

HSBC GBA ESG Index Report

July 2024



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Prepared by:



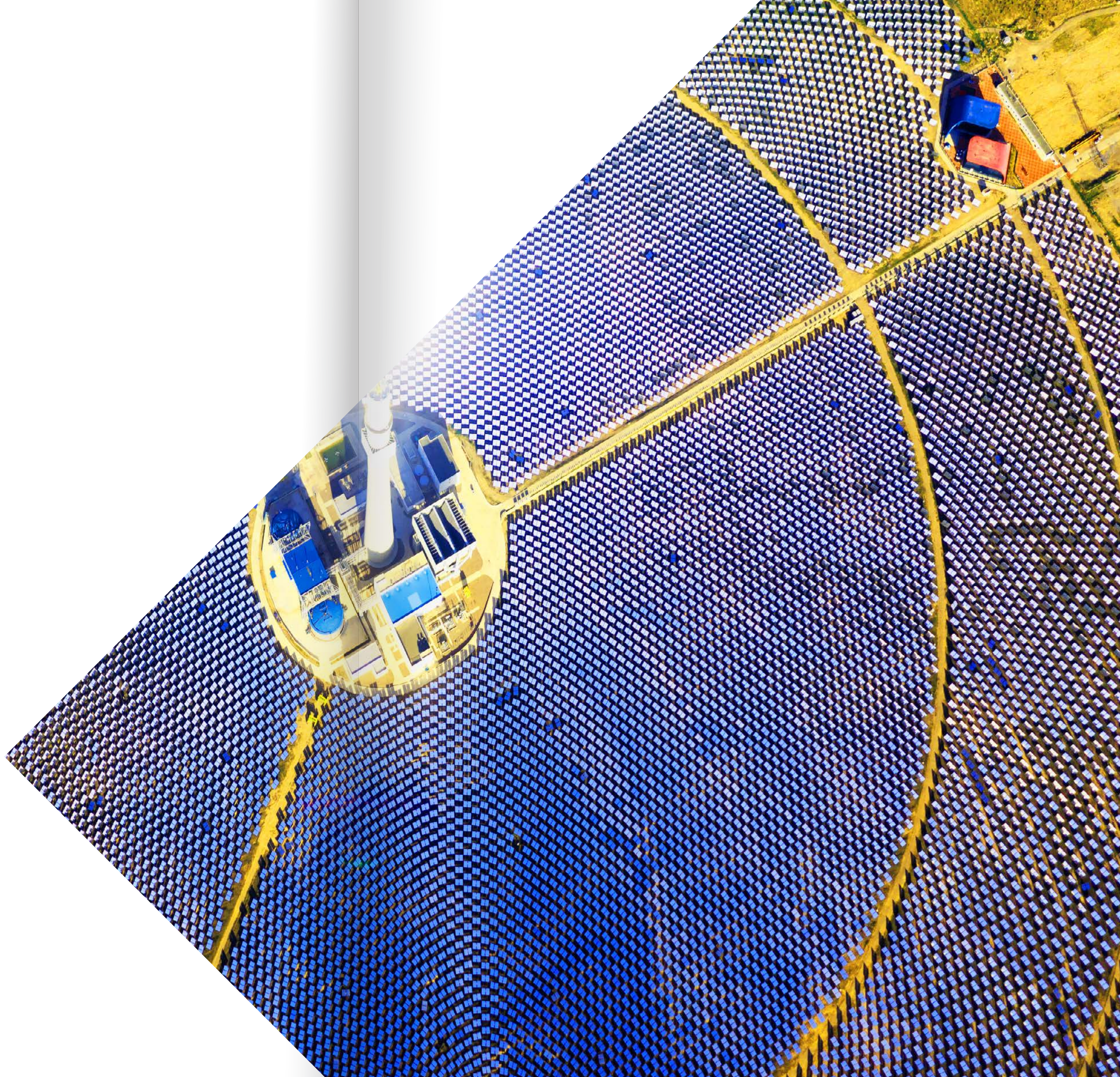
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Executive Summary



Executive Summary

This report is the quarterly update on the HSBC GBA ESG Index(the Index), which analyses the ESG and sustainable development performance of the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) in Q2 2024.

The GBA ESG Regional Index recorded a year-on-year increase of

5% in Q2 2024, reaching a value of 127.78

1



In Q2 2024, mainland China and Hong Kong released the latest ESG and sustainability reporting guidelines and requirements, respectively. The high level of interoperability between those documents and international standards greatly helps reduce the cost of preparing ESG-related reports for companies subject to various disclosure regimes.

The ESG and sustainability reporting guidelines and requirements of mainland China and Hong Kong issued in Q2 2024 are largely aligned with international standards, including the International Sustainability Standards Board's (ISSB's) IFRS Sustainability Disclosure Standards, and GRI Standards. Furthermore, mainland China issued a draft sustainability reporting standard in Q2 2024, with the aim of gradually incorporating not only listed companies but also non-listed companies, and transition from voluntary to mandatory disclosure.

2



The latest data shows that the ESG disclosure rate of listed GBA companies increased from 73% in FY2022 to 76%, a record high, in FY2023.

Hong Kong and Macao continued to lead in ESG disclosure rate, with 97% and 94% of companies based in Hong Kong and Macao, respectively, disclosing ESG and sustainability information in FY2023. Of the nine Pearl River Delta (PRD) municipalities, Guangzhou has the highest ESG disclosure rate, at 57% for FY2023, followed by Zhongshan, with an ESG disclosure rate of 54%. Meanwhile, it is worth noting that ESG disclosure rate of GBA companies listed only on the Stock Exchange of Hong Kong (SEHK) reached 99%ⁱ for FY2023, much higher than 33% of those listed only on the Shenzhen Stock Exchange (SZSE).

i. The ESG disclosure rate of companies listed only on SEHK was 99% instead of 100%, as some companies announced a delay in publishing ESG reports for FY2023.

3



The GBA became more active in the GSSS bondsⁱⁱ market in Q2 2024, double the issuance volume of GSSS bonds compared with Q1 2024. At the same time, Hong Kong, the GBA's green and sustainable finance hub, launched measures to promote market development, such as extending the Green and Sustainable Finance Grant Scheme and establishing the local taxonomy for sustainable finance.

The volume of GSSS bonds issued by the GBAⁱⁱⁱ was RMB48.99 billion, double the issuance volume for Q1 2024. Over the same period, Hong Kong had the most significant increase in GSSS bond issuance in Q2 2024, reaching 29.60 billion, which was almost triple the figure for Q1 2024.

To further encourage increasing number of industries and entities to participate in the green and sustainable finance market, in Q2 2024, the Hong Kong Monetary Authority (HKMA) has extended its Green and Sustainable Finance Grant Scheme by three years to 2027 and expanded the scope of subsidies to cover transition bonds and loans. HKMA also published the Hong Kong Taxonomy for Sustainable Finance in Q2 2024, to enable informed decision-making on green and sustainable finance and facilitate relevant finance flows.

In Q2 2024, the average value of the GBA ESG Industry Sub-indices recorded a year-on-year increase of

41% reaching a value of 235.50

4



The consumer discretionary sector has seen significant improvements in ESG since Q4 2023, primarily due to its better management of climate change issues and increasing policy support.

The automotive industry, a subsector of the consumer discretionary sector, has responded well to the ESG-related challenges in overseas markets by improving the carbon footprint assessment system, reducing carbon emissions at the operational level, and promoting battery recycling programmes. Moreover, the European Commission (EC) announced its intention to impose provisional countervailing duties on imports of BEVs originating in China from July 2024 onwards. Chinese automakers have accelerated their plans to set up production bases in European Union (EU) countries or those with friendlier EU trading relationships in response to the additional import tariffs.

5



In Q2 2024, of the eight key sectors, industrials had the best ESG performance due to stronger policy support, better management of climate change issues, and increased ESG disclosure rate and issuance volume of GSSS bonds.

The combination of high-quality development and New Quality Productive Forces creates both opportunities and challenges for the equipment manufacturing industry^{iv}, a subsector under the industrials sector, in many areas, including ESG. The GBA manufacturing industry has actively promoted green and digital transformation. It is committed to actively aiding the sustainable development of other industries, and the economy as a whole, by offering high-end, intelligent, green equipment and products.

ii. GSSS bonds include green bonds, social bonds, sustainability bonds and sustainability-linked bonds.

iii. GSSS bonds issued by issuers in the GBA or a specific GBA city in this report refer to both onshore and offshore GSSS bonds issued by entities registered or primarily operating in the GBA or a specific GBA city.

iv. In our study, the manufacturing sub-sector refers to the equipment manufacturing industry, including electrical equipment and machinery manufacturing, general-purpose equipment, and specialised equipment. Please see the detailed definition in the GBA ESG Industry Sub-indices section.

