAP provides textile, apparel, and footwear manufacturers with a comprehensive suite of support to accelerate their climate action. To date, MCAP has engaged 13 manufacturers in China and four have set validated goals with a collective CO₂ reduction potential of over 145,000 tCO₂e.²⁶
- **Corporate Climate Commitments:** Chinese textile and apparel companies are stepping up. Notably, some leading firms have announced ambitious decarbonization goals. For example, ANTA Sports, a top domestic sportswear brand (and Cascale member), is targeting operational carbon neutrality by 2050, with intermediate net-zero and virgin plastics phase-out goals by 2030. Similarly, manufacturers like Advance Denim (a major denim mill and supplier of Levi Strauss & Co) are pioneering eco-friendly processes such as using plant-based dyes and recycled fibers.²⁷ Another mill, Jiangsu Dasheng, opened China's first carbon-neutral spinning factory in June 2025,²⁸ which utilizes zero-carbon raw materials and renewable energy. These examples indicate a broader trend of innovation: companies are experimenting with everything from regenerative agriculture for natural fibers (as Erdos Group is doing with sustainable cashmere farming)²⁹ to waterless dyeing and circular recycling techniques, in order to shrink their environmental impact.
- **Circular Economy and Waste Reduction:** Recognizing the need to tackle textile waste, China has launched initiatives to boost recycling and circularity, including plans to

24 <https://www.chinadaily.com.cn/a/202310/27/WS653b69f0a31090682a5eb22f.html>

25 <https://ember-energy.org/latest-insights/global-electricity-review-2024/major-countries-and-regions/>

26 <https://cascale.org/resources/blogs/with-mcap-manufacturers-get-a-boost-in-co2-reduction-potential/>

27 <https://www.chinadailyhk.com/hk/article/584837>

28 http://en.nantong.gov.cn/2025-07/15/c_1110327.htm

29 <https://thegoodcashmerestandard.org/interview-erdos/>

establish a nationwide waste textile recycling system by 2025.³⁰ This involves setting up collection networks, recycling facilities, and markets for recycled fiber. By some estimates, China discards over 20 million tons of textile waste annually,³¹ so improving recycling rates can significantly reduce landfill pressure and resource consumption. Pilot projects in several cities are turning post-consumer clothes into new yarn or insulation material. Additionally, consumer-facing programs (often in partnership with brands) encourage take-back of used clothes. If successful, these circular economy efforts will help China's textile and apparel sector decouple growth from virgin resource use – a key sustainability goal.

China's policy support for sustainability is strong. Officials from the MIIT have stated that greening the textile industry is of "great significance to foster new quality productivity and achieve harmonious coexistence between humans and nature."³² The inclusion of textile decarbonization in national plans (such as the 14th FYP and the recent 1+N climate policy framework³³) underlines that the sector is expected to contribute to China's climate targets. While challenges remain – for example, implementing uniform standards across tens of thousands of facilities – the trajectory is clear.

In summary, China's textile and apparel industry is transitioning toward sustainability, propelled by government mandates, market pressure, and an increasing recognition among Chinese firms that low-carbon, resource-efficient production is vital for long-term competitiveness.

30 <https://www.textiletoday.com.bd/china-to-tackle-textile-waste-through-recycling>

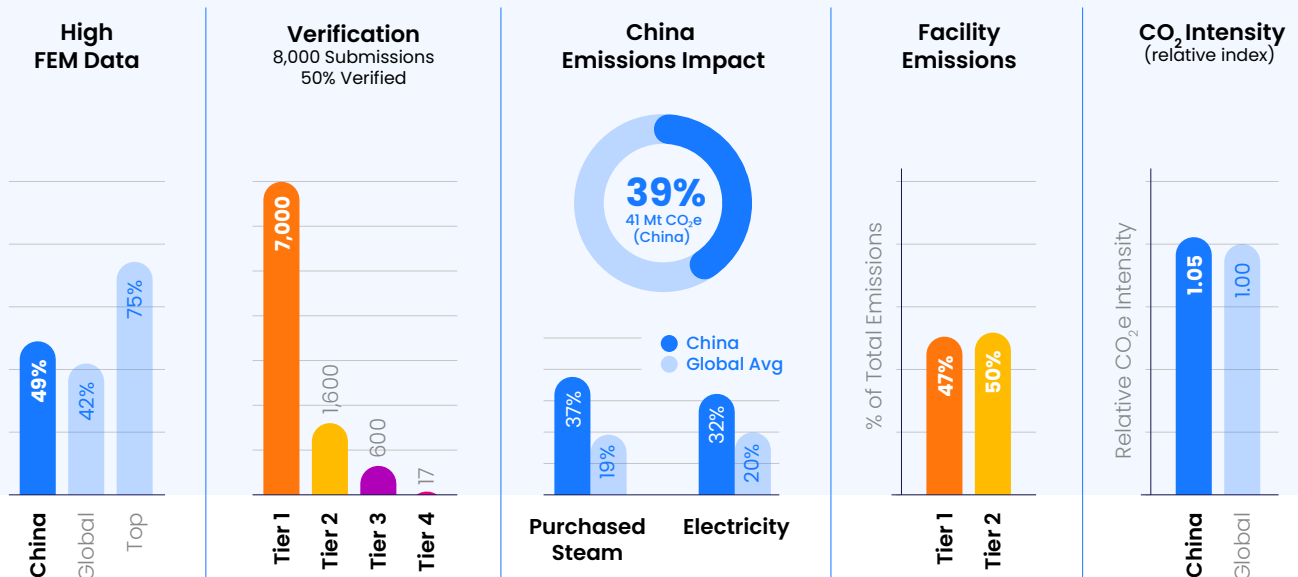
31 https://www.wto.org/english/tratop_e/tessd_e/09_circ_economy_presentation_by_china.pdf

32 <https://www.chinadailyhk.com/hk/article/584837>

33 <https://www.sciencedirect.com/science/article/abs/pii/S1364032125002990>

5. Energy Efficiency & Emissions: Higg FEM

Higg FEM Data: According to Higg FEM data, the average facility environmental performance score in China is around 49 (out of a total 100). While this is above the global average of 42, it still indicates room for improvement in areas such as energy management, ranking at 36, and water use, ranking at 55. For comparison, top-performing factories score in the 75 range, which allows them to achieve higher scores for their advanced practices. This data-driven approach ensures that facilities have management practices in place to help pinpoint opportunities to reduce resource usage and emissions on the factory floor.



Verification: Nearly 8,000 facilities in China submitted the Higg FEM 2023, of which approximately 50 percent had their assessments verified. Of the 8,000 facilities, the majority – more than 7,000 facilities – reported as Tier 1 facilities. Approximately 1,600 reported as Tier 2 facilities. Finally, fewer than 600 respondents reported as Tier 3 facilities and only 17 as Tier 4.

EXPLAINER

Tier 1: Finished product assembly and/or processing

Tier 2: Material production, sub-assembly, and/or component manufacturing

Tier 3: Raw material processing

Tier 4: Raw material collection and/or bulk refining

Emissions Impact: China accounts for 39 percent of the global total emissions reported in verified Higg FEM 2023 data, with 41 megatons of CO₂ equivalent emitted. Of these emissions, the bulk are from the production of purchased steam, with 37 percent of energy consumed coming from purchased steam compared to a global average of just 19 percent. Electric energy is used at a rate very similar to the global average: 32 percent in China versus 20 percent globally.

Facility Type and Emissions: Higg FEM 2023 data shows Tier 1 facilities as responsible for 47 percent of total reported emissions, while Tier 2 facilities are responsible for 50 percent. However, the fact that there are so many more Tier 1 (7,000) than Tier 2 (1,600) facilities indicates that Tier 2 production is a larger emitter in China as a whole.

