

HSBC GBA ESG Index Report

April 2023



HSBC

Opening up a world of opportunity

Prepared by:



CECEP ENVIRONMENTAL
CONSULTING GROUP
中國節能皓信環境顧問集團



Table of Contents

Executive Summary	4
GBA ESG Regional Index	8
GBA ESG Industry Sub-indices	16
Consumer Discretionary Sector Close-up – Automotive Industry	21
Consumer Discretionary Sector Close-up – Textile and Garment Industry	25
Appendices	29
Glossary	29
References	29
Table of Indicators	33
Disclaimer	34
Copyright Statement	34
About HSBC	34
About CECEPEC	35

Executive Summary



Executive Summary

This report is the first 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 Q4 2022 and Q1 2023ⁱ. In the GBA ESG Industry Sub-indices section of this report, we focus on the consumer discretionary sector, which has demonstrated a marked improvement within the context of the reopening and recovery of mainland China’s economy. This report further analyses how the GBA is responding to the sustainability-related opportunities and challenges for two specific industries in the consumer discretionary sector in particular, namely, the automotive industry and the textile and garment industry.

The GBA ESG Regional Index

Q4 2022

4%

year-on-year increase

reaching

120.27

Q1 2023

2%

year-on-year increase

reaching

117.26

The GBA ESG Industry Sub-indices

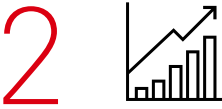
The average value of the GBA ESG Industry Sub-indices increased slightly over the past two quarters reaching a record high in

Q1 2023, up 6% from Q3 2022.



Over the past two quarters, policymakers announced a growing number of policies to promote the GBA’s sustainable development, in which economic and social development was identified as a key area as regards sustainability.

Within the context of the reopening of mainland China and the announcement of more supportive policies to bolster the economy, the GBA experienced a notable improvement in the area of economic and social development over the past two quarters. The GBA’s performance in economic and social development in Q4 2022 and Q1 2023 recorded the highest Q4 and Q1 values respectively, according to our study from Q4 2019 onwards. The GBA has also shown signs of recovery in the economy and labour market. More supportive measures were rolled out to revive consumer demand, stimulating individual and household consumption, most notably in the ambit of new energy vehicles, education and other sustainability-related areas.



The GBA experienced a significant improvement in the sustainable debt market, with the issuance of GSSS bondsⁱⁱ recording a year-on-year increase of 71% and 96% in Q4 2022 and Q1 2023 respectively.

Our study found that Hong Kong, Guangzhou and Shenzhen still lead the GBA’s sustainable debt market. The GSSS bonds issued by the three citiesⁱⁱⁱ collectively accounted for 88% and 100% of the GBA’s total volume of GSSS bonds in Q4 2022 and Q1 2023 respectively. According to our data, it is noteworthy that the volume of GSSS bonds issued by Hong Kong during Q1 2023 exceeded RMB56 billion, by far the largest quarterly issuance volume since Q4 2019. The impressive quarterly issuance volume from Hong Kong was mainly attributable to the Hong Kong government’s triple-currency Green Bond offering in January 2023, which is Asia’s largest ESG bond issuance. ¹ Moreover, Hong Kong is firmly committed to remaining a global sustainable financial centre, one that leverages fintech to accelerate sustainable development. Furthermore, Guangdong Province aims to use finance as a tool to support green projects and transition activities.



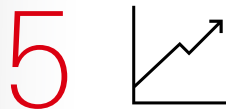
Of the eight sectors studied, industrials and financials maintained their leading positions in ESG over the past two quarters, mainly driven by their leading performance in the pillars of policy^{iv} and green and sustainable finance^v.

Our study shows that industrials and financials remained top two positions in ESG over the past two quarters, and both sectors performed much better in the pillars of policy and green and sustainable finance than other sectors in Q4 2022 and Q1 2023. According to our study, financials experienced rapid growth in Q4 2022, primarily due to a significant improvement in the pillar of green and sustainable finance, with a year-on-year increase of 366% in the volume of GSSS bonds issued. Consumer discretionary and communication services were the next two highest ranked sectors in Q4 2022 and Q1 2023.