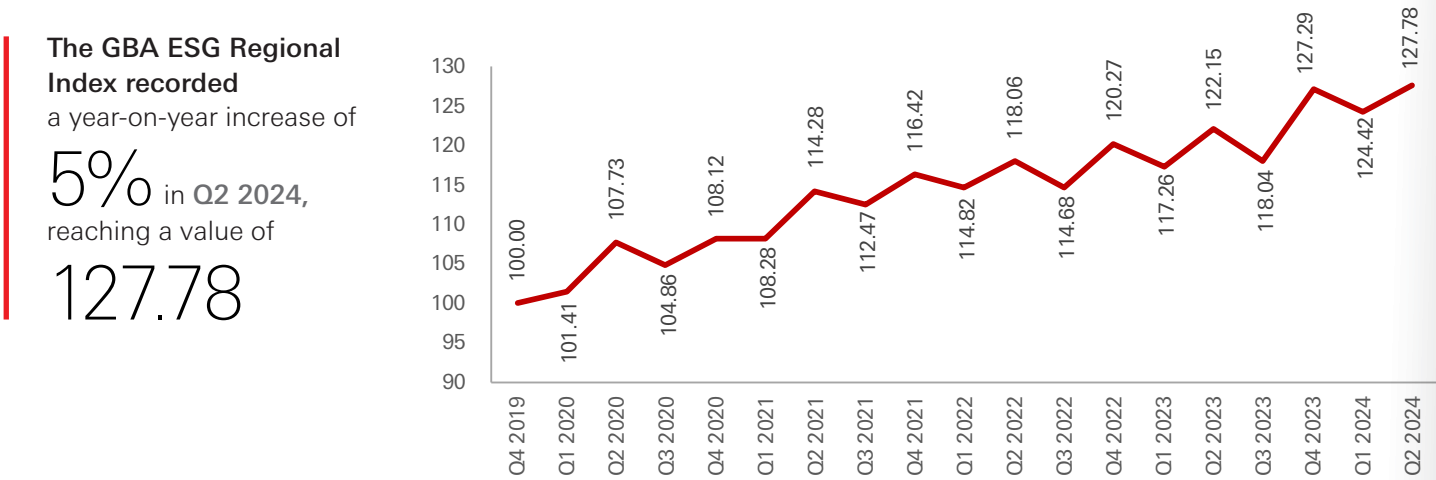
GBA ESG Regional Index





GBA ESG Regional Index

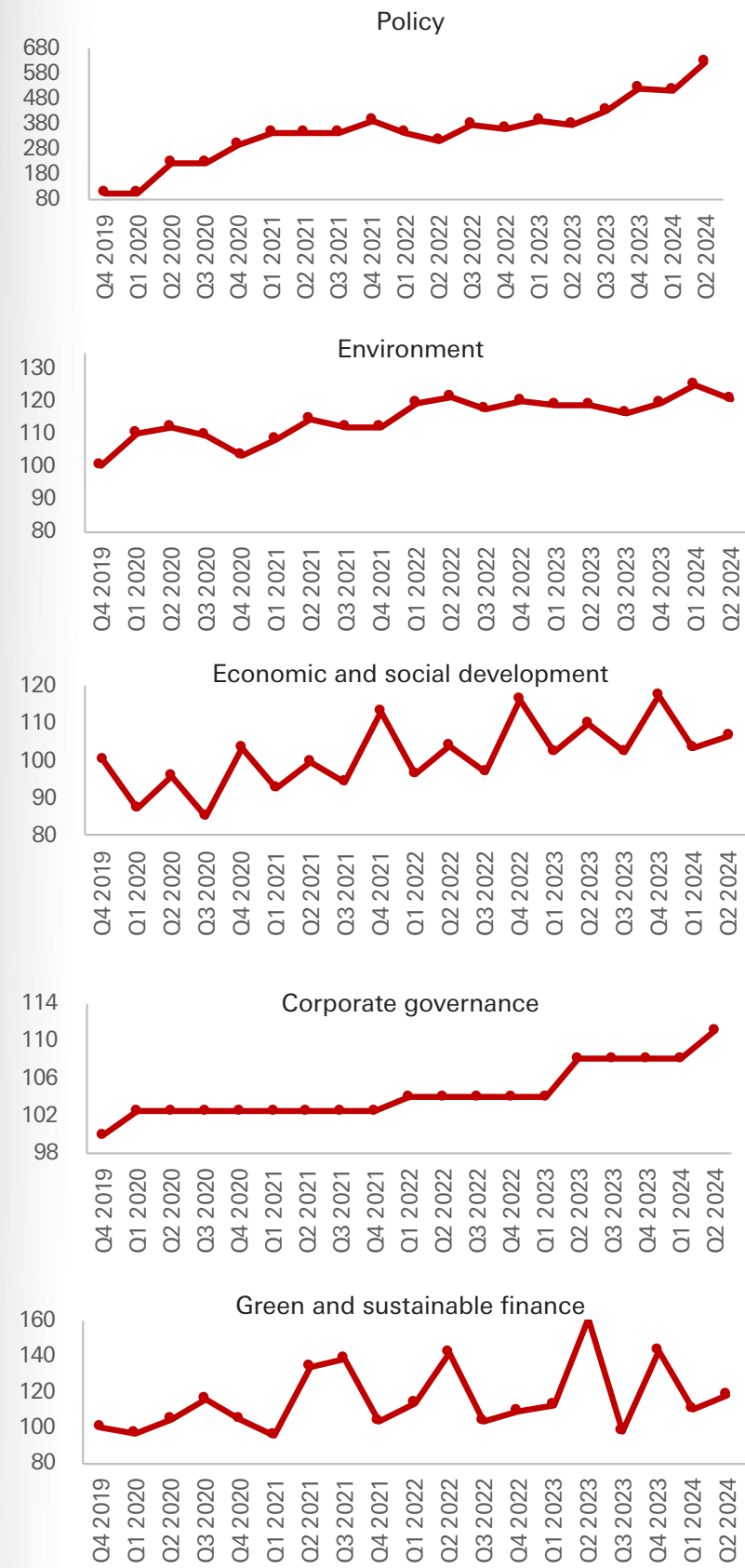
Figure 1. The GBA ESG Regional Index



Source: China's official statistical database, public disclosure of listed companies, public information from relevant third-party databases, other public sources, CECEPEC



Figure 2. Breakdown of the GBA's performance in the five areas



Note: The values are normalised. The base values were 100.00 for Q4 2019 (base period).
Source: China's official statistical database, public disclosures of listed companies, other public sources, CECEPEC





Our study shows that the GBA's performance in the area of policy achieved a new high in Q2 2024, up 23% from Q1 2024. According to our data, governments within the GBA launched a great number of policies to support the development of New Quality Productive Forces, with a focus on key sectors, including industrials, consumer industries, strategic emerging industries and future industries. The GBA also experienced a significant improvement in the area of corporate governance due primarily to the increased rate of ESG disclosure of GBA-listed companies.

With regard to the area of environment, the GBA increased year on year by 2%, though it experienced a slight decrease in Q2 2024 compared with Q1 2024. Over the same period, the area of economic and social development continued to be cyclical while the area of green and sustainable finance saw an improvement in Q2 2024, due to greater activity in the GSSS bonds market within the GBA.



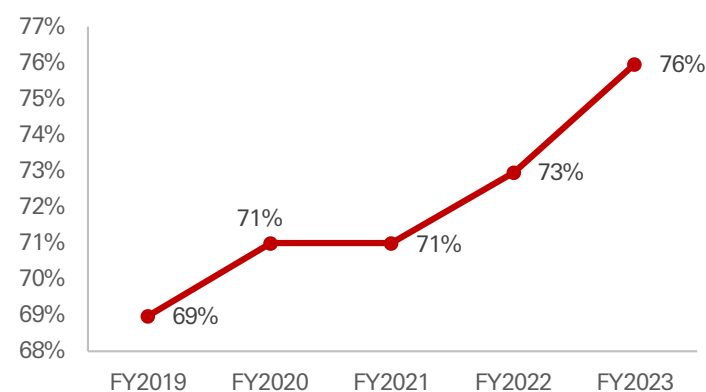
Corporate Governance

Our latest data shows that the ESG disclosure rate of listed GBA companies has continuously increased, reaching 76% for FY2023. In Q2 2024, mainland China and Hong Kong released the latest ESG and sustainability reporting guidelines and climate disclosure requirements, respectively.

In Q2 2024, we conducted a study on over 2,000 listed GBA companies^v to assess whether ESG and other related non-financial reports^{vi} were published for FY2023. Our latest data reveals that **the ESG disclosure rate of listed GBA companies increased from 73 % for FY2022 to 76% for FY2023. Hong Kong and Macao** still led in ESG disclosure rate, with around 97% and 94% of companies based in Hong Kong and Macao, respectively, disclosing ESG and sustainability data for FY2023. Of the nine PRD municipalities, **Guangzhou** had the highest ESG disclosure rate of 57% for FY2023, followed by **Zhongshan**, with an ESG disclosure rate of 54%.

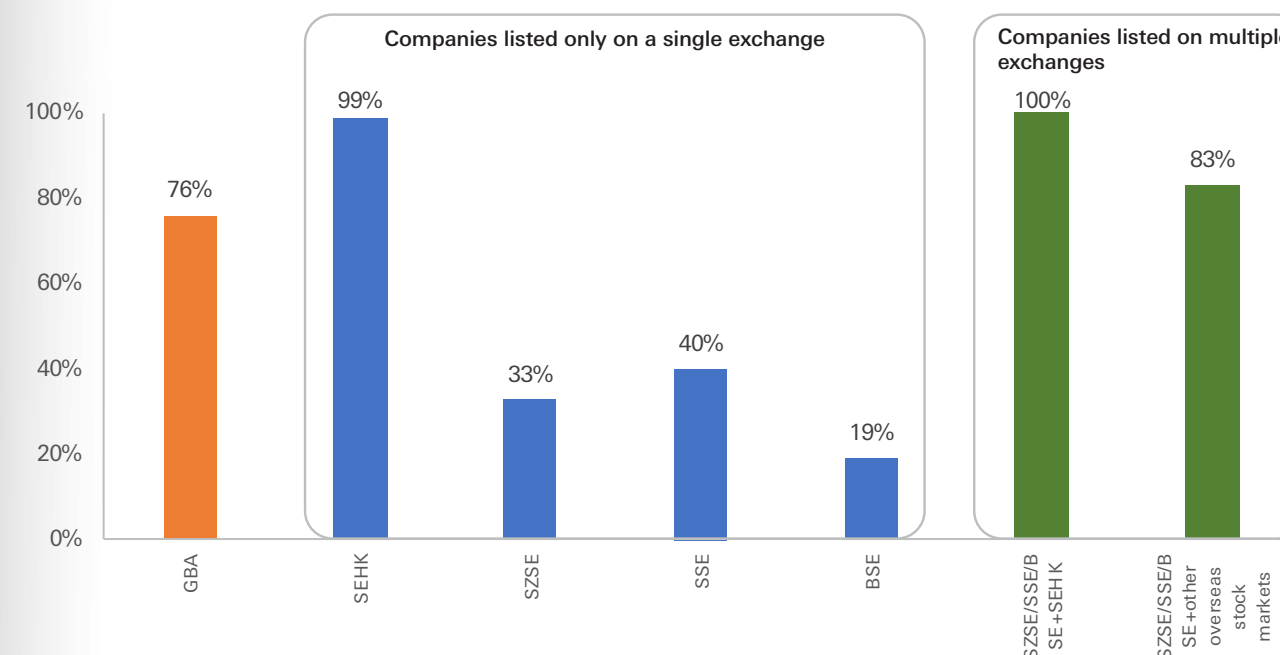
We also looked at the ESG disclosure rate of listed GBA companies. As shown in Figure 4, the ESG disclosure rate of GBA companies listed only on the SEHK was 99% for FY2023, while the ESG disclosure rates of those listed only on either the SZSE, or the Shanghai Stock Exchange (SSE), or the Beijing Stock Exchange (BSE) were significantly lower than the average rate, 76%, of all GBA listed companies. **The gap in ESG disclosure rates between companies listed in Hong Kong and mainland China primarily results from the fact that Hong Kong has required all companies listed on SEHK to publish annual ESG reports since 2016; however, this mandatory requirement did not previously exist in mainland China.**