CO₂ Intensity: Although electric renewables represent a small portion of China's electric consumption and larger, biogenic usage is less than one percent of the total thermal energy usage, both represent significant opportunities for improving CO₂e intensity. Across Tier 1-3 facilities (excluding Tier 4, for which the sample is very small) China has a slightly larger CO₂e intensity per unit produced than the global average.

The larger CO₂e intensity per unit may be due to different product mixes in China. However, the use of renewable electricity is declining and while coal use is decreasing it is being replaced by purchased steam which may itself be generated by coal so there may be headwinds in the sector's energy mix ahead.

6. Energy Landscape: Powering the Textile and Apparel Industry

Reliable and affordable energy has been a backbone of China's manufacturing prowess, but the energy mix presents both challenges and opportunities for decarbonizing the textile and apparel sector. Most textile and apparel facilities in China draw power from the national grid, which is still dominated by fossil fuels – particularly coal. In 2023, about 60 percent of China's electricity generation came from coal, with fossil fuels in total accounting for 65 percent of power output.³⁴ This coal-heavy grid means that Chinese factories tend to have a higher carbon footprint per kilowatt-hour of electricity used compared to some other producer countries. Many older mills also utilize on-site, coal-fired boilers for steam and heat in processes like dyeing, further contributing to emissions. Thus, improving energy efficiency and switching to cleaner energy sources are critical steps for the industry.

China's energy landscape, however, is rapidly evolving. The country has been adding renewable energy capacity at an unprecedented rate. By 2023, clean electricity made up 35 percent of the generation mix, with wind and solar reaching a record 16 percent share (exceeding even that of hydroelectric power). China accounted for over one-third of all global wind and solar power generation in 2023, and is the dominant force in supplying and installing green energy technology, installing almost 100 solar panels every second.³⁵ This transition is gradually pushing down the carbon intensity of the grid. In practical terms, each unit of electricity used by a factory in China is getting "greener" year by year: wind and solar growth has averted a significant amount of potential power-sector CO₂ emissions.³⁶ The government's drive to curb air pollution has also led to the conversion of many coal-fired industrial boilers to gas or electricity in key regions, which reduces local pollution (though natural gas is still a fossil fuel, it emits less CO₂ than coal per unit of heat).

For textile and apparel manufacturers, energy efficiency measures are a primary focus. Companies are retrofitting factories with LED lighting, optimized motors, and modern HVAC systems to cut electricity use. In textile dyeing and finishing (energy-intensive stages), technologies like waste-heat recovery, better insulation, and low-liquor-ratio dyeing machines help reduce energy per unit of output. Cascal's Higg Facility Environmental Module (Higg FEM) benchmarking has shown Chinese large-scale mills performing reasonably well in energy management compared to global averages, thanks in part to these upgrades and China's relatively advanced infrastructure. Nevertheless, there remains a wide gap between the most efficient plants and the least efficient ones. Smaller factories and subcontractors may still use outdated equipment with high energy waste.

34 <https://ember-energy.org/latest-insights/global-electricity-review-2024/major-countries-and-regions/>

35 <https://www.theguardian.com/world/2025/jun/26/china-breaks-more-records-with-massive-build-up-of-wind-and-solar-power>

36 <https://ember-energy.org/latest-insights/global-electricity-review-2024/major-countries-and-regions/>

Another aspect of the energy landscape is energy cost and security. China's industrial electricity prices are generally moderate, often kept stable through government regulation of tariffs. Manufacturers benefit from a dependable power supply – widespread outages are rare compared, for instance, to the load-shedding issues faced in some other garment-producing countries. However, during extreme weather or demand spikes, authorities have occasionally ordered power rationing (as seen in 2021 during a coal supply crunch).³⁷ Such incidents have prompted textile companies to invest in backup power or more flexible production schedules. In the long run, as China pursues its carbon peaking goals, policies like emissions trading and energy pricing reforms might increase the cost of coal-based power. This provides further incentive for factories to adopt renewable energy on-site – e.g. installing solar PV panels on factory rooftops or joining “green electricity” purchasing programs.

In summary, China's textile and apparel industry is powered by an electricity grid that is still predominantly coal-fueled, posing a decarbonization challenge. However, the trend is towards cleaner power: every year, the share of wind, solar, hydro, and nuclear power increases (clean energy represented ~44 percent of generation by mid-2024, a record high).³⁸ As this transition accelerates – and as factories implement efficiency measures – the carbon footprint of “Made in China” apparel is expected to improve. Additionally, China's push for electrification (e.g., electrifying boilers and vehicles) means the textile sector could increasingly tap into the greening grid instead of burning onsite fossil fuels. The energy landscape is thus one of short-term reliance on coal-heavy power, with a clear long-term shift toward sustainability, which aligns with both China's climate commitments and global supply chain pressure for low-carbon production.

37 <https://www.oxfordenergy.org/publications/chinas-power-crisis-long-term-goals-meet-short-term-realities/>

38 <https://www.carbonbrief.org/analysis-chinas-clean-energy-pushes-coal-to-record-low-53-share-of-power-in-may-2024/>

7. Workforce and Social Responsibility

China's textile and apparel workforce is massive and has been central to the country's economic development. An estimated 7.8 million people work directly in the textile and apparel sector as of 2023 – and this figure swells further if upstream cotton farmers and downstream retail workers are included. The majority of textile and apparel workers are women, often migrant workers from rural provinces who move to industrial centers for jobs. Over the past decades, jobs in this sector have helped lift millions out of poverty, contributing to China's broader social development. However, ensuring decent work – including fair wages, reasonable hours, safe conditions, and respect for rights – remains an ongoing pursuit as the industry evolves.

Wages and Earnings: Factory wages in China have risen significantly, improving workers' living standards but also affecting cost competitiveness. Minimum wages are set locally and vary by region – e.g., in relatively low-cost provinces like Guangxi the monthly minimum can be around RMB 1,870 (\$262), whereas in hubs like Shanghai it is about RMB 2,740 (\$385) per month.³⁹ Many garment workers earn above the minimum through overtime and piece rates, but the gap between China and lower-wage countries is substantial; Bangladesh's garment minimum wage is roughly \$115 per month,⁴⁰ for example. These higher wages have been a driver of factories either upgrading to more value-added products or, in some cases, relocating production to cheaper locations. From a social standpoint, the rise in pay has improved household incomes and consumer power among Chinese workers. The government has also pushed for enforcement of wage payments (e.g. cracking down on wage arrears to migrant workers, especially around Lunar New Year).

Working Hours and Overtime: Chinese labor law stipulates a 40-hour workweek (eight hours per day, five days per week) and caps overtime at 36 hours per month.⁴¹ In practice, however, overtime has been common in manufacturing, especially to meet tight export deadlines. The notorious "996" culture (9 a.m. to 9 p.m., 6 days a week) was more associated with tech companies than textile and apparel, but garment factories often have peak seasons where workers put in considerable overtime. In recent years there are signs of a shift. China's Supreme People's Court in 2021 explicitly ruled that extreme overtime schedules like 996 violate labor laws.⁴² By 2024–2025, a few prominent companies even began mandating earlier clock-off times for employees and discouraging excessive overtime. Moreover, international pressure is influencing practices: the EU's new rules banning products made with forced labor (which is defined to include excessive overtime) have prompted Chinese manufacturers to be

39 <http://gxs.gxzf.gov.cn/zfxxgk/fdzdgknr/zcwj/zdyj/t21586326.shtml> and https://rsj.sh.gov.cn/tgzfl_17732/20250714/t0035_1434097.html

40 <https://www.fairlabor.org/resource/fair-labor-associations-bangladesh-wage-trends-report-and-recommendations/>

41 <https://www.chinalegalexperts.com/news/is-overtime-legal-in-china>

42 <https://www.china-briefing.com/news/996-is-ruled-illegal-understanding-chinas-changing-labor-system/>

more cautious about labor conditions.⁴³ The Chinese government, for its part, has called on companies to abide by the 44-hour weekly limit and encourage work-life balance, not just for worker well-being but also to spur domestic consumption by giving people more leisure time and boost consumer spending.⁴⁴

Worker Rights and Representation: All legal trade unions in China are part of the state-affiliated All-China Federation of Trade Unions (ACFTU). Independent unionism is not permitted, which means collective bargaining takes a different form than in many Western countries. The ACFTU has in recent years tried to increase its presence in private enterprises (including factories), but worker representation is still limited in practice. There have been occasional labor disputes and strikes in the garment sector – typically over unpaid wages or factory relocations – though these tend to be resolved via local mediation or government intervention rather than formal collective bargaining. China has not ratified certain International Labor Organization (ILO) conventions on freedom of association, but it has ratified the core conventions on forced labor and discrimination, and claims to uphold international labor standards.⁴⁵ Social dialogue in Chinese factories often comes through workplace committees or suggestion programs rather than independent unions.