Healthcare retained its position as the sector with the best rate of improvement^{viii}, while financials, industrials and communication services also had relatively high rates of improvement over the past two quarters.

Of the eight sectors studied, healthcare, which had the lowest starting point, continued to record the highest rate of improvement (1,750% and 1,729% in Q4 2022 and Q1 2023 respectively), mainly driven by the improvement in the pillars of policy, ESG disclosure^{vi} and, most especially, climate action^{vii}. Financials had the second highest rate of improvement in Q4 2022, coming in at 80%, while communication services took second place in Q1 2023 with a rate of 93%, primarily driven by two main pillars, i.e., climate action and ESG disclosure.



Consumer discretionary demonstrated a marked improvement over the past two quarters, with rates of improvement of 17% and 21% in Q4 2022 and Q1 2023, respectively. This improvement was primarily driven by an increase in the number of relevant policies and an improvement in the pillar of climate action. Within the context of the reopening of mainland China, consumer discretionary plays a significant role in driving the GBA’s sustainable development by encouraging sustainable purchasing behaviour, and promoting sustainable products and business strategies. At the same time, sustainability trends have been shaping the sector, driven by changes in consumer preferences, pressure from regulators, and the pursuit of enterprise efficiencies; bringing both challenges and opportunities.

Our study shows that policymakers announced more policies over the past two quarters to bolster the consumer discretionary sector and facilitate its transition to a low-carbon model. With regard to the pillar of climate action, according to our study, companies in the consumer discretionary sector in the GBA have become more active in sustainability initiatives, especially in CDP^x and Science Based Targets initiative (SBTi)^x.

The phasing out of internal combustion engine (ICE) vehicles is undoubtedly a challenge to the automotive industry, but nevertheless brings opportunities for companies who can embrace the shift to the new energy vehicles (NEVs) necessary to achieve carbon neutrality. The GBA and its cities have leveraged the comprehensive automotive supply chains to support the development of NEVs. The report shows that different approaches to sustainable finance, such as green and sustainable private equity, green asset-backed securities (ABS)^{xi}, have been adopted by automakers in the GBA to support their green and sustainable development strategies. In terms of the textile and garment industry, sustainable transformation to a green and low-carbon model is challenging due to its long and complicated supply chain. To accelerate the sustainable transformation and develop a circular economy, the textile and garment industry in the GBA has leveraged cutting-edge technologies and environmentally friendly production techniques.

i The Launch Report of the Index was published in December 2022 and analysed the GBA’s ESG and sustainable development performance from Q4 2019 to Q3 2022. The current report covers the GBA’s performance over the past two quarters, i.e., Q4 2022 and Q1 2023. Subsequent reports will track the quarterly progress within the GBA.

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

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

iv Evaluation of the strength of policy support for by looking at the number of industrial policies set out at each level of government including central, provincial, municipal and district levels.

v Evaluation of utilisation of green and sustainable finance instruments to support sustainable development of the eight key sectors.

vi Evaluation of the ESG disclosure rate (proportion of companies publishing ESG or other related non-financial reports) of the eight key sectors.

vii Evaluation of corporate performance as regards climate-related disclosure and commitment to low-carbon economy.

viii Evaluation of rate of improvement for a specific period by comparing the performance in that period with that of the base period.

ix The CDP is an international non-profit organisation that helps companies and cities disclose their environmental impact. Currently, the CDP has a separate set of questionnaires for climate change, forests, and water security.

x The SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI), and the World Wide Fund for Nature (WWF).

xi In mainland China, green ABS may be classified into three main types: the green versions of respectively credit ABSs, enterprises asset-backed notes (ABNs) and corporate ABSs. The “green” elements, including the base assets, uses of proceeds/funds raised. The base assets of green credit ABSs are green loans. The green elements of green enterprises ABNs are implied in the definition of green enterprise bonds in the related business guidelines issued by the National Association of Financial Market Institutional Investors (NAFMII) in March 2017 (Source). The basic requirement of the green corporate ABSs is the use of proceeds in green projects (Source).