Figure 3. The overall ESG disclosure rate of listed GBA companies



- v. "Listed GBA companies" refer to listed companies registered or primarily operating in the GBA, which are listed in Hong Kong, Shenzhen, or overseas stock exchanges
- vi. These include sustainability reports and corporate social responsibility (CSR) reports, which all contain non-financial information.

Figure 4. ESG disclosure rate of listed GBA companies by stock market



Note 1: In Q2 2024, we conducted a study on over 2000 GBA-listed companies to ascertain which had published ESG and other related non-financial reports for FY2023.

Note 2: The ESG disclosure rate of companies listed only on SEHK was 99% instead of 100%, as some companies announced a delay in publishing ESG reports for FY2023.

Source: Public sources, CECEPEC

In April 2024, SZSE, SSE, and BSE issued their respective Guidelines on Self-Regulation of Listed Companies – Sustainability Report (Trial) (hereinafter referred to as the "Guidelines"), effective from 1 May 2024. The Guidelines are expected to standardise the ESG information framework within mainland China and promote the high-quality development of Chinese companies.

SEHK also published the conclusions of its consultation on the enhancement of climate-related disclosures under the ESG framework. **Effective from 1 January 2025, a new set of rules mandating climate-related disclosures (hereinafter referred to as the "New Climate Requirements") will be added to the ESG code of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited (Listing Rules).**

The Guidelines and ESG code contain detailed indicators to guide listed companies in ESG disclosure, especially climate-related disclosure, helping them improve their ESG and sustainability reporting systems. These documents incorporate valuable insights from international standards. According to the Guidelines and ESG code published by the stock exchanges, the climate-related disclosure

guidelines or requirements closely resemble ISSB's IFRS S2, although there are certain differences. Additionally, there is a high level of interoperability between the Guidelines and GRI Standards. The ESG code encourages companies to prepare their ESG reports by making references to international standards. Therefore, **the Guidelines and ESG code help companies, especially dual-listed companies, reduce the burden and cost of preparing the ESG and sustainability reports and improve the companies' international competitiveness.**

Our study conducted a comparative analysis between the Guidelines and the ESG code. Figure 5 details the primary differences and common characteristics between these documents. For example, **the Guidelines highlighted the principle of double materiality(financial materiality^{vii} and impact materiality^{viii}) when companies identify their material sustainability issues. However, the ESG code requires listed companies to adopt the impact materiality approach to identify material ESG issues and consider the financial impact when disclosing climate-related risks and opportunities.** Differences also exist between the ESG and sustainability reporting indicators in the Guidelines and ESG code.

- vii. According to the Guidelines, financial materiality refers to the approach that an entity identifies whether each issue is expected to have a major impact on its business model, operations, development strategy, financial position, operating results, cash flows, financing methods and costs over the short, medium and long term([Source](#)).
- viii. According to the Guidelines, impact materiality refers to the approach that an entity identifies whether each issue is expected to have a major impact on the economy, society and environment([Source](#)).

Figure 5. ESG or sustainability reporting guidelines/requirements of China’s four exchanges

	SZSE	SSE	BSE	SEHK
Scope	<ul style="list-style-type: none">◆ Mandatory reporting requirements apply to companies on the Shenzhen 100 Index, ChiNext Index, and dual-listed companies in domestic and overseas markets.◆ Encourage other SZSE-listed companies to disclose their ESG information referencing the reporting guidelines.	<ul style="list-style-type: none">◆ Mandatory reporting requirements apply to companies on the SSE 180 Index, Shanghai Science and Technology Innovation Board 50 Index, and dual-listed companies in domestic and overseas markets.◆ Encourage other SSE-listed companies to disclose their ESG information referencing the reporting guidelines.	<ul style="list-style-type: none">◆ Encourage BSE-listed companies to disclose their ESG information referencing the reporting guidelines.	<ul style="list-style-type: none">◆ Mandatory reporting requirements apply to companies listed on SEHK.
Timeline	Listed companies under the mandatory reporting requirements are required to disclose their 2025 Annual ESG Report before 30 April 2026 . Below are the mitigation measures for the first reporting period: <ul style="list-style-type: none">◆ Not required to disclose year-on-year changes in relevant indicators.◆ For indicators where quantitative disclosure is difficult, qualitative disclosure can be made with reasons explained.			The amended Listing Rules will come into effect on 1 January 2025 . A phased approach is adopted for the implementation of the New Climate Requirements (Source).
Reporting period	Maintain consistency in the reporting period of their ESG or sustainability reports and annual reports.			
Timing of disclosure	<ul style="list-style-type: none">◆ Prepare ESG or sustainability reports within four months following the end of each financial year and publish the reports after approval by the companies’ board of directors.◆ Publish reports no earlier than the annual reports.			Disclose ESG or sustainability reports and annual reports simultaneously .
Disclosure channel	Guidelines do not explicitly require a specific channel to disclose the ESG or sustainability reports.			Listed companies are required to upload their ESG or sustainability reports to HKEXnews (Source) and their official websites.
Reporting principles	Mainland China and Hong Kong both highlighted the reporting principles of materiality, quantitative, balance and consistency.			
	<ul style="list-style-type: none">◆ Listed companies should adopt the double materiality approach to identify their material sustainability issues.◆ Listed companies should improve their ability to incorporate information and digital technology into their sustainability-related data collection, calculation and analysis.			<ul style="list-style-type: none">◆ Listed companies should adopt the impact materiality approach to identify their material ESG issues.◆ Listed companies should consider the financial impact when disclosing climate-related risks and opportunities.
Reporting framework	The reporting frameworks proposed by exchanges within mainland China and Hong Kong are basically consistent.			
	The reporting framework for sustainability issues that are financially material to the company: <ul style="list-style-type: none">◆ Governance – Strategy – Impact, Risk and Opportunity Management – Metrics and Targets			The reporting framework for New Climate Requirements: Governance – Strategy – Risk Management – Metrics and Targets
ESG and sustainability issues	The ESG and sustainability issues proposed by exchanges within mainland China and Hong Kong are basically consistent. Minor differences exist between the ESG and sustainability reporting indicators.			
	Incorporate some ESG and sustainability indicators that better suit mainland China’s situations, e.g., indicators related to the revitalisation of rural areas, driving innovation, etc.			Examples of some indicators that are not covered by Guidelines: <ul style="list-style-type: none">◆ Internal carbon price◆ Remuneration linked to climate considerations◆ Number of suppliers◆ Average training hours completed per employee by gender and employee category.

Source: SZSE, SSE, BSE, SEHK



The central SOEs have led ESG and sustainability within mainland China. The State-owned Assets Supervision and Administration Commission of the State Council (SASAC) has accelerated the ESG development of SOEs and the listed companies majority-owned by SOEs since 2022.

As of June 2024, over 95% of the listed companies which are majority-owned by SOEs have disclosed ESG reports or other related non-financial reports.¹ This rate is much higher than the ESG disclosure rates of GBA companies listed in mainland China.

In June 2024, SASAC issued guidelines to SOEs on how to improve social responsibility going forward. According to the guidelines, promoting ESG is one of the essential strategies to enhance companies’ international competitiveness. Additionally, SASAC is in the process of establishing an ESG evaluation system to assess the ESG disclosure of the listed companies that are majority-owned by SOEs, the aim being to improve the ESG disclosure and ESG performance of those companies.

In May 2024, China’s Ministry of Finance issued a draft sustainability reporting standard, entitled **Corporate Sustainability Disclosure Standards: Basic Principles**, and an explanatory document with the aim of gradually incorporating not only listed companies but also non-listed companies, and transitioning from voluntary to mandatory disclosure.

The draft Corporate Sustainability Disclosure Standards:²

- ♦ Set general requirements for corporate sustainability information disclosures.
- ♦ Apply to companies established in China that are required to disclose sustainability information.

According to the explanatory document to the draft Corporate Sustainability Disclosure Standards:³

- ♦ The framework for the Chinese unified sustainability disclosure system is as follows:
 - Basic principle
 - Specific principle
 - Application guidelines
- ♦ Timeline
 - By 2027, China expects to have introduced standards for general corporate sustainability disclosure and climate-specific disclosure.
 - By 2030, China expects to have established a nationwide standard.
- ♦ Coverage
 - Taking into account the development stage and disclosure capacity of Chinese companies, the implementation of the Basic Standards will not adopt a one-size-fits-all mandatory approach. It aims to gradually extend from listed companies to non-listed companies, from large companies to small and medium-sized enterprises, from qualitative to quantitative disclosure, and from voluntary to mandatory disclosure.