Working Conditions and Safety: Over the past two decades, China has significantly strengthened its workplace safety framework, particularly in the textile and apparel sector. Key legislation – such as the Work Safety Law (2002) and the Occupational Disease Control Act (2002) – paired with enhanced enforcement bodies like the Ministry of Emergency Management and national health initiatives under “Healthy China 2030,” have helped elevate safety standards in large, purpose-built factories operating within regulated industrial zones.^{46,47}

However, smaller, informal workshops – especially in export hubs like Guangzhou – face acute challenges. As reported by *The Economic Times*, many of these small shops are now struggling with reduced orders due to U.S. tariffs and rising cost pressures. The article describes hot, crowded sewing workshops, many shuttered or operating at reduced capacity, where workers endure long hours in cramped conditions – underscoring persistent risks to safety and labor standards in less regulated environments.⁴⁸

Labor and Human Rights Challenges: China’s textile and apparel sector employs millions and continues to play a vital role in global supply chains. In recent years, heightened international attention on supply chain due diligence, particularly in relation to sourcing practices, has led to new regulatory requirements in several export markets.⁴⁹

43 <https://www.reuters.com/world/china/china-whispers-change-some-companies-tell-staff-work-less-2025-04-08/>

44 <https://www.reuters.com/world/china/china-whispers-change-some-companies-tell-staff-work-less-2025-04-08/>

45 <https://www.ilo.org/resource/news/china-ratifies-two-ilo-fundamental-conventions-forced-labour>

46 <https://www.mdpi.com/2071-1050/15/19/14061>

47 <https://www.ilo.org/media/299226/download>

48 <https://economictimes.indiatimes.com/small-biz/trade/exports/insights/chinas-small-workshops-are-hurting-trumps-tariffs-are-only-one-reason-/articleshow/123035341.cms>

49 <https://supplychaincompliance.bakermckenzie.com/2021/02/18/uk-us-and-canadian-governments-announce-new-measures-over-alleged-xinjiang-china-human-rights-concerns/>

Laws such as the U.S. Uyghur Forced Labor Prevention Act (UFLPA), as well as current and forthcoming EU regulations⁵⁰ on products made with forced labor, require companies to provide clear documentation and traceability throughout their value chains.⁵¹ While Beijing has repeatedly denied allegations of forced labor in Xinjiang, many international brands have enhanced transparency measures in their sourcing and, in some cases, adjusted procurement strategies to meet evolving expectations. In 2021 the U.S., UK, and Canadian governments enhanced due diligence measures designed to identify and address this problem.⁵²

In response, many Chinese companies have taken proactive steps to align with these requirements. This includes investments in traceability technologies, greater supply chain mapping, and sourcing diversification for export orders. For example, the China National Textile and Apparel Council (CNTAC) has introduced initiatives to improve product-level visibility and environmental and social data tracking across the value chain.⁵³ These efforts reflect a broader trend toward increased supply chain transparency, in line with international standards and buyer expectations.

Another challenge is ensuring social compliance down the supply chain. Tier1 factories (direct exporters) in China are often relatively well audited and compliant, but deeper tiers – such as small subcontract sewing units or homeworkers – can reflect decent work deficits, such as excessive hours and lack of contracts. The government’s push for what it calls “standardized employment” is gradually bringing more workers under formal contracts and social insurance. As of 2022, over 280 million rural migrant workers were employed in cities, and policies are being introduced to give them better access to urban public services (through hukou reform – see Section 10 on urbanization),⁵⁴ which should improve their social security.

In summary, China’s textile and apparel workforce has higher wages and generally better physical working conditions than many peer exporting countries, but it grapples with challenges such as long working hours, limited worker representation, and global scrutiny on labor rights. Social responsibility is becoming an area of focus for Chinese manufacturers, spurred by both government directives and international market demands. As previously noted, the concept of decent work – providing fair income, security, and dignity to workers – aligns with China’s goal of quality growth. Continued improvements in this arena, such as enforcing overtime limits, ensuring no forced labor, and improving social benefits for migrant workers, will be crucial for China to maintain its reputation and meet the growing compliance requirements of global brands and regulators⁵⁵.

50 <https://www.consilium.europa.eu/en/press/press-releases/2024/11/19/products-made-with-forced-labour-council-adopts-ban/>

51 <https://www.voguebusiness.com/sustainability/traceability-gathers-steam-why-the-playbook-was-rewritten>

52 <https://www.scmp.com/news/us/diplomacy/article/3322427/us-names-five-more-chinese-industries-enforcement-under-uygur-labour-law>

53 <https://www.csc9000.org.cn/d/file/p/2024/11-07/ad6e2294ceb77584c1c568e55acf30cc.pdf>

54 <https://www.china-briefing.com/news/urbanization-in-china-action-plan-migration/>

55 <https://www.reuters.com/world/china/china-whispers-change-some-companies-tell-staff-work-less-2025-04-08/>

8. Competitive Landscape

China has long been the world's dominant textile and apparel sourcing destination, but the competitive landscape is shifting as other countries vie for a larger share of global production. China's strengths in this industry are well-known: unparalleled scale, deep supply chain integration, advanced infrastructure, and high productivity. Entire garment production clusters – such as those in Guangdong, Zhejiang, and Jiangsu – provide one-stop solutions from fabric to final product, giving buyers speed and flexibility. Chinese manufacturers are also early adopters of automation and digital tools, which further enhance efficiency. However, rising costs and geopolitical factors have somewhat eroded China's edge, enabling competitors like Bangladesh, Vietnam, and others to gain ground in certain segments.

One clear trend is the relocation or diversification of sourcing by global brands. Brands are increasingly pursuing a “China+1” strategy: they maintain some production in China (especially for complex, high-quality, or quick-turnaround items) but shift more basic, labor-intensive orders to lower-cost countries. The data reflects this gradual shift. China's share of world apparel exports, while still about one-third, has plateaued or slightly declined – e.g., it was 31.7 percent in 2022 and 31.6 percent in 2023, down from over 40 percent a decade ago. In the same period, countries like Bangladesh and Vietnam have increased their shares: Bangladesh now holds ~7–8 percent and Vietnam ~6 percent.⁵⁶ A key driver is labor cost: wages for Chinese garment workers are several times higher than those in South and Southeast Asia. This makes China less competitive for low-end, commodity apparel. Indeed, some of China's own manufacturers have opened factories in countries like Vietnam, Cambodia, or Africa to take advantage of lower wages and trade benefits.