GBA ESG Regional Index



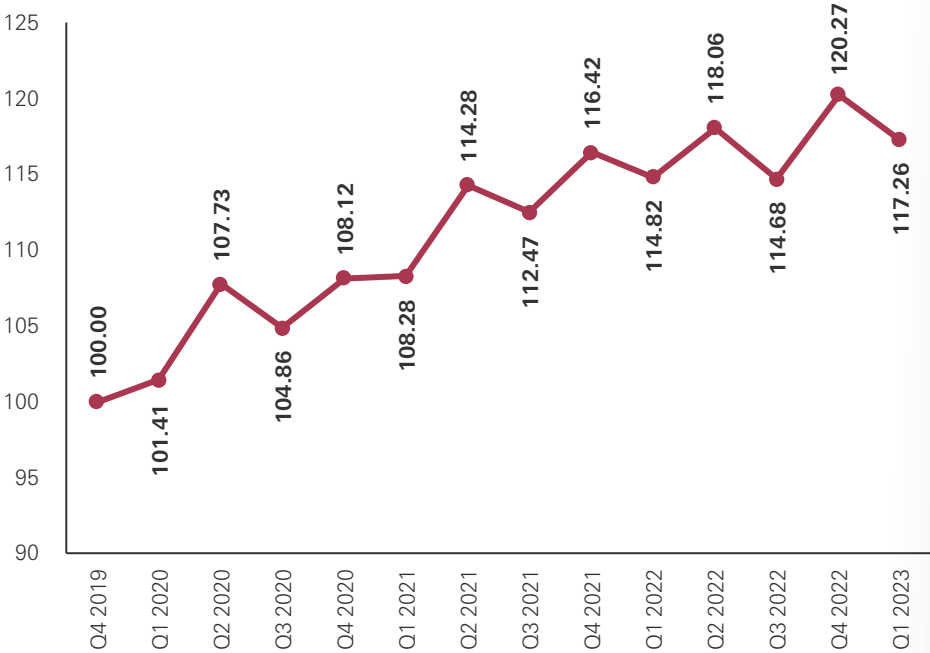
GBA ESG Regional Index

The GBA ESG Regional Index

Q4 2022
4%
year-on-year increase
reaching
120.27

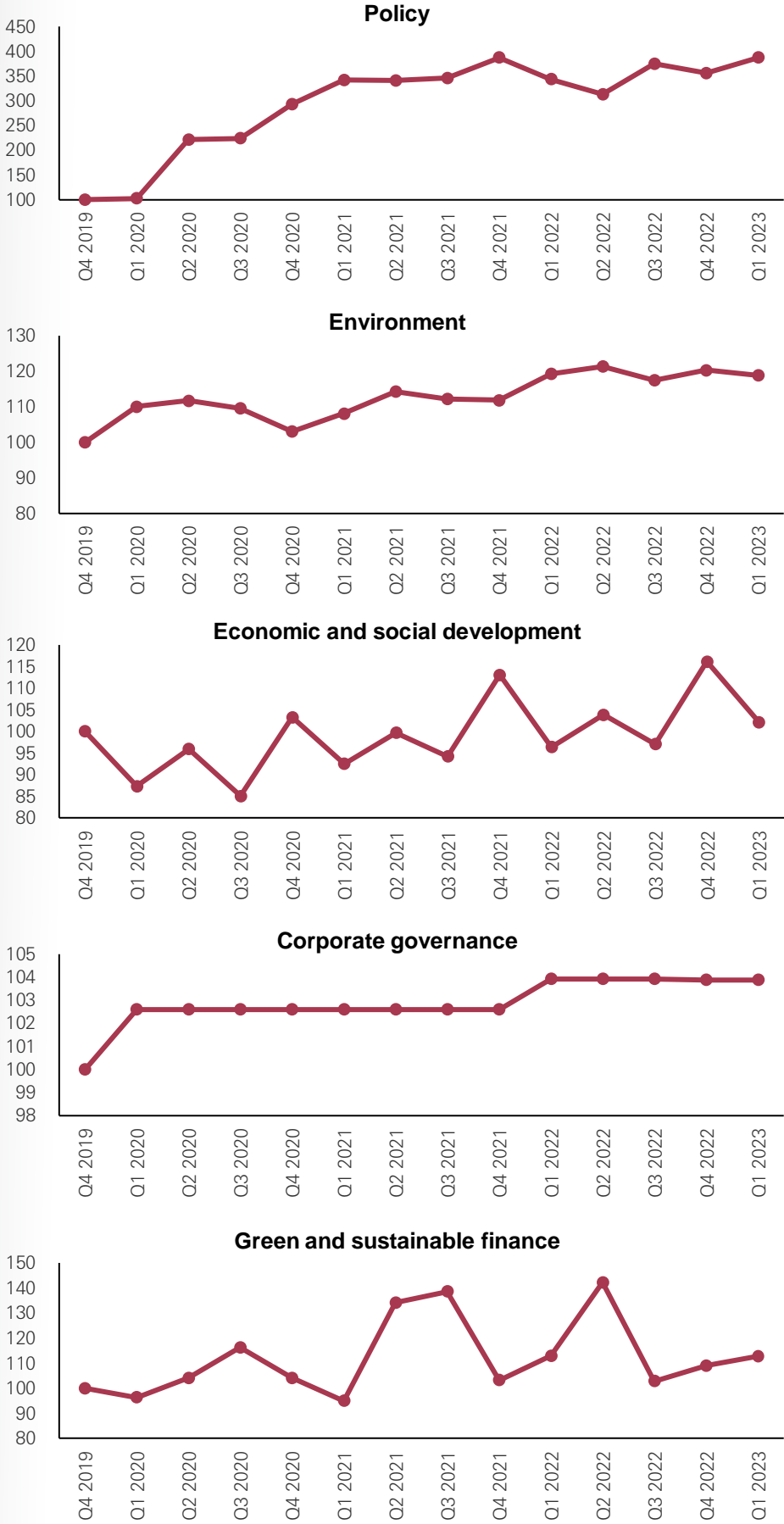
Q1 2023
2%
year-on-year increase
reaching
117.26