Green and Sustainable Finance

Our study shows that the GBA was more active in the GSSS bonds market in Q2 2024, compared with Q1 2024.

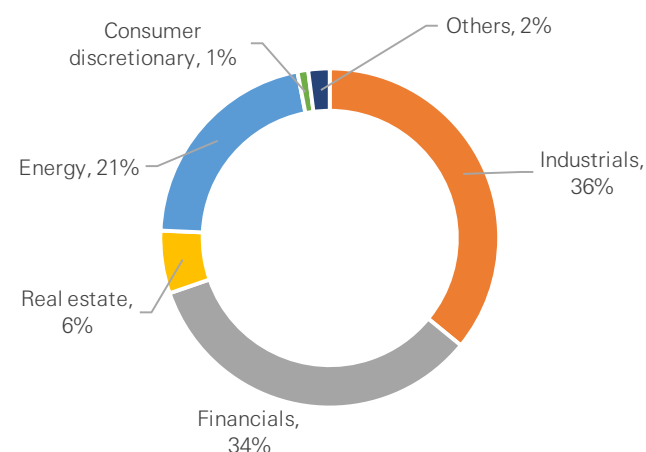
The volume of GSSS bonds issued by the GBA was RMB48.99 billion, double the issuance volume for Q1 2024. Hong Kong had the most significant increase in GSSS bond issuance in Q2 2024 which, at 29.60 billion, was almost triple the figure for Q1 2024. It is worth noting that entities from various

sectors were the most significant source of GSSS bonds issued by Hong Kong in Q2, whereas the Hong Kong government had been the main contributor to the city's GSSS bonds issuance in the previous two quarters.

In Q2 2024, the green bond market was the most active, accounting for over 70% (RMB36.38 billion) of total GSSS bond issuance. Our study observed that the issuance volume of sustainability-linked bonds experienced a significant increase in Q2, which, at RMB4.70 billion, was up over 340% from Q1 2024.

The industrials sector was the most active issuer in the GSSS bonds market in Q2 2024, followed by the financials and energy sectors. The three sectors, industrials, financials and energy, accounted for over 90% of the total issuance volume within the GBA.

Figure 6. Issuance volume of GSSS bonds within the GBA in Q1 2024(By sectors)



Note: GSSS bonds issued within the GBA refer to both onshore and offshore GSSS bonds issued by entities registered or primarily operating within the GBA
Source: Wind, CECEPEC



A typical sustainability bond within the GBA

In June 2024, the Bank of China Macao Branch issued a batch of sustainability bonds to the value of RMB1 billion, whose proceeds will be used to support the countries along the Belt and Road. Specifically, the proceeds will be exclusively allocated to eligible project categories, including renewable energy, sustainable water resources and wastewater management, and affordable basic infrastructure.⁴

With regard to the sustainable investment market, there was no new signatory to the Principles for Responsible Investment (PRI) in Q2 2024. At the same time, 12 new ESG mutual funds were launched by fund management companies from the GBA, up over 70% from Q1 2024. Among the 12 new launches in Q2, ten were launched by fund management companies from the PRD municipalities, and two were from Hong Kong. Our study also looked at the investment strategies of the ESG mutual funds launched by PRD municipalities. Of the ten new ESG mutual funds launched by PRD municipalities in Q2 2024, four were pure ESG funds^{ix}, and the remaining six were environmental themed funds^x.

In Q2 2024, the HKMA launched measures to promote the development of green and sustainable finance markets in Hong Kong and broader areas.

- ♦ The HKMA released details on extending the **Green and Sustainable Finance Grant Scheme** (the "Scheme"). It proposed extending the Scheme by three years to 2027 and expanding the scope of subsidies to cover **transition bonds and loans** to encourage relevant industries in the region to make use of Hong Kong's transition financing platform as they move towards decarbonisation.⁵
- ♦ The HKMA published the **Hong Kong Taxonomy for Sustainable Finance** (Hong Kong Taxonomy) as a voluntary tool for informed decision-making on green and sustainable finance and facilitating relevant finance flows. Hong Kong Taxonomy encompasses 12 sustainable economic activities under four sectors and aligns with the Common Ground Taxonomy, China's Green Bond Endorsed Projects Catalogue, and the European Union's Taxonomy.⁶

Currently, Hong Kong Taxonomy covers four sectors:

- ♦ Power generation
- ♦ Transportation
- ♦ Construction
- ♦ Water and Waste management

In the next step, HKMA seeks to expand the coverage to include more sectors and activities, including **transition activities**.

ix. Pure ESG mutual fund: Incorporate ALL three dimensions, i.e., environmental, social and governance, into their investment strategies([Source](#)).
x. Environmental themed fund: Incorporate the environmental dimension into the investment strategies([Source](#)).

Environment

In recent quarters, the international market has paid increasing attention to environment-related issues within specific sectors and areas, such as shipping, aviation, and batteries. This has led to a new series of regulations.

For example, the EU's Carbon Border Adjustment Mechanism (CBAM) came into force on 1 October 2023 and initially applied to a certain number of products, such as iron, steel, and cement: fertilisers and aluminium.⁷ In July 2023, the European Commission (EC) adopted a new Batteries Regulation that strengthens sustainability rules for batteries and waste batteries. Additionally, as mentioned in our report dated April 2024, worldwide a number of decarbonisation-related regulations or requirements on the shipping and aviation industries have recently been launched or are coming on stream.

Policymakers within China have highlighted energy conservation and carbon reduction in key industries and areas, such as architecture, transportation, and public institutions. In May 2024, the State Council issued a policy document on energy conservation and carbon reduction for the two-year period 2024-25 setting out targets for energy consumption and carbon reduction over that period which included the following initiatives:

- Reduce and substitute fossil energy consumption by strictly and reasonably controlling coal consumption and optimising that of oil and gas.
- Increase non-fossil energy consumption.
- Conserve energy and reduce carbon emissions in the steel, petrochemical, non-ferrous metal, and building materials industries, as well as in areas such as architecture, transportation, and public institutions, and in energy-using products and equipment.⁸

The GBA has adopted measures to cater to the changing requirements of international markets and in line with national guidelines. Two novel practices adopted by Hong Kong in the first half of 2024 to develop green shipping and green aviation are set out below and in the GBA ESG Industry Sub-indices section further below, we analyse the actions the GBA automotive industry took to respond to the new Regulation on Batteries.

Green shipping

In June 2024, the Hong Kong Marine Department launched its Green Incentive Scheme (the Scheme) within the context of Hong Kong's green shipping policy and in adherence to the International Maritime Organisation (IMO) pronouncements and regulations which aim to achieve net zero greenhouse gas (GHG) emissions by 2050.

With an allocated funding of HKD65 million, the Scheme aims to encourage Hong Kong-registered ships to meet international carbon reduction standards.⁹

Green aviation

In February 2024, the Hong Kong Sustainable Aviation Fuel Coalition (HKSAFC)^{xi} was officially launched with the aim of facilitating the adoption of sustainable aviation fuel (SAF) in Hong Kong by conducting whitepaper research on the development of SAF, engaging with different stakeholders and the government, and raising public awareness of the benefits as well as challenges of SAF.



In Q2 2024, Guangdong Province issued a statement on energy conservation and carbon reduction work in public institutions. The document proposed several key strategies, including the upgrading of energy-saving and carbon-reduction technologies, and improvements to the collection and management of energy consumption data in public institutions. At the same time, Guangdong Province set out its intention to accelerate the development of energy-saving technologies and the green transformation of different sectors by integrating both efficient markets and government. In April 2024, the first Guangdong Provincial SOE specialising in energy conservation and carbon reduction projects was established. This will engage in energy conservation and carbon reduction projects in public institutions, architecture, and other focused industries and areas.

Case Study

Public facility – Tianhe Stadium in Guangzhou to undergo near-zero carbon renovation¹⁰

The Tianhe Stadium will undergo green and low-carbon renovation and in so doing become the nation's first near-zero carbon large-scale stadium renovation project.

The stadium is projected to achieve energy savings and carbon reduction of over 45% by establishing an intelligent lighting system, adopting an ultra-efficient air conditioning system, and introducing a solar photovoltaic power generation system. The green and low-carbon renovation of the Tianhe stadium will help the 15th National Games achieve carbon neutrality.

In Q2 2024, 16 GBA companies made commitments to set science-based targets (SBTs) aligned with the Science Based Targets initiative's (SBTi's)^{xii} target-setting criteria. At the same time, eight GBA companies successfully set and published their SBTs. Of these eight companies, three set near-term^{xiii} SBTs, while five set a number of targets, including near-term^{xiv}, long-term^{xv} and net-zero targets^{xvi}.

- xi. The HKSAFC is a multi-stakeholder platform in the region that brings together the aviation industry, sustainable aviation fuel (SAF) producers, fuel suppliers, infrastructure developers, corporate users, and policymakers to collaborate on advancing the development, supply, and use of SAF ([Source](#)).
- xii. The SBTi is a partnership between CDP, the United Nations Global Compact, the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF).
- xiii. Near-term targets were previously termed short-term targets by SBTi ([Source](#)).
- xiv. Near-term science-based targets are 5-10-year greenhouse gas mitigation targets that require companies to align their Scope 1 and 2 targets with a 1.5°C pathway goal while Scope 3 ambitions should retain a threshold of well below 2°C ([Source](#)).
- xv. Long-term science-based targets show companies how much they must reduce value chain emissions to align with reaching net-zero in line with 1.5°C pathways by 2050 or sooner (2040 for companies in the power sector) ([Source](#)).
- xvi. The SBTi Net-Zero Standard defines a net-zero target as: a) Reducing scope 1, 2, and 3 emissions to zero or to a residual level that is consistent with reaching net-zero emissions at the global or sector level in eligible 1.5°C-aligned pathways. b) Neutralizing any residual emissions at the net-zero target year and any GHG emissions released into the atmosphere thereafter ([Source](#)).