Another factor is trade policy. The US-China trade war introduced additional tariffs on many Chinese textile and apparel products, prompting some U.S. importers to cut back sourcing from China. While not all categories were equally affected, the uncertainty and tariffs continue to complicate matters. Concurrently, new Western regulations – such as the aforementioned forced labor import bans – have increased the perceived risk of sourcing from China.⁵⁷ A notable survey in 2024 by the US Fashion Industry Association found a record number of American fashion brands are reducing their dependence on China. In that survey, 43 percent of leading companies reported sourcing under 10 percent of their apparel from China (down from 18 percent in 2018), and nearly 80 percent plan to further decrease sourcing from China by 2026.⁵⁸ Similar sentiments are echoed in Europe and Japan, albeit with less dramatic shifts so far. This trend represents a competitive challenge for China – it must convince buyers that it can meet compliance expectations and that its other advantages outweigh the costs.

Competition from Emerging Hubs: Bangladesh and Vietnam are China's primary competitors in mass apparel manufacturing. Bangladesh has the advantage of rock-bottom labor costs

⁵⁶ <https://www.fibre2fashion.com/news/apparel-news/china-2023-s-top-global-rmg-exporter-bangladesh-2nd-vietnam-3rd-wto-297174-newsdetails.htm>

⁵⁷ <https://shenglufashion.com/2024/08/17/chinas-textile-and-clothing-export-latest-patterns-and-trends-updated-august-2024/>

⁵⁸ <https://shenglufashion.com/2024/08/17/chinas-textile-and-clothing-export-latest-patterns-and-trends-updated-august-2024/>

and preferential trade access to the EU; Vietnam offers relatively skilled labor, strong trade agreements (e.g. CPTPP, EVFTA), and proximity to China for materials. Other countries like India, Indonesia, and Cambodia are also striving to expand their apparel exports. While none of these individually match China's scale, collectively they are nibbling market share. Additionally, Turkey, Mexico, and Central/Eastern Europe compete in supplying Western markets with faster lead times (due to geographic proximity). China's response has been to move upmarket – focusing on higher-value products, leveraging automation to offset costs, and emphasizing reliability and vertical integration, which smaller competitors may lack.

Within China, the geographical shift of production is another competitive dynamic. Coastal provinces (such as Guangdong and Fujian) used to host most of the apparel factories, but labor shortages and costs there have prompted a move inland. Provinces like Anhui, Jiangxi, Hubei, and even far-west Xinjiang have seen growth in garment production capacities.⁵⁹ The government supports relocating industry to interior regions as part of balanced development. This internal shift helps keep some production onshore by tapping lower-cost labor in inland cities (and taking advantage of cheaper land and energy). For example, Guangxi and Sichuan have attracted garment investments; Xinjiang has built textile parks to utilize local cotton and cheaper electricity. These moves may improve cost competitiveness for serving certain markets (like supplying domestic western China or nearby Central Asia). However, distance from ports can be a disadvantage for exports.

Ongoing advantages: Despite rising competition, China retains strengths that are not easily replicated. The scale of its fabric manufacturing is enormous – China produces over 50 percent of the world's textiles, including the vast majority of synthetic fibers. Competing countries often still depend on importing Chinese textiles (yarn, fabric, trims) to fuel their apparel sectors. This interdependence means China often captures value upstream even if final stitching happens elsewhere. Moreover, China's logistics infrastructure (e.g. ports, shipping lines, internal transport) is world-class, enabling reliable delivery. The breadth of product categories made in China is unparalleled – from luxury silk to affordable fast fashion, shoes to outdoor apparel, China covers it all. This breadth means buyers can consolidate more of their sourcing in one country if needed, simplifying supply chain management.

Quality and innovation have become greater differentiators. Chinese manufacturers have steadily improved quality control and are known for being able to handle complex designs or technical garments (like performance sportswear, seamless underwear, or embellished fashion pieces) better than many low-cost rivals. Additionally, some Chinese firms invest in R&D – whether in new fabric technology, automation, or design – moving them up the value chain. Domestic Chinese brands are also rising, which spurs local manufacturing upgrades and competition on design and branding, not just cost.

Trade agreements also play a role. China is a member of the Regional Comprehensive Economic Partnership (RCEP), a large free-trade bloc in Asia. This may give Chinese textile and apparel goods improved access or lower tariffs in markets like Japan, South Korea, and ASEAN countries.⁶⁰ RCEP also encourages regional supply chain integration, which could, for example, make it easier for Chinese mills to sell fabric to Vietnam or Indonesia for assembly and then

⁵⁹ <https://www.texleader.com.cn/en/news-34135.html>

⁶⁰ <https://shenglufashion.com/2024/08/17/chinas-textile-and-clothing-export-latest-patterns-and-trends-updated-august-2024/>

export garments within the bloc tariff-free. While long-term those countries want to build their own upstream capacity, in the medium term it sustains China's influence. On the other hand, China currently does not have preferential trade agreements with the EU or U.S. for apparel – whereas some competitors do – which is a disadvantage in those key markets.

In summary, China's apparel industry faces intensifying competition on multiple fronts: cost competition from developing countries, strategic sourcing shifts by customers due to geopolitical concerns, and even its own economic evolution pushing it toward higher-end manufacturing. China's response has been to focus on its comparative advantages: technology, vertical integration, speed, and reliability. Increasingly, the market is segmented: China remains the supplier of choice for many higher-value or time-sensitive orders, while basic commodity apparel has partly shifted elsewhere. The competitive landscape will likely continue to evolve, but China is expected to remain a dominant player. The country is adapting by embracing automation and moving toward more sustainable and value-added production, which could redefine competition less on price alone and more on innovation, consistency, and compliance going forward.

9. Export Performance and Market Trends

Export Performance: China's export performance in textiles and apparel has followed a pattern of strong growth, a temporary slowdown, and a modest rebound. In 2022, apparel exports reached a record high of around \$182 billion, buoyed by backlogged demand as the world reopened. This represented roughly 31.7 percent of the global clothing export market share, maintaining a comfortable lead over other exporters.

In 2023, momentum cooled as global demand softened due to inflation and slower economic growth in key markets. Apparel and accessories exports fell to \$159.1 billion (down 7.8 percent year-on-year),⁶¹ and WTO data show clothing exports by value down about 9.7 percent compared to 2022. Even so, China largely held its global share (~31.6 percent in 2023), and the decline was smaller than that of Bangladesh (-15.5 percent) or Vietnam (-12 percent),⁶² underscoring the sector's resilience despite headwinds.

By 2024, the industry regained ground. Combined textile and apparel exports reached \$301.4 billion, up 2.7 percent year-on-year.⁶³ This included \$148.5 billion in garment exports (up 3.9 percent) and \$152.9 billion in textile exports (up 1.7 percent). The balanced growth across both segments highlights the breadth of China's manufacturing base and its ability to capture demand in both intermediate inputs and finished goods, even as sourcing diversification continues.

Breaking down by market, exports to traditional key destinations – the U.S., EU, and Japan – all declined in 2023,⁶⁴ affected by demand softness and sourcing shifts. However, shipments to Africa and certain Belt and Road Initiative countries grew, and exports to fellow Asian countries (especially within RCEP in Southeast Asia) saw an initial jump before easing as inventories rebalanced. By 2023, the U.S., EU, UK, and Canada combined took only ~43–45 percent of China's clothing exports, down from well over 50 percent in prior years,⁶⁵ indicating a reorientation toward regional and emerging markets. Many of these newer destinations, however, have smaller growth potential compared to established markets.

Looking at product mix, China remains dominant across most categories, from women's apparel and knitwear to technical garments, although competitors have gained ground in niches such as cotton t-shirts and basic footwear. A notable trend is a shift toward higher-value items and man-made fiber-based apparel, in line with global fashion trends, while

⁶¹ <https://www.texleader.com.cn/en/news-34135.html>

⁶² <https://shenglufashion.com/2024/08/17/chinas-textile-and-clothing-export-latest-patterns-and-trends-updated-august-2024/>

⁶³ <https://www.fibre2fashion.com/news/textile-news/china-s-textile-garment-exports-gain-2-7-to-301-bn-in-2024-300295-newsdetails.htm>

⁶⁴ <https://www.texleader.com.cn/en/news-34135.html>

⁶⁵ <https://shenglufashion.com/2024/08/17/chinas-textile-and-clothing-export-latest-patterns-and-trends-updated-august-2024/>

some lower-end cotton production has moved offshore. Even so, scale advantages keep China competitive for many basics.