Figure 1. The GBA ESG Regional Index



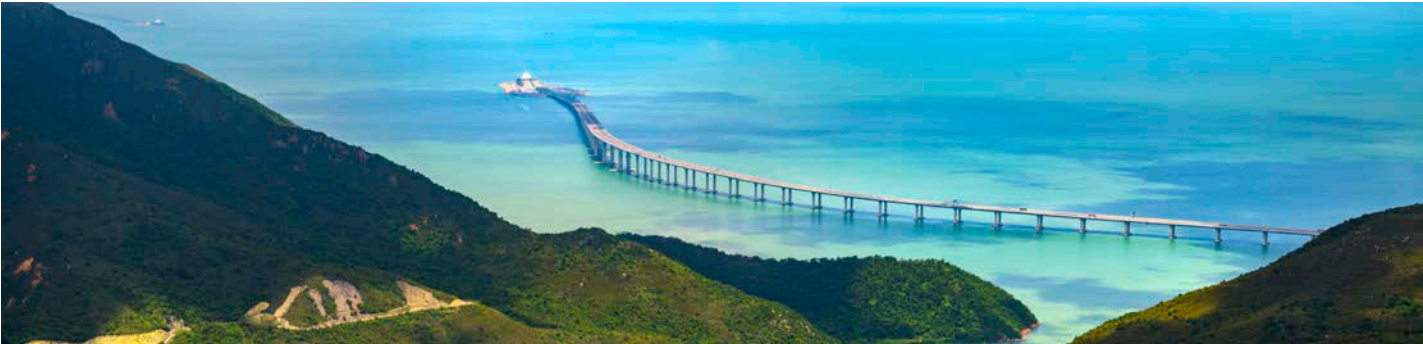
Source: China's official statistical database, public disclosure of listed companies, public information from relevant third-party databases, other public sources, CECEPEC

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 remained high in Q4 2022 and Q1 2023. Performance in the areas of environment and corporate governance was relatively stable. The performance of the GBA in economic and social development reached a record high in Q4 2022. Despite a dip in Q1 2023, the GBA’s performance in economic and social development was still the highest value for any Q1, compared to Q1 of the previous years studied. At the same time, the GBA experienced a slight improvement in the area of green and sustainable finance in Q4 2022 and Q1 2023.