Economic and Social Development

As an important center of economic growth in China, the GBA has invested heavily in strategic emerging and future industries to spur economic growth. Additionally, the region has worked hard at attracting talent and, in Q2 2024, launched an industry-university-reserach (IUR) collaborative initiative to accelerate the commercialisation of sci-tech achievements and support the development of New Quality Productive Forces.

In the first four months of 2024, Guangdong Province increased fixed asset investment in advanced manufacturing and high-tech manufacturing by 21% and 32%, respectively.¹¹ Over the same period, Guangzhou's fixed asset investment in high-tech manufacturing as a share of manufacturing investment increased to 58%,¹² and fixed asset investment in high-tech manufacturing in Shenzhen doubled year-on-year.¹³

Examples of the development of strategic emerging industries and future industries within the GBA

- ♦ **Artificial Intelligence (AI):** Earlier this year, Guangzhou announced the construction of the first domestic demonstration zone of the large-scale artificial intelligence (AI) model in Haizhu district. By 2026, the demonstration zone is expected to earn more than RMB500 billion by applying the model to eight or more industries with at least 30 application scenarios.¹⁴ At present, the Pazhou area has nearly 2,000 enterprises working in the field of AI, earning RMB90 billion, with year-on-year growth of 21%.¹⁵
- ♦ **Low-altitude economy:** By the end of 2023, Shenzhen had more than 1,700 unmanned aerial vehicle (UAV) enterprises with an annual output of RMB96 billion. Guangzhou Development zone has 45 low-altitude industry chain enterprises with annual sales of RMB12.5 billion.¹⁶ Zhuhai currently has over 40 low-altitude economy industry chain enterprises with yearly sales of RMB4.25 billion.¹⁷

The GBA considers talent to be a primary resource and has been looking at multiple measures to attract the strategic talent required to support the growth of New Quality Productive Forces.

Examples of measures to attract talent within the GBA

- ♦ In Q2 2024, 11 GBA cities signed a Memorandum of Understanding (MOU) on talent cooperation and set out a plan to establish a Specialised Working Group to facilitate talent flow within the region and attract high-end talent.¹⁸
- ♦ In May 2024, Macao launched the New Round of Nine Talent Recruitment Programme. The nine programmes include the High-end Talent Programme, the Outstanding Talent Programme and the Advanced Professionals Programmes for the Health, High-Tech, and other industries.¹⁹

The GBA supports IUR collaboration to strengthen integration and the commercialisation of sci-tech achievements. The Shenzhen-Hong Kong-Guangzhou Technology Cluster has been ranked second in the Global Innovation Index for four consecutive years, which can be attributed to the combination of Hong Kong's sci-tech innovation and Shenzhen and Guangzhou's industrial innovation.²⁰

Examples of the GBA's actions to enhance IUR collaboration

- ♦ In May 2024, the Innovation and Technology Commission of Hong Kong signed agreements with 24 university research teams to confirm the first batch of projects participating in the Research, Academic and Industry Sectors One-plus (RAISE+)^{xvii} Scheme. It provides over RMB1 billion and covers innovation and technology fields in health and medical sciences, new energy, AI and robotics, and advanced manufacturing.²¹
- ♦ In April 2024, The Hong Kong-Shenzhen Innovation and Technology Park Limited confirmed a partnership with 60 organisations from nine economies. It will enhance cooperation in IUR within the AI and advanced manufacturing industries, among others.²²

xvii. RAISE+ Scheme is a project under the Innovation and Technology Commission of Hong Kong ([Source](#)).



Policy

In Q2 2024, the GBA set out new policies relating to equipment renewals, consumer goods trade-in, strategic emerging industries, and future industries to promote comprehensive alignment with the national strategies that form part of the New Quality Productive Forces.

Key policies to promote the development of New Quality Productive Forces in Q2 2024

- ♦ **Equipment renewals and consumer goods trade-in:**
In April 2024, Guangdong Province launched an implementation plan to promote large-scale equipment renewal and the trade-in of consumer goods. The aim was to release potential investment and stimulate consumption thereby accelerating the development of New Quality Productive Forces by encouraging actions, such as large-scale equipment renewal, a new round of consumer goods trade-in, and whole-chain waste recycling, among others.²³
- ♦ **Strategic emerging industries and future industries:**
 - **Low-altitude economy**
Following Guangdong Province's issuance of an action plan to promote the high-quality development of the low-altitude economy, Guangzhou, Zhuhai, and Huizhou launched the action plan at the level.²⁴ In December 2023, Shenzhen proposed 20 measures to support the high-quality development of the low-altitude economy.²⁵
 - **Intelligent terminal industry**
In April 2024, Shenzhen launched measures to promote the high-quality development of the intelligent terminal industry, highlighting the importance of the industry chain, core technology, and high-quality products in facilitating high-end, intelligent, and international development.²⁶

Since 2023, seven PRD municipalities have launched implementation plans to promote carbon peaking. In Q2 2024, Zhaoqing also issued an implementation plan, highlighting the primary tasks required to achieve carbon peaking within the city.²⁷

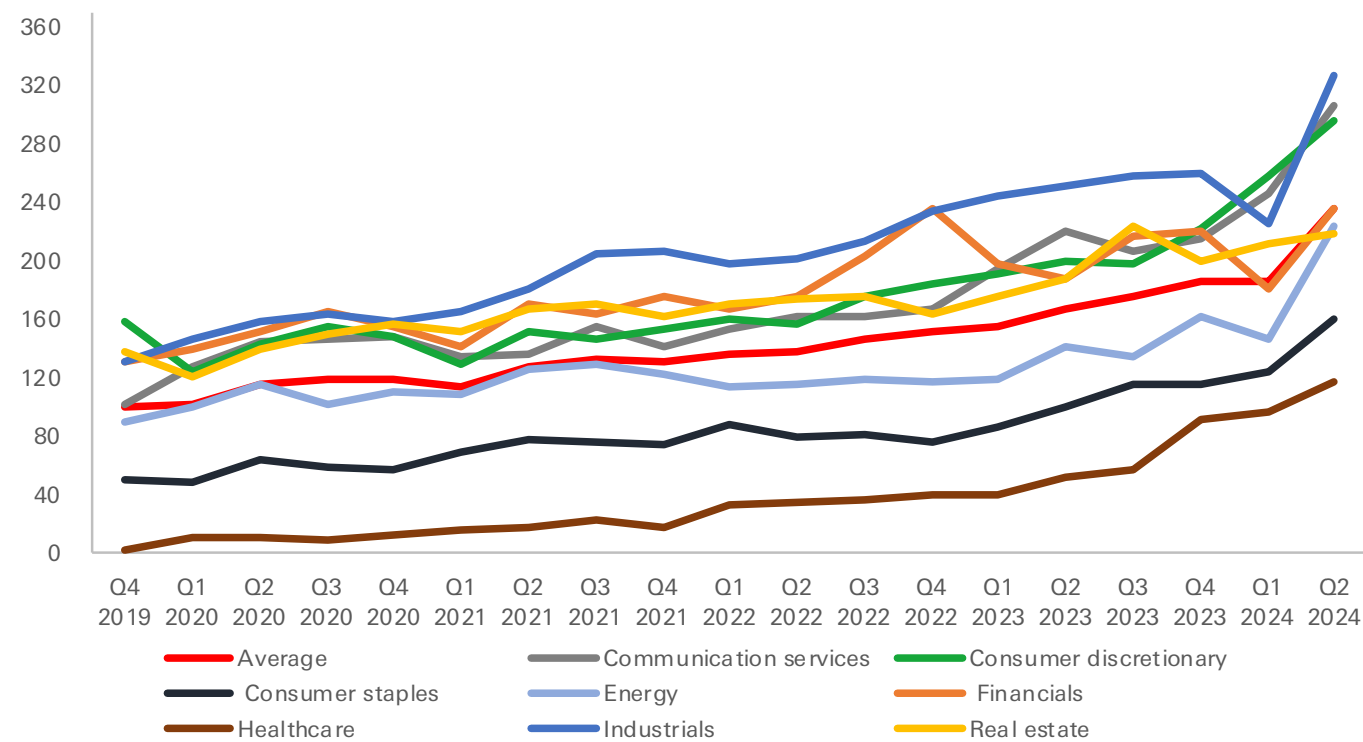
GBA ESG Industry Sub-indices



GBA ESG Industry Sub-indices



Figure 7. Relative ESG performance evolution of the eight sectors



Note: The average value of the GBA ESG Industry Sub-indices was set at 100.00 for Q4 2019 (base period), as a benchmark with which to compare each key sector's individual ESG performances as well as their average performance.
Source: China's official statistical database, public sources, CECEPEC

Our study shows that the average value of GBA ESG Industry Sub-indices reached a new high of 235.50 in Q2 2024, with a year-on-year increase of 41%. All eight key sectors experienced significant improvement in Q2 2024, as shown in Figure 7. According to our data, a significant number of policies were issued in Q2 2024 to support the sustainable development of eight key sectors. At the

same time, our latest data indicates that most of the eight sectors recorded higher ESG disclosure rates for FY2023. Furthermore, as mentioned in this report's GBA ESG Regional Index section, industrials, financials, and energy were the main contributors to the issuance of GBA GSSS bonds issuance in Q2 2024.