Policy and Market Access Developments:

Trade dynamics remain fluid. Regional Comprehensive Economic Partnership (RCEP), in force since 2022, is simplifying rules and reducing tariffs within Asia,⁶⁶ benefiting Chinese apparel exports to partners such as Japan, South Korea, and Australia. Conversely, Chinese exporters are monitoring the EU's moves on mandatory human rights and environmental due diligence, as well as potential carbon border taxes on high-footprint products. Complying with these could require proving products are free of forced labor and have lower emissions, which links back to the sustainability initiatives discussed earlier.

Meanwhile, cross-border e-commerce regulations have been evolving. Some countries are re-evaluating import tax exemptions from which companies like Shein benefit; for example, the U.S. recently eliminated the "de minimus" exemption that allowed packages valued at less than \$800 to enter the country duty-free.⁶⁷ Any such policy changes could moderate the surge of ultra-fast fashion exports.

Summary: China's export performance remains strong, with the 2024 rebound in textiles and apparel⁶⁸ demonstrating both market resilience and diversification capacity. Externally, the country is leveraging e-commerce, new market access, and integrated supply chains to sustain its role as a top exporter, even as traditional buyers adjust sourcing. Internally, the vast domestic market – supported by urbanization and digital retail – continues to be a key pillar. Going forward, the industry is likely to combine speed, flexibility, sustainability, and direct consumer engagement to maintain its competitive edge in a shifting global marketplace.

66 <https://asean.org/our-communities/economic-community/integration-with-global-economy/regional-comprehensive-economic-partnership-rcep/>

67 <https://www.msn.com/en-ca/money/topstories/us-ends-tariff-exemption-for-all-low-value-packages/ar-AA1JBqKd>

68 <https://www.fibre2fashion.com/news/textile-news/china-s-textile-garment-exports-gain-2-7-to-301-bn-in-2024-300295-newsdetails.htm>

10. Consumer Goods Market: Urbanization, E-Commerce, and Growth

China's domestic consumer goods market is one of the largest and fastest-evolving in the world. This market is shaped by powerful forces such as urbanization, the rise of a sizable middle class, and the ubiquity of e-commerce and digital technology in shopping habits. For industry stakeholders, these trends in China are important not only because they drive local demand, but also because they influence global retail and sourcing practices (many global brands see China as a key growth market, and Chinese retail innovations often set global benchmarks).

Urbanization and Middle-Class Expansion: China's urban population has grown dramatically, adding hundreds of millions of new urban residents over the past few decades. By the end of 2023, about 66.16 percent of China's population lived in urban areas, surpassing the government's urbanization targets for the 14th Five-Year Plan period (2021–2025). Cities are the engine of consumption: urban consumers typically have higher incomes and more exposure to fashion trends. The average salary of an urban worker is roughly 2.4 times that of a rural worker, which motivates continued rural-to-urban migration (and thus further urban consumption growth). The government's new urbanization action plans (2024–2028) aim to facilitate migration by easing household registration (hukou) restrictions and improving city services. This suggests China's urbanization rate could reach ~70% by 2027–2028, bringing tens of millions more potential shoppers into city retail markets.⁶⁹

Urbanization also contributes to the development of fashion hubs in cities like Shanghai, Beijing, Guangzhou, and emerging "fashion cities" such as Chengdu or Wuhan. These cities host fashion weeks, pop-up stores, and sophisticated shopping malls, fostering a vibrant consumer culture. With greater connectivity and social media influence, Chinese urban consumers are very trend-aware. The concept of guochao (the "national trend" of Chinese retro or streetwear pride) has fueled interest in domestic brands and designs⁷⁰, adding a new dimension to the market that international companies must understand. Chinese consumers increasingly demand not just low prices, but also quality, sustainability, and brand stories in their purchases – a shift from the past.

E-Commerce Dominance: Perhaps no country has embraced e-commerce as fully as China, the global leader for 12 consecutive years.⁷¹ As of 2024, China's online retail sales of physical goods exceeded RMB 15 trillion (over \$2 trillion), with apparel and accessories consistently among the top categories. It's estimated that over 35 percent of apparel sales in China are

⁶⁹ <https://www.china-briefing.com/news/urbanization-in-china-action-plan-migration/>

⁷⁰ <https://focus.cbbc.org/the-rise-and-fall-of-guochao-chinas-nationalistic-branding-phenomenon/>

⁷¹ https://english.www.gov.cn/news/202501/25/content_WS6794249ec6d0868f4e8ef269.html

online,⁷² a ratio higher than in most Western markets. Platforms have proliferated: Alibaba's Tmall and Taobao still lead, but others like JD.com, Pinduoduo, Temu, and Vipshop have considerable share. Moreover, the rise of social commerce and live-streaming sales (on apps like Douyin/TikTok, Kuaishou, and on Tmall Live) has revolutionized how clothes are marketed. Influencers and live-stream hosts can sell huge volumes of apparel in real-time flash sales – a phenomenon epitomized by celebrity sellers like Viya and Li Jiaqi. Brands and factories alike have had to adapt to these channels, often producing “smaller-batch, quick-turn” orders to feed the ever-changing online trends.

E-commerce has blurred the line between domestic and international markets too. Cross-border shopping festivals allow Chinese consumers to buy foreign brands online, and conversely enable foreign shoppers to buy Chinese products. A case in point is Singles' Day (November 11) – originally a Chinese online shopping holiday – which now also prompts sales promotions abroad. In November 2023, during Singles' Day, Chinese platforms saw record apparel sales, contributing to the spike in year-end retail growth. These online events, alongside 6.18 (June 18) and others, effectively create new “seasons” for consumer demand beyond traditional holidays.⁷³ For manufacturers, this means production cycles are increasingly influenced by platform promotions and analytic feedback from real-time sales.

Growth of Domestic Brands and “Dual Circulation”: In line with China's “dual circulation” economic strategy (boosting domestic consumption alongside exports), the government and investors have been supporting home-grown consumer brands. This has led to a wave of new Chinese fashion labels (many in streetwear, athleisure, or designerwear) that cater specifically to local tastes. Some have become quite successful among Gen-Z consumers, emphasizing Chinese cultural elements or eco-friendly practices, and often leveraging online channels for marketing. The growth of local brands is healthy competition for international brands, but also a sign of market maturity. For instance, sports apparel brand Li-Ning reinvented itself with stylish designs and saw surging sales, and Bosideng (a domestic outerwear brand) has become a leader in winter jackets in China, even expanding abroad. The apparel market is thus not just growing in size but in complexity, with more segments and more discerning consumer preferences.

Premiumization and Sustainability in Consumer Demand: As incomes rise, many Chinese consumers are “trading up” for higher quality or luxury apparel. China is already the largest market for luxury goods globally (including luxury fashion). But even in mass market, there is premiumization – for example, demand for better fabrics, functional sportswear, or eco-friendly clothing is increasing. A 2023 survey indicated that 45 percent of Chinese consumers are willing to pay more for sustainable products,⁷⁴ reflecting awareness of environmental issues. This consumer pressure is pushing brands (and hence manufacturers) to offer organic cotton lines, clothes made from recycled fibers, and transparency about sourcing. It dovetails with global sustainability trends but is notable coming from Chinese buyers themselves. The government's promotion of green consumption will likely reinforce this. For example, some cities have piloted giving consumers small rewards for buying certified sustainable clothing.