Policy

Since December 2022, governments have announced an increasing number of policies to promote the region’s sustainable development within the context of the reopening of mainland China; a large proportion of these being unveiled in Q1 2023. The most noteworthy of these policies included the unveiling of 30 financial support measures for Hengqin and Qianhai in Guangdong Province, aimed at promoting the development of key regions in the GBA. These 30 measures cover a wide range of aspects, including green financial market interconnection.² Hong Kong and Macao announced their Policy Addresses in October and November 2022, respectively; both governments

highlighting sustainability-related issues; specifically, carbon neutrality and promoting people’s livelihood.^{3,4} Guangdong Province released the Carbon Peaking Implementation Plan. The overall goal of the plan is to increase the percentage of non-fossil energy consumption to 32% by 2025 and to 35% by 2030.⁵ Moreover, the Province rolled out an action plan to use finance as a tool to support economic growth in 2023. Under the action plan, financial institutions and micro-credit companies are encouraged to lower interest rates to stimulate individual and household consumption, focusing on sustainability-related issues, such as NEVs, elderly care services, education and medical care.⁶



Economic and Social Development

In the GBA, the area of economic and social development displayed a notable improvement over the past two quarters. Specifically, the economy of the GBA showed signs of recovery and demonstrated support for the sustainable recovery of labour market, talent mobility, and other societal developments. In December 2022, mainland China eased its COVID curbs, setting the scene for the GBA’s economic recovery. Looking at tourism within the GBA, the number of travellers and tourism revenues surged during the 2023 Spring Festival. For instance, Shenzhen saw its number of travellers and tourism industry revenue rise by 55% and 56%, respectively, in the 2023 Spring Festival, compared to the 2022 Spring Festival.⁷ With Hong Kong’s cancellation of mandatory nucleic acid testing for inbound travellers and the reopening of mainland China, Hong Kong’s tourism industry has shown signs of recovery. The number of overseas visitors to Hong Kong soared to 1,058,149 in Q1 2023 (vs. 2,082 in Q1 2022), while the number of visitor arrivals in Hong Kong from mainland China jumped to 3,353,771 in Q1 2023 (vs. 7,807 in Q1 2022). In addition, travel momentum also picked up notably for Hong

Kong’s own residents. During Q1 2023, the number of Hong Kong residents’ arrival through all control points reached 10,450,566 (vs. 92,609 in Q1 2022).^{8,9} Supported by the gradual normalisation of economic activities, recovery of the tourism sector and full resumption of normal travel between mainland China and Hong Kong, there are positive signs of recovery in the labour market, especially in Hong Kong. Hong Kong’s seasonally adjusted unemployment rate fell to 3.3% in the three months ending February 2023^{xii}, the lowest level since the three months ending December 2019.¹⁰

Reopening facilitates the mobility of talent within the GBA. In February 2023, an exit endorsement policy was launched to facilitate talent working in GBA mainland cities to travel southwards to Hong Kong and Macao, for exchanges and visits in scientific research, education, and healthcare; law and business.¹¹ Moreover, Hong Kong regularised the “Greater Bay Area Youth Employment Scheme” in March 2023, further facilitating talent circulation in the region.¹²

xii The seasonally adjusted unemployment rate in the three months ended March 2023 is unavailable at the time of publication of this report.



Corporate Governance

Shenzhen tightened the requirements on ESG information disclosure for financial institutions and listed companies, further demonstrating its leadership in ESG disclosure guidelines in mainland China. ESG disclosure is one of the key issues in the area of corporate governance, as it provides an effective communication tool for stakeholders to understand companies’ sustainability performance and plans. More stringent ESG disclosure requirements can promote the continuous improvement of companies’ ESG performance.

In September 2022, Shenzhen issued the *Guidelines for Financial Institutions’ Environmental Information Disclosure*, providing detailed and advanced guidance on environmental information disclosure, such as the ESG or green finance governance system, and green financing and investment activities. The release of the guidelines facilitates the implementation of mainland China’s environmental and green finance information disclosure system. On the one hand, the guidelines can encourage financial institutions to improve ESG governance while, on the other hand, they are increasing pressure on companies as the financial institutions are paying more attention to the greenness of their portfolios.