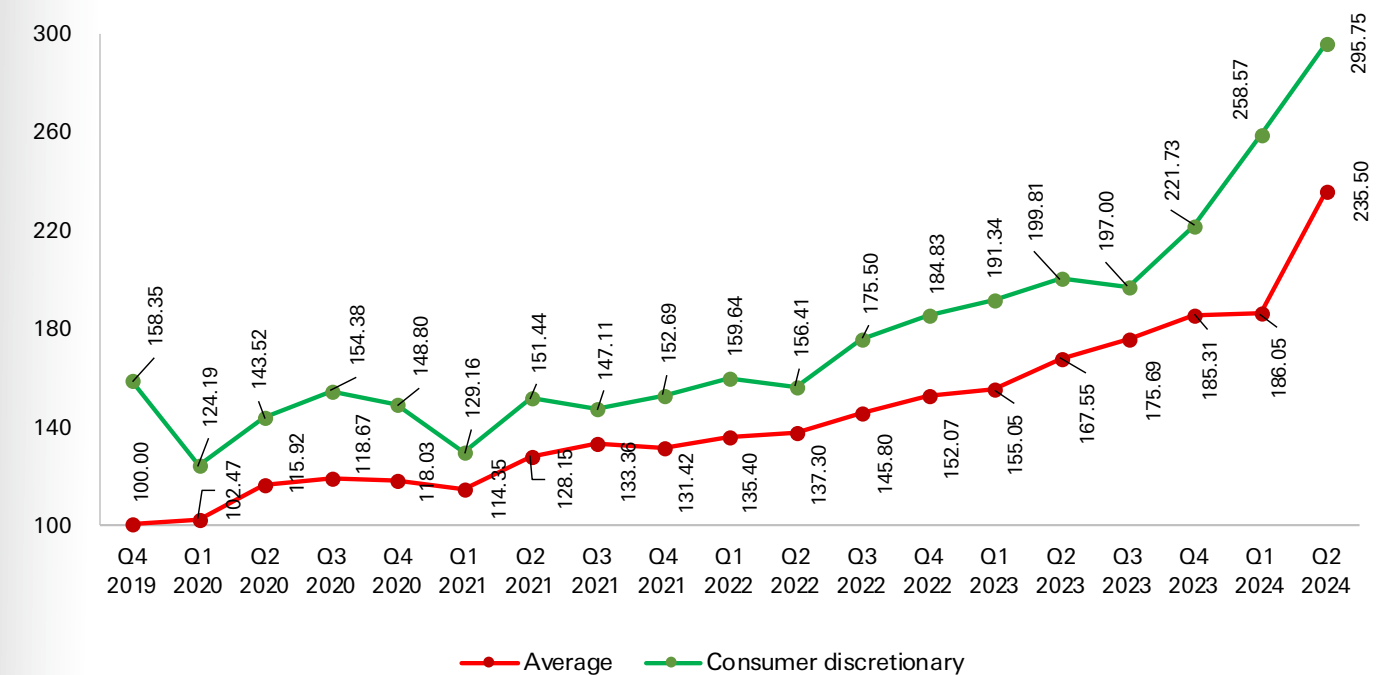
Case Study:

Consumer Discretionary

The consumer discretionary sector plays an important role in improving quality of life and contributing to socio-economic development by meeting consumer demand for personalisation. Companies increasingly focus on more sustainable products and services to align with consumers' increasing low-carbon and environmental awareness.

In our study, the consumer discretionary sector consists of several sub-sectors, including the automotive, textile and garment, and household durables industries. Figure 8 shows that the consumer discretionary sector has seen significant improvements in ESG since Q4 2023, primarily due to better management of climate change issues and increasing policy support. In the following section, we take a detailed look at the automotive sub-sector and analyse the GBA's ESG-related practices and solutions with reference to overseas' markets.

Figure 8. GBA ESG Sub-index – Consumer Discretionary



Note: The line chart shows the ESG performance evolution of the consumer discretionary sector. The average value of the GBA ESG Industry Sub-indices was set at 100.00 for Q4 2019 (base period).
Source: China's official statistical database, Wind, public sources, public disclosures of listed companies, CECEPEC



Consumer Discretionary Sector Close-up: Automotive Industry

China has been the world’s top automobile producer for 15 consecutive years; at the same time, Guangdong Province has maintained its leading position for six consecutive years.

In 2023, national automotive production exceeded 30 million vehicles, of which new energy vehicles (NEVs) accounted for more than 30% (9.6 million automobiles).³⁰ Guangdong Province produced 5.2 million automobiles in 2023; nearly half of them NEVs (2.5 million), accounting for 26.8% of national NEV production.³¹ The GBA is at the forefront of the NEV industry due primarily to its comprehensive industrial chain. The GBA is home to three of the top ten NEV manufacturers in China and many outstanding enterprises in NEV industry segments.

China became the world’s largest automobile exporter in 2023, one-third of the exports being NEV vehicles. Specifically, in 2023, China exported 5.2 million automobiles, including 1.7 million NEVs, representing an increase of 67% compared with 2022.³² EU imports of battery electric vehicles (BEVs) from China reached EUR9.7 billion in 2023.³³ Automotive enterprises in the GBA have incorporated the export of NEVs into their globalisation strategies. For example, some GBA-based NEV manufacturers have invested in overseas factories and constructed local production value chains in foreign markets.

In general, overseas have more stringent ESG-related requirements for NEV batteries which has created increasing challenges for China’s automotive industry.

In June 2024, the EC announced its intention to impose provisional countervailing duties on imports of BEVs originating in China from July 2024 onwards. The maximum provisional countervailing duty rate is set at 38.1%, to be imposed by the EU.³⁴ The tariffs may prompt Chinese automotive manufacturers to expedite their plans for investing in EU or exporting from countries that have friendlier EU trading relationships. For example, in July 2024, a leading Shenzhen-based automotive company announced its decision to invest about USD1 billion in Turkey, which has a customs union with the EU, to build a plant for up to 150,000 vehicles per year,³⁵ which would allow it to supply vehicles to the European market.

In addition to this protectionist trade measure, the new regulation on batteries published by the EC also poses a challenge to the Chinese automotive industry. The new EU Battery Regulation (EU) 2023/1542 came into force in August 2023, setting out requirements for the eco-design, manufacturing and recycling batteries.

The automotive production in the GBA cities

- ◆ Guangzhou has been the first city in China of automotive production for five consecutive years, producing more than 3.1 million automobiles in 2023.²⁸
- ◆ Shenzhen has become the “No.1 city for NEV” for the first time, with an output of over 1.7 million NEVs in 2023.²⁹



New EU Battery Regulation (EU) 2023/1542³⁶

- ◆ Subject matter and scope:
 - Lays down requirements on sustainability, safety, labelling, marketing and information to allow the placing on the market or putting into service of batteries within the EU;
 - Lays down minimum requirements for extended producer responsibility, the collection and treatment of waste batteries and for reporting;
 - Applies to all categories of batteries, namely portable batteries, starting, lighting and ignition batteries (SLI batteries), light means of transport batteries (LMT batteries), electric vehicle batteries and industrial batteries, regardless of their shape, volume, weight, design, material composition, chemistry, use or purpose.
- ◆ Timeline and impacts:
 - The regulations’ most significant new obligations(such as the introduction of the battery passport or the carbon footprint declarations that will be necessary for each battery) will generally start to bite from mid-2025 onwards. The regulation lays out ambitious new sustainability and transparency targets for a wide range of stakeholders engaged in the manufacture, use or import of batteries. It will have a significant impact on original equipment manufacturers (OEMs) and other electric vehicle manufacturers and distributors.

Implementing the new EU Battery Regulation (EU) 2023/1542 would significantly impact Chinese automobile and power battery companies. These companies face three significant obstacles when looking at expanding into the European market³⁷. Specifically, they must:

- ◆ Complete and improve their carbon footprint declaration;
- ◆ Meet EU requirements for the recycling and reuse of battery materials;
- ◆ Respond to information disclosure requirements for battery passports. The battery passport shall contain information relating to the battery model and information specific to the individual battery, including resulting from the use of that battery.

China, including the GBA, has been making efforts to improve the carbon footprint assessment system for products in the automotive industry. According to our study, over 57% of GBA-listed companies in the automotive industry have disclosed their 2023 annual ESG reports. 95% of these companies disclosed carbon emissions at the operational level, but few did so at the product level. China has taken a number of steps to improve the carbon footprint assessment of the automotive industry one of which is the development of the China Automobile industry chain carbon publicity platform (CPP^{xviii}).

xviii. CPP is the official abbr of China Automobile industry chain carbon publicity platform (Source).



CPP - the very first “carbon publicity platform” in the world to share carbon footprint data from the entire automobile industry chain³⁸

In 2023, CPP was launched by China Automotive Carbon Digital Technology Centre Co., Ltd. It aims to make so-called “carbon data publicity” routine for the Chinese automobile industry and lead the way internationally with regard to “carbon emissions”.

- ♦ **Four targets of CPP:**³⁹
 - Build a Low-Carbon Ecology
 - Guide Low-Carbon Consumption
 - Reach the Dual-Carbon Goal
 - **Break Through Trade Barriers:** Promote international mutual recognition of China’s automotive carbon footprint information, enhance international low-carbon competitiveness, and thereby address carbon trade barriers.
- ♦ **Coverage scope and content:** CPP covers more than ten items of carbon emission data for three types of products, including passenger automobiles, parts and components, and automotive materials. Around 60 automotive companies have published carbon footprint information for over 6,200 models of automobiles on the platform.⁴⁰
- ♦ **Data published by the GBA-based companies on CPP:** Carbon footprint information of over 300 models of passenger automobiles from the three GBA-based automotive manufacturers have been published and certified on CPP.