⁷² <https://eurotext.de/en/blog/fashion-e-commerce-in-china/>

⁷³ <https://www.texleader.com.cn/en/news-34135.html>

⁷⁴ <https://jingdaily.com/posts/chinese-consumers-sustainability>

Omni-channel and New Retail: In China, the boundary between online and offline retail is dissolving in what Alibaba coined “New Retail.”⁷⁵ Brands operate omni-channel strategies where customers may browse in a store but purchase on an app (or vice versa), and inventory is shared across channels for fast delivery (often same-day in cities). Concepts like pop-up stores, experience stores (where customers can try but not buy, just scan to order online), and integration of e-payments and super-apps into every shopping experience are well advanced. Apparel companies therefore must be agile – those that only rely on traditional brick-and-mortar find it hard to compete with digitally savvy brands. On the flip side, the cost of customer acquisition online has risen, leading many originally pure-play online brands (like some Taobao-born labels) to also open physical shops.

Demographic and Regional Variations: It’s worth noting that while the overall market is huge, China’s consumer base is not monolithic. As is true of other countries, companies are tailoring product lines for individual cities, with Beijing or Shanghai commanding a different product mix than a more rural town or province. Additionally, China’s population is aging; while the youth segment (teens and 20s) drives a lot of fast fashion and sportswear demand, the middle-aged and seniors are a growing market for more comfortable and functional apparel (e.g., outdoor clothing, health-related apparel). The industry is beginning to cater to those segments too⁷⁶.

In summary, China’s consumer goods market – especially for apparel – is characterized by robust growth and rapid innovation. Urbanization continues to bring new consumers into the fold, e-commerce shapes how and when purchases happen (with China often leading the world in retail tech innovation), and domestic consumption is increasingly the central pillar of the industry. For international industry players, China is both a huge market to sell to and a trendsetter in retail innovation. For Chinese manufacturers and brands, the evolving domestic market provides opportunities to move up the value chain, develop brand equity, and adopt sustainable practices in response to consumer expectations. Despite short-term fluctuations (like the COVID-19 pandemic or economic slowdowns), the long-term trajectory is a vast and dynamic market with an appetite for fashion and a growing conscience for sustainability and quality.

⁷⁵ <https://techwireasia.com/2020/10/whats-behind-alibabas-new-retail-strategy/>

⁷⁶ <https://apac.news/never-too-old-chinas-brands-embracing-older-market/>

11. Key Challenges

While China's textile and apparel sector is robust, it faces a suite of key challenges that it must navigate to ensure sustainable growth and competitiveness in the coming years. These challenges span environmental, social, and economic dimensions:

Climate and Environmental Challenges: Decarbonizing production is a foremost challenge. As noted, the industry relies heavily on coal-based energy, and achieving meaningful GHG reductions requires significant changes. Many factories will need to invest in new technology and energy sources, which can be capital-intensive. Ensuring adequate supply of renewable electricity in industrial areas is still a work in progress. Water usage and pollution are also critical issues – textile dyeing and finishing consume large volumes of water and can discharge pollutants. China has strict water pollution limits on dyeing mills, but enforcement must keep up, especially among smaller operators. Climate change itself poses risks: some of China's cotton-growing regions (such as Xinjiang and the Yangtze River basin) face climate-related stresses like water scarcity and extreme weather. For an industry built on agriculture (cotton) and stable climate conditions (for labor and logistics), these risks are non-trivial.

Meeting Decarbonization Targets: The government's dual carbon goals mean the textile industry is under pressure to peak emissions by or before 2030. The *Industrial Carbon Peaking Action Plan* calls for a green and low-carbon upgrade across manufacturing.⁷⁷ However, making this a reality by 2030 is challenging – the sector must adopt energy-efficient equipment, possibly shift to electric boilers, and incorporate recycled materials at an unprecedented scale, all within a tight timeline. If companies fail to make progress, they could face regulatory penalties or lose business from brands committed to Science-Based Targets. Moreover, as countries introduce mechanisms like the EU's Carbon Border Adjustment Mechanism (CBAM), Chinese producers might eventually need to account for the carbon cost of their exports. Adapting to these measures is complex and will require reliable emissions data and perhaps the purchase of carbon credits if reductions lag.

Labor and Demographic Challenges: China's demographic trends are shifting. The workforce is aging and the younger generation is less inclined to work in factory jobs. Many apparel factories have reported labor shortages, particularly of skilled sewers and technicians, as younger workers often prefer service jobs in cities over factory work. This leads to increased labor costs and sometimes difficulties in meeting production deadlines. Additionally, the strict COVID-era controls (now lifted) had caused some disruptions in labor availability when migrant workers left cities. Going forward, attracting and retaining talent – including in design, management, and skilled trades – is essential for the industry's innovation. Improving workplace conditions and offering career progression can help, but that adds cost. Automation will alleviate some labor dependence, but introducing advanced machinery also requires training and has its own costs.

Social Compliance and Image: Labor rights issues have severely impacted the sector's international image. The challenge for China is to reassure global markets that its supply

⁷⁷ <https://www.spglobal.com/commodity-insights/en/news-research/latest-news/energy-transition/080222-china-issues-sectoral-guidelines-for-industrial-carbon-peaking-by-2030>

chains are ethical. This is difficult in the current geopolitical climate. Complete supply chain transparency is not yet the norm – many Chinese suppliers are not used to tracing raw material origins or submitting to third-party social audits beyond what customers ask. However, with laws like the UFLPA in the U.S. enforcing a presumption of ban on Xinjiang content, Chinese exporters to the U.S. must now document their material sourcing to an unprecedented degree, or shift to using imported cotton from elsewhere. Compliance with these new regimes is onerous. If not managed, it could lead to loss of orders: some Western firms have already severed ties with suppliers that can't provide clear labor rights assurances.⁷⁸ Failing to resolve the trust deficit on labor practices remains a major challenge that could structurally reduce China's role in certain markets.

Geopolitical and Trade Tensions: Geopolitics loom large. Beyond labor issues, the strategic rivalry between China and some Western countries creates an unpredictable trade environment. Tariffs, sanctions, or export controls could change market conditions quickly. For example, an escalation in US-China tensions could bring higher tariffs or stricter import bans. The industry thrives on stability and open trade; uncertainty is a challenge in itself. China's apparel exporters also face the shadow of protectionism and shifting trade rules: e.g., the possible revocation of China's developing country trade status in some economies could remove certain preferences. Additionally, the war in Ukraine and other international issues indirectly impact logistics costs and currency stability, which can affect exporters. Political risk management thus becomes an important facet for Chinese businesses – something relatively new for many who were established during a more benign period of globalization.

Global Supply Chain Competition: As discussed, the rise of alternative sourcing countries means Chinese manufacturers must contend with a more crowded field. Quality upgradation in competitor countries is a challenge – places like [Vietnam](#) and [Bangladesh](#) are improving their capabilities, supported by foreign investment (often Chinese investment ironically) and government support. If buyers can get acceptable quality at lower cost elsewhere, China stands to lose volume, especially in basic product categories. To address this, Chinese firms need to continuously innovate and possibly specialize in niches where they can maintain an edge. However, not all SMEs in China have the means to upgrade technologically. Some could be squeezed out, especially if domestic costs keep rising. Already, a number of smaller garment factories in coastal areas have closed in recent years due to margin pressures, and bigger ones have moved some operations abroad. Managing this transition without massive job losses or industrial hollowing is a challenge for policymakers.