As well as financial institutions, Shenzhen also looked at industries that could have significant adverse ESG

impacts. In February 2023, Shenzhen Stock Exchange (SZSE) released the newly revised *Guidelines of SZSE for Self-Discipline Regulation of Listed Companies No.3 – Industrial Information Disclosure and Guidelines of SZSE for Self-Discipline Regulation of Listed Companies No.4 – ChiNext Board Industrial Information Disclosure*. The revised guidelines set out industrial characteristics and detail the requirements for ESG disclosure for specific industries. Listed companies from heavily polluting industries, such as solid mineral resources, food and winemaking, textiles and garments, chemicals and power, are required to disclose more details on major environmental pollution incidents. Meanwhile, companies from high-risk industries, for example, solid mineral resources, chemicals and civil explosives industries, are required to disclose more details on major safety incidents.

There may be a tendency for companies to emphasise positive ESG performance instead of reporting negative incidents, which can create an erroneous picture of the companies’ overall ESG performance. Compared with mainland China’s existing ESG disclosure guidance, the revised guidelines provide more detailed disclosure requirements of ESG negative performance. The revised guidelines enhance transparency and provide more balanced information to governments, investors, creditors and other stakeholders.



Green and Sustainable Finance

Over the past year, China has stimulated the development of green and sustainable markets by means of financial product innovation. For example, China launched a pilot program for transition finance bonds in June 2022 to support the low-carbon transition of pilot industries. Moreover, in January 2023, the People’s Bank of China (PBOC) announced that it would continue to leverage three structural monetary policy tools, including the carbon-reduction credit facility, to encourage financial institutions to strengthen their support for green development and other areas.

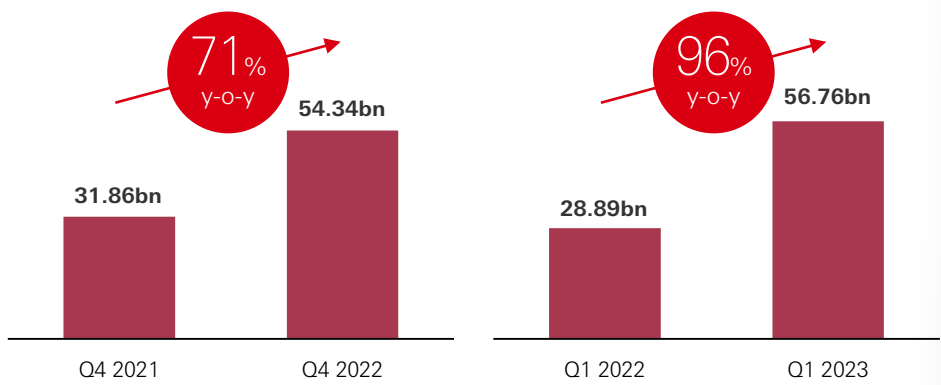
Guangdong Province actively leveraged the monetary policy tools launched by the PBOC to promote green industries and the transition of high-carbon sectors. As of the end of 2022, financial institutions in Guangdong Province issued RMB64.2 billion in carbon emission reduction loans, ranking first in mainland China, which will benefit 266 enterprises and lead to a reduction of 11.42 million tonnes of CO₂ emissions. It also issued loans worth RMB2.8 billion as a special re-lending tool for promoting the clean and efficient use of coal.¹³

Figure 3. Outstanding Green Loans in Guangdong Province, Shenzhen and mainland China overall level (as of the end of 2022)

	Mainland China overall	Guangdong Province	Shenzhen
Outstanding green loans (RMB)	22.03 trillion	2.2 trillion	644.96 billion
Year-on-year growth rate	39%	53%	44%

Note: No public data on Guangzhou’s outstanding green loans is available.
Source: PBOC, Guangzhou branch of PBOC, Shenzhen branch of State Administration of Foreign Exchange

Our study observed a significant improvement in the GBA’s sustainable debt market. Based on the data, the issuance volume of GSSS bonds in the GBA increased notably in the past two quarters