In addition to disclosing their product carbon footprints on CPP, automotive companies and automotive parts and components manufacturers within the GBA have taken industry-leading measures to reduce carbon emissions, as outlined below:

Examples of measures taken by GBA companies to reduce carbon emissions	
Automotive Manufacturer: <ul style="list-style-type: none">♦ A Guangzhou-based NEV manufacturer is developing China’s first closed-circuit aluminium sheet recycling demonstration project, which will recycle and process 100% of the production line’s aluminium sheet scrap and is expected to reduce primary aluminium consumption by 40% in the production process of a single vehicle and reduce the emissions of a single vehicle by about 700 kg of CO₂.⁴¹♦ A Guangzhou-based company has implemented the industry-leading smart microgrid system known as “photovoltaic + energy storage”. It built the first zero-carbon factory with zero carbon emissions in the manufacturing process and was awarded carbon-neutral certification by the Guangzhou Emissions Exchange in 2023.⁴²	Automotive Parts and Components Manufacturer: <ul style="list-style-type: none">♦ A Huizhou-based company followed the design principles of reusability to develop an in-vehicle intelligence system. It extensively uses accessories composed of renewable materials, including recycled plastics and magnesium alloys. The carbon footprint of this product was 45% lower than that of traditional products. Furthermore, in 2023, 12 energy-saving projects have been implemented company-wide, with a total emission reduction of over 3,000 tCO₂e.⁴³♦ A Hong Kong-based company completed 16 energy-saving measures in two factories in 2023, such as residual heat recovery, which reduced electricity consumption by 4,797 MWh and carbon emissions by 2,813 tCO₂e. In addition, the company plans to procure six million kWh of green power in 2024, reducing 3,421.8 tCO₂e.⁴⁴

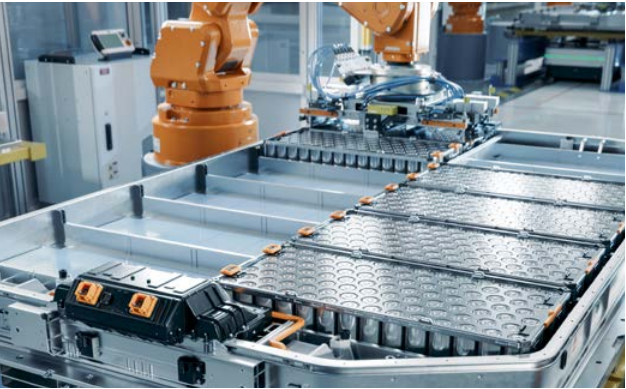
Decarbonisation of battery production is an essential part of the decarbonisation strategy of the automotive industry as a whole. As the industry transitions from internal combustion engine vehicles to NEV, emissions in the use phase have been significantly reduced, but the high emissions generated during materials production pose a challenge. Materials production emissions account for 45%-85% of total NEV lifecycle emissions.⁴⁵ The production of power batteries can contribute up to 60% of the lifecycle carbon emissions of NEVs.⁴⁶

National level	The GBA
<p>In April 2024, the China Battery Industry Association and other partner organisations published the “The Digital Battery Passport System of China White Paper”. The document aims to support Chinese battery manufacturers in complying with the new EU Battery Regulation (EU) 2023/1542 and continuing to expand in the EU market. It introduces the definition and development of the digital battery passport system at home and abroad. Key technologies, implementation paths, and required relevant standards are mentioned. In addition, it proposes several measures required to set up China’s digital battery passport system.⁴⁷</p>	<p>In March 2024, Shenzhen established China’s first “National Measurement and Testing Centre for the Electric Vehicle Battery and Charging System Industry”. The centre has developed 35 national and local standards and provides measurement services for the whole power battery industry chain and lifecycle. It plans to provide customised metrology and testing services for more than 30 battery companies in the GBA and China, supporting domestic battery products to expand in North American and European markets.⁴⁸</p>

Recycling is an important part of the battery industry’s decarbonisation strategy. The raw material extraction stage accounts for about a quarter of battery production emissions. It could be reduced effectively by increasing the use of recycled materials because the carbon footprint of recycled battery materials is typically four times smaller than that of materials extracted from primary sources.⁴⁹ In 2023, China had 168,000 tonnes of waste power batteries, with Guangdong Province accounting for 25%.⁵⁰ According to the Ministry of Industry and Information Technology, NEV manufacturers must provide an eight-year battery warranty as of 2016, so the number of waste batteries will still rise in 2024. Leading GBA companies have set out strategic plans to deal with this situation.

Case Study:

- ♦ Shenzhen NEV manufacturer: As one of the earliest automotive companies in China to set out battery recycling plans, in 2018, the company launched a battery recycling programme under which waste batteries can quickly be disassembled and separated for recycling. The company is at the forefront of the industry, and its battery recycling capabilities are widely recognised.⁵¹
- ♦ Huizhou-based auto parts company: As one of the earliest lithium battery recycling companies in China, in 2017 the company launched a battery recycling programme focused on separating, recycling and reusing waste power batteries. The company has signed cooperation agreements with several first-tier automotive companies and recycled more than 10,000 lithium batteries.⁵¹

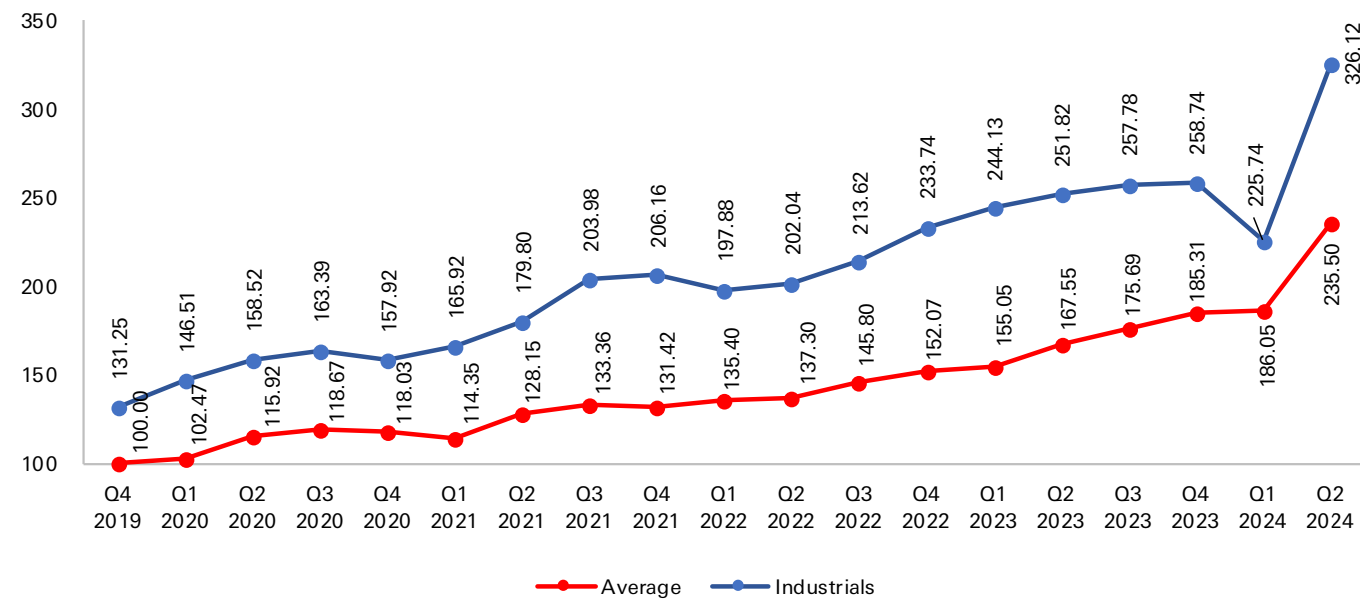


Case Study:

Industrials

In our study, the industrials sector includes the transportation, construction and manufacturing industries. Given the importance of these three sub-sectors to the national economy, the industrials sector is often in the spotlight when it comes to discussing sustainable development. This current study shows that the industrials sector has maintained its leading position in ESG performance in the GBA over most of the period studied. Furthermore, in Q2 2024, the sector achieved the best ESG performance among the eight key sectors, due to stronger policy support, better management of climate change issues, and increased ESG disclosure rate and issuance volume of GSSS bonds.

Figure 9. GBA ESG Sub-index – Industrials



Note: The line chart shows the ESG performance evolution of the industrials sector. The average value of the GBA ESG Industry Sub-indices was set at 100.00 for Q4 2019 (base period).
Source: China’s official statistical database, Wind, public sources, public disclosures of listed companies, CECEPEC

Industrials Sector Close-up: Manufacturing Industry

The combination of high-quality development and New Quality Productive Forces creates both opportunities and challenges for the equipment manufacturing industry in many areas including ESG. The GBA manufacturing industry has actively promoted green and digital transformation. It is committed to actively aiding the sustainable development of other industries, and the economy as a whole, by offering high-end, intelligent, green equipment and products.

In this study, the manufacturing sub-sector refers to the equipment manufacturing industry^{xix}, including electrical equipment and machinery manufacturing, general-purpose equipment, and specialised equipment. The equipment manufacturing industry is one of the most significant sectors in China. It provides production machinery and tools for other sectors, such as transportation, forestry, and healthcare. As a capital-, labour-, and technology-intensive industry, it plays an essential role in boosting investment, technology advancement, and employment within the region.

The equipment manufacturing industry^{xix} in China

In China, the added value of the equipment manufacturing enterprises above the designated size^{xx} in 2023 increased by 6.8% year-on-year, accounting for around 34% of the total added value of the industrial enterprises above the designated size in 2023.⁵² The figures for Guangdong Province in 2023 were 5.6% and 45%.⁵³

xix. The added value of automobile manufacturing industries, computer, communication and other electronic equipment manufacturing industries were included in the public official data on the added value of the equipment manufacturing industry.
xx. Industrial enterprises above designated size refer to industrial enterprises with annual revenue from main business operations of RMB20 million or more([Source](#)).
xxi. Unless otherwise specified, in our study, the manufacturing sub-sector does not cover the activities with regard to automobile manufacturing, computer, communication and other electronic equipment manufacturing.