Domestic Economic Transitions: China's own economic rebalancing – aiming for more consumption-led growth and less reliance on low-end manufacturing – poses an internal challenge to the textile and apparel sector. The government has, at times, signaled that textile and apparel production, which is both labor- and energy-intensive, should move up the value chain or relocate to inland areas/overseas as part of supply-side reforms. There's less appetite to support "sweatshop" style industry on the prosperous east coast. This policy stance means the industry must upgrade, automate, and create more value (e.g. branding, design, advanced materials) to stay aligned with China's development path. Companies that fail to do so may find it harder to obtain financing or government support. Essentially, the

⁷⁸ <https://www.theguardian.com/world/2023/dec/06/substantial-volume-of-clothing-tied-to-uyghur-forced-labour-entering-eu-says-study-china>

challenge is one of transformation – moving from a volume-driven model to an innovation-driven model. Those caught in between could suffer.

Logistics and Supply Chain Resilience: The COVID-19 pandemic highlighted vulnerabilities in supply chains. For instance, temporary port shutdowns in China or container shortages disrupted deliveries worldwide. Ensuring resilience – through better supply chain planning, distributed production, and digital supply chain management – is a new priority. Climate-related disasters (floods, power outages) also test the resilience of factory operations. Chinese manufacturers will need to invest in contingency plans, which is an added challenge on top of daily business pressures.

In conclusion, China's textile and apparel sector faces a multifaceted set of challenges: reducing its environmental impact to meet global and national climate goals, upholding labor standards and overcoming reputational issues, adapting to a changing geopolitical trade landscape, and transitioning its business models in line with both international competition and domestic economic shifts. None of these challenges are insurmountable – indeed, the industry has weathered many changes over the past 30 years – but they require strategic vision and possibly difficult adjustments. The ability of firms and policymakers to address these issues will determine whether China can maintain its leadership in the sector or see a more pronounced decline in its share. It's clear that business-as-usual is no longer sufficient; innovation in sustainability and labor practices, coupled with agile risk management, must define the next chapter for China's textile and apparel industry.

12. Emerging Opportunities

Counterbalancing the challenges are significant emerging opportunities for China's textile and apparel sector. These opportunities, if harnessed, can help the industry evolve and potentially strengthen China's position as a sustainable and innovative leader in global manufacturing:

Green Growth and Renewable Energy: The flip side of China's decarbonization challenge is an opportunity to become a global leader in green textile manufacturing. As China invests heavily in renewable energy (solar, wind, hydro), textile and apparel factories can increasingly power their operations with clean electricity, dramatically cutting emissions over time. Companies that adopt renewable energy early – for instance, installing solar panels on factory rooftops or participating in green power trading programs – can not only reduce long-term energy costs but also attract business from eco-conscious brands. There is also opportunity in energy efficiency innovations: Chinese firms can develop and export new technologies for low-energy dyeing, water recycling, and smart energy management in factories. With support from government initiatives (like grants for energy-saving equipment), the industry can modernize in a climate-friendly way. In doing so, China could market itself as a source of “low-carbon apparel,” which might become a competitive advantage as buyers seek to meet Scope 3 emissions targets. Already, the industry has prototypes like the planned zero-carbon textile factory in Jiangsu⁷⁹ – scaling such models could set global benchmarks.

Circular Economy and Recycling: China's push toward a circular economy presents new business avenues. The plan to implement a nationwide textile recycling system by 2025⁸⁰ means that firms specializing in collecting, sorting, and regenerating fibers will see growth. Chinese companies can innovate in chemical recycling of polyester (turning old garments back into new fibers) or high-quality mechanical recycling of cotton. There is also potential to develop a market for recycled textile materials: China, being the largest producer of polyester, can close the loop by incorporating recycled PET (from plastic bottles or old clothes) into new yarns, thereby reducing dependency on petroleum. Pioneering a robust domestic recycling industry could allow China to handle its own textile waste problem (over 20 million tons discarded annually)⁸¹ and also possibly import textile waste from other countries as feedstock (as it used to do for plastic scrap). In parallel, product-life extension business models (repair services, resale platforms for apparel, etc.) can take off in China's huge consumer market, providing new services and jobs. If executed well, China could become a hub for circular fashion, exporting not only garments but also recycling technology and setting global standards.

Technological Innovation and Digitalization: As noted, Chinese manufacturers are adopting automation and artificial intelligence at a rapid pace. This presents an opportunity to redefine productivity in apparel making. “Smart factories” that use robotics for tasks like fabric cutting, sewing, and warehouse handling can produce more efficiently and consistently. With China's high robot density and continued state investment in advanced manufacturing, apparel is likely

79 <https://www.chinadailyhk.com/hk/article/584837>

80 <https://www.textiletoday.com.bd/china-to-tackle-textile-waste-through-recycling>

81 https://www.wto.org/english/tratop_e/tessd_e/09_circ_economy_presentation_by_china.pdf

to see more automation breakthroughs. For example, automated sewing of simple garments or AI-driven quality control could become more widespread. While automation addresses labor shortages, it also creates a niche for China to export turnkey manufacturing systems. Chinese companies making sewing robots or 3D knitting machines can capture international markets too. Moreover, digitalization extends to the front-end of the business: Chinese firms can leverage big data and AI for trend forecasting and inventory management. The “ultra-fast fashion” model of Shein – using real-time data to churn out what consumers want – is itself an innovation that others are now studying. Chinese companies have the opportunity to refine and ethically scale such models, possibly collaborating with global partners, to make supply chains more responsive and reduce waste (by making what sells, not overproducing).

Market Diversification – New Geographies: Although slower growth in traditional Western markets is a challenge, it is also pushing China to cultivate new export markets. Emerging economies in Asia, the Middle East, Africa, and Latin America have expanding consumer classes and can become significant importers of apparel; China’s active role in frameworks like the Belt and Road Initiative (BRI) fosters trade links in these regions. Already, Chinese exports to regions like Africa and the Middle East are increasing.⁸² In many of these markets, Chinese products have a price advantage and Chinese distributors have established networks. The opportunity here is twofold: first, to grow export volumes to these “Global South” markets; and second, to invest in local production as part of a China-led regionalization. In fact, some Chinese firms are setting up joint ventures in Africa that not only benefit from low labor costs and trade preferences but also solidify market presence there. By being early movers in new markets, Chinese companies can shape consumer preferences and secure loyalty before other competitors saturate those markets. Additionally, RCEP offers opportunities to optimize supply chains within Asia – for instance, doing labor-intensive sewing in ASEAN countries while keeping high-value fabric production in China, then leveraging tariff-free trade to export the final goods regionally. Such integration can make the overall “Made in China/Asia” supply chain more competitive, and Chinese firms are well placed to orchestrate it (some are effectively becoming multinational manufacturers).

Domestic Market Upgrading: On the home front, opportunities abound in catering to China’s own evolving market. The growth of the middle class and Gen-Z consumers means there is high demand for creative, differentiated products. Chinese manufacturers have an opportunity to move up the value chain into original design and brands. The government has been encouraging OEM/ODM manufacturers to create their own brands (OBM) or partner with designers to capture more value domestically. If more manufacturers can develop design capabilities and branding, they may be able to tap into China’s huge retail market, which often has better margins than contract manufacturing for foreign brands. Moreover, personalization and new retail (like made-to-order or custom-fit apparel via digital measurements) is an emerging trend that tech-savvy Chinese companies can spearhead. The integration of technologies like AR/VR for virtual try-on or leveraging China’s prowess in building fashion apps for fashion can create unique consumer experiences and drive sales.

Policy Support and Incentives: The Chinese government’s industrial policies, while raising the bar in some respects, also offer opportunities. For example, there are financial incentives and tax breaks for companies that invest in green technology, automation, and skill development. Local governments often provide grants for factories to install solar panels or to obtain advanced

82 <https://www.texleader.com.cn/en/news-34135.html>

certifications (like green factory certifications). Taking advantage of these can offset upgrade costs. Additionally, China's emphasis on innovation and domestic substitution (reducing reliance on imports) could spur growth in sectors like textile machinery manufacturing, specialty chemical production (dyes, finishes with lower environmental impact), and technical textiles. Chinese firms venturing into producing high-tech textiles (for medical use, filtration, autos, etc.) can find support and growing markets. This diversification beyond apparel into technical textiles is a promising avenue – China's vast manufacturing base and R&D investments give it an edge to expand in these areas and create new revenue streams.