The concepts of high-quality development and New Quality Productive Forces have come to the fore over the past year primarily due to the important role they play in the country’s future development. The Chinese central government has issued policies to guide the high-quality and sustainable development of various sectors and to accelerate new industrialisation (新型工业化), with the aim of upgrading traditional industries, and promoting advanced manufacturing and digitalisation. In alignment with this, governments within the GBA have set out relevant policies and guidelines.

The figure below sets out some of the policies and working plans proposed by the Chinese central government and governments within the GBA in the first half of 2024.

Chinese central government:

- According to the Report on the Work of the Government released in Q1 2024, one of the major tasks for the Chinese central government is to modernise the industrial system and develop New Quality Productive Forces. Some of the key actions are as follows:
 - Upgrade industrial and supply chain. For example, the government aims to carry out technology transformation and upgrade the manufacturing sector, foster advanced manufacturing clusters, and develop national demonstration zones for new industrialisation to make traditional industries higher-end, smarter, and more eco-friendly.⁵⁴
 - Promote innovative development of the digital economy. For example, the government aims to develop the digital industry, transform traditional industries with digital technologies, and fully integrate digital technology into the real economy.⁵⁴
- In Q1 2024, the Chinese central government published an action plan to promote large-scale equipment renewal and the trade-in of consumer goods. According to the action plan, vigorous efforts should be made to bring about the renewal and technological transformation of manufacturing equipment, energy-consuming equipment and power generation, transmission and distribution equipment to achieve energy savings and carbon emission reduction, ultra-low emission, safe production, digital transformation and smart upgrades in key sectors.⁵⁵

Guangdong Province

- In Q2 2024, Guangdong Province published a detailed plan to promote the renewal of industrial equipment and achieve technological transformation in line with the action plan set out by the central government. In May 2024, Shenzhen issued its own action plans to promote the renewal of industrial equipment.



Hong Kong

- In 2022, Hong Kong published the Hong Kong Innovation & Technology Blueprint with the stated aim of achieving new industrialisation in Hong Kong. According to Hong Kong’s 2024-25 Budget released in Q1 2024, the government has earmarked HKD10 billion to launch a scheme to promote new industrialisation in the city, supporting enterprises in the fields of life and health technologies, AI and advanced manufacturing.⁵⁶



The demand for higher-end, smarter, and more eco-friendly equipment has significantly increased in a number of sectors. Companies in the equipment manufacturing industry, especially those specialising in intelligent and eco-friendly fields, have significant market opportunities. At the same time, the equipment manufacturing industry is also under pressure to promote green and digital transformation within the context of the overall development of a green and digital economy.

Some leading equipment manufacturers in the GBA have taken concrete steps to mitigate their carbon footprint and other environmental impacts.

Examples of steps taken by GBA companies to mitigate their environmental impact

- ♦ **Usage of renewable electricity:** Leading GBA companies from the equipment manufacturing industry are committed to increasing renewable electricity usage. A leading Hong Kong company has promoted the application of renewable electricity in an orderly manner. As of the end of 2023, most overseas operation sites of the company have transitioned to 100% renewable electricity. With regard to the sites within mainland China, two of them already operate using 100% renewable electricity, while the remaining sites use between 50% to 80% renewable electricity.⁵⁷
- ♦ **Mitigation of their products’ carbon footprint:** A leading Hong Kong company has adopted a product carbon footprint (PCF) approach and provided comprehensive training sessions for staff and engineers to equip them with the knowledge and skills to calculate product carbon footprints. Based on the insights gleaned from this approach, the company has undertaken various strategies to minimise its product carbon footprints, such as avoiding carbon-intensive materials and manufacturing processes.⁵⁷
- ♦ **Minimising waste to landfill:** Waste management is one of the key issues for the equipment manufacturing industry. Our study observed that some leading GBA companies have taken actions to minimise solid or hazardous waste generation, such as conducting waste audits to assess the types and quantities of waste generated, increasing the usage of recyclable materials, and so on.

An increasing number of GBA companies have started pulling ahead in their efforts to promote digital transformation. With an edge in research and development(R&D) and capital resources, Hong Kong plays a vital role in fostering new industrialisation within the GBA and empowering GBA companies for a digital future. The Hong Kong Productivity Council (HKPC)^{xxii} provides great support for GBA manufacturers in transitioning to intelligent and digital management by offering counselling services, innovative solutions, technical support, etc. Over the past ten years, HKPC has assisted the industry in successfully implementing over 1,200 industrial intelligent projects within the GBA; around 70% were implemented in PRD cities, while 30% were in Hong Kong. These intelligent projects involved various industries, including the equipment manufacturing industry.⁵⁸

Case study

- ♦ Established in Hong Kong, a GBA manufacturing company whose part of the business involves equipment manufacturing has co-developed the Digital Management System(DMS) with HKPC. The DMS significantly enhances the company’s rationality of the production plan and scheduling efficiency.⁵⁹
- ♦ A Foshan company from the equipment manufacturing industry has cooperated with HKPC, and successfully achieved significant progress in its intelligent manufacturing, with an improvement in its on-time delivery rate and Overall Equipment Effectiveness(OEE).⁵⁸



xxii. Hong Kong Productivity Council (HKPC) is a multi-disciplinary organisation established by statute in 1967, to promote productivity excellence through relentless drive of world-class advanced technologies and innovative service offerings to support Hong Kong enterprises [\(Source\)](#).

As mentioned above, an increasing demand for higher-end, smarter, and more eco-friendly equipment creates significant opportunities for the equipment manufacturing industry, especially those specialising in the intelligent and eco-friendly fields. Our study found that GBA’s equipment manufacturing industry is committed to offering higher-end, intelligent and green equipment and products for its downstream, helping other industries navigate the transition to a low-carbon and resource-efficient economy. For example, a Zhongshan company specialising in the production of high-end equipment for the new energy industry, has increased its investment in offshore wind power area, given the trend of development of deep-sea wind power. The company has developed innovative wind generators, aiming to reduce the construction cost of offshore wind power and increase the climate resilience of wind power equipment.⁶⁰

Our study found that the GBA equipment manufacturing industry has not been active in the green and sustainable finance market . However, **the equipment manufacturing industry has great potential to leverage green and sustainable financing tools to support the development of its green business, given that various equipment manufacturing activities are considered potential green projects by relevant green and sustainable financing taxonomies.** The equipment manufacturing industry can also use such financing tools to support its green transformation at operational level. Figure 10 gives examples of internationally recognised green project types for the equipment manufacturing industry which green financing tools could support.

Figure 10. Potential green project types for the equipment manufacturing industry

Project type	Description
Production of smart grid products and equipment	Manufacture of transmission/distribution transformers related to smart grids and new energy.
Production of equipment that makes use of new energy	The project types include the production of wind generators, solar generators, biomass energy utilisation equipment, etc.
Manufacture of recycling equipment	The project types include the manufacture of equipment for the recycling and harmless treatment of food waste, facilities for resource recycling and reuse, etc.
Manufacture of energy-saving equipment	The project types include the manufacture of energy-saving furnaces, energy-saving motors, etc.
Manufacture of green ships	The project types include the manufacture of low-carbon transport fleets and vessels.
Green lighting upgrades	Energy-saving technology upgrading of highly efficient lighting products.
Installation, maintenance and repair of renewable energy technologies in buildings	Installation, maintenance and repair of renewable energy technologies on-site. The Application of Renewable Energy in Buildings.

Source: Common Ground Taxonomy, China’s Green Bond Endorsed Project Catalogue, CECEPEC



Appendices

Glossary

Term/Acronym/Abbreviation	Interpretation
AI	Artificial intelligence
BEVs	battery electric vehicles
BSE	Beijing Stock Exchange
CBAM	Carbon Border Adjustment Mechanism
DMS	Digital Management System
EC	European Commission
EU	European Union
GBA	Guangdong-Hong Kong-Macao Greater Bay Area
GHG	Greenhouse gas
GSSS bonds	Green, social, sustainability and sustainability-linked bonds
HKMA	Hong Kong Monetary Authority
HKPC	Hong Kong Productivity Council
HKSAFC	Hong Kong Sustainable Aviation Fuel Coalition
IMO	International Maritime Organisation
ISSB	International Sustainability Standards Board
IUR	Industry-university-research
LMT batteries	Light means of transport batteries
MOU	Memorandum of Understanding
NEVs	New energy vehicles
OEE	Overall Equipment Effectiveness
OEMs	Original equipment manufacturers
PCF	Carbon footprint
PRD	Pearl River Delta
PRI	Principles for Responsible Investment
R&D	Research and development
SAF	Sustainable aviation fuel
SASAC	State-owned Assets Supervision and Administration Commission of the State Council
SBTs	Science-based targets
SBTi	Science-Based Targets initiative
SEHK	Stock Exchange of Hong Kong
SLI batteries	Starting, lighting and ignition batteries
SOE	State-owned enterprise
SSE	Shanghai Stock Exchange
SZSE	Shenzhen Stock Exchange
The Index	HSBC Greater Bay Area ESG Index
UAV	Unmanned aerial vehicle

Note: In alphabetical order

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Table of Indicators

Figure 11. Indicators for regional/cities and industry level

First-level Indicator	Second-level Indicator
Environment	Corporate CDP disclosure performance
	Corporate science-based climate commitments
	Air quality
	Energy use efficiency
	Water use efficiency
	Electricity use efficiency
	Public sector’s contribution to environmental protection
Economic and Social Development	Urban greenness
	Economic development
	Economic contribution of tertiary industry
	Employment situation
	Public sector’s contribution to education
Corporate Governance	Innovation and technological advancement
	Activeness of market players
Green and Sustainable Finance	Corporate ESG disclosure performance
	Activeness of market players
	Investor commitment to sustainable investing
	Volume of sustainable debt instruments
Policy	Number of ESG mutual funds
	Policies related to sustainable development in the GBA

Source: CECEPEC

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