Global Collaboration and Leadership: Lastly, as sustainability and compliance become paramount globally, Chinese industry has the opportunity to take a leadership role in international initiatives. By continuing to contribute verified data through Cascale's Higg FEM tool and collaborating in global forums like the UN Fashion Industry Charter for Climate Action or ILO's Better Work program, Chinese stakeholders can help set standards and best practices. This not only improves China's image but also ensures Chinese perspectives are included in new rules. Being proactive in shaping the future – whether it's climate action roadmaps or labor standards in supply chains – is an opportunity for China to transition from rule-taker to rule-maker in the fashion sustainability space. Should China develop, say, a robust national carbon labeling program for apparel or a successful model of community-based worker welfare in factories, these could be exported as global models.

In summary, amid the challenges, China's textile and apparel sector has significant opportunities to reinvent itself. By embracing sustainability, circularity, and technology, it can cater to the next generation of consumers and clients who value low-carbon and innovative products. By tapping into new markets and leveraging supportive policies, it can continue to grow even as some traditional avenues slow down. The common thread in these opportunities is moving up the value chain – whether through greener production, higher technology, or brand value. Those companies and regions in China that seize these opportunities stand to not only survive the current industry transition but thrive in the new paradigm of a cleaner, smarter, and more socially responsible textile and apparel industry.

13. Conclusion and Outlook

China's textile and apparel industry stands at a pivotal juncture, balancing its rich legacy as the "workshop of the world" with the imperatives of a sustainable and changing future. The analysis in this report highlights a dual narrative: on one hand, China remains an indispensable giant – the largest producer and exporter with an unparalleled ecosystem; on the other hand, it faces evolving expectations around climate action and decent work that will redefine success in the coming decade.

In terms of economic outlook, China's textile and apparel sector is expected to maintain a steady if slower growth path. Barring unforeseen shocks, the country's strong domestic market and its adaptability should keep factories reasonably busy. The near-term forecast suggests export volumes could stabilize or grow modestly in 2024–2025 as global demand picks up post-downturn and China pivots to new markets. Some recovery in Western consumer demand, combined with inventory restocking, might lift exports, though possibly tempered by the sourcing diversification strategies of buyers. Domestically, apparel consumption is likely to continue expanding, fueled by urbanization and rising incomes, albeit at a moderated pace if overall economic growth continues around the 4–5 percent range. Government efforts to spur consumer spending (for example, through boosting incomes and promoting domestic brands) will support the sector's local sales. The expansion of e-commerce and new retail formats will also provide tailwinds.

However, the industry's future will not be just about growth in volume, but growth in quality and sustainability. China's ability to meet its 2030/2060 climate commitments will increasingly influence the sector's operations. It is reasonable to expect that by 2030, many Chinese apparel manufacturers will have significantly lowered their carbon intensity – through a mix of greater energy efficiency, a cleaner power grid, and adoption of best practices. A likely scenario is that China's textile industry emissions will peak before 2030 (perhaps in the late 2020s) and then begin declining, aligning with the national peaking goal.⁸³ This is ambitious but plausible given the rapid advancements in renewable energy and technology deployment. If achieved, it means Chinese apparel could become much more carbon-competitive globally, undercutting one of the main critiques of its production.

On the social front, we anticipate gradual improvements in labor conditions. Pressures both internal (e.g., labor shortages forcing better treatment to retain workers) and external (compliance with international labor norms) will push the needle toward shorter working hours and more worker-friendly workplaces. By the late 2020s, it's conceivable that the extreme overtime culture will recede in manufacturing as automation takes over overtime needs and as regulations (and buyer audits) enforce limits.⁸⁴ The challenge of forced labor is harder to predict – it largely depends on geopolitical developments – but from an industry perspective, companies that proactively ensure traceability and diversify sourcing, for example, will fare better in maintaining global partnerships. We may see more Chinese firms certifying their supply chains to assure customers of ethical sourcing.

⁸³ <https://www.chinadailyhk.com/hk/article/584837>

⁸⁴ <https://www.reuters.com/world/china/china-whispers-change-some-companies-tell-staff-work-less-2025-04-08/>

Competitively, China is likely to retain a substantial share of higher-end and quick-turn manufacturing, even as it cedes some basic-volume business to other countries. The sector might become somewhat smaller in terms of employment (due to automation and relocation) but more productive per worker. The government's vision of "high-quality growth" suggests that by 2030, the textile and apparel industry's workforce might be leaner, better-paid, and more skilled, focusing on complex manufacturing, while simpler work is outsourced either to machines or abroad. In effect, China could move up the value chain in a similar way to Japan and South Korea, but at a larger scale. Chinese firms might increasingly become owners of factories in multiple countries, orchestrating a global production network. This outward investment could mitigate job losses at home while keeping Chinese companies central to global supply chains.

Another dimension of the outlook is innovation and brand development. By leveraging its massive home market, China could foster a stable of global fashion brands or tech-textile companies by 2030. The continued success of ultra-fast fashion and sportswear companies shows the potential. If more manufacturers transition to developing brands, China might not only be known for "made in China" but also "designed in China" on store shelves worldwide. That said, global brand acceptance can be tough – but younger consumers abroad are increasingly buying from Chinese online platforms, which might normalize Chinese brands globally over time.

Global integration and leadership: China's role in the international community on sustainability is set to grow as Chinese participation in global standard-setting for textile and apparel production (whether in carbon footprint accounting, circular economy, or due diligence frameworks) becomes more pronounced. As China meets its environmental targets, it will likely highlight these achievements and could encourage others through bilateral initiatives. There's an opportunity for China to lead, for instance, in creating a "Green Supply Chain Alliance" for producers or in sharing technologies for cleaner production with other countries. Such leadership would enhance China's reputation and soft power in the sustainability domain.⁸⁵

In conclusion, the outlook for China's textile and apparel industry is cautiously optimistic yet contingent on proactive transformation. The sector has strong fundamentals and institutional support, giving it the resilience to overcome near-term hurdles. The key determinant of long-term success will be how effectively it can innovate out of the traditional low-cost model into a modern, responsible, and tech-driven model. If the industry embraces the emerging opportunities – in decarbonization, automation, market diversification, and branding – it is poised to remain a global powerhouse, albeit a greener and more socially conscious one.

For Cascale members and industry stakeholders, China will continue to be a critical player: as a production base, a huge consumer market, and, increasingly, a source of innovation in sustainability and efficiency. Engaging with China's evolving landscape – through partnerships, compliance efforts, and knowledge exchange – will be essential for those aiming to advance climate and decent work agendas across the value chain.

Overall, China's next chapter in textile and apparel manufacturing is likely to be defined by "quality over quantity" – quality in terms of product, environmental stewardship, and labor

⁸⁵ <https://www.theinterline.com/2024/11/14/what-chinas-sustainability-efforts-might-mean-for-global-fashion/>

conditions. This transformation is already underway, and the coming years will reveal the extent to which the world's largest producer can also become a leader in producing sustainably and equitably. The trajectory is challenging, but China's track record of industrial evolution suggests it would be unwise to underestimate its capacity for adaptation and leadership amid new global norms.

About Cascale

[Cascale](#) is the global alliance empowering collaboration to drive equitable and restorative business practices in the consumer goods industry. Formerly known as the Sustainable Apparel Coalition, Cascale owns and develops the Higg Index, which is exclusively available on Worldly, the most comprehensive sustainability data and insights platform. Cascale unites over 300 retailers, brands, manufacturers, governments, academics, and NGO/ nonprofit affiliates around the globe through one singular vision: To catalyze impact at scale and give back more than we take to the planet and its people.

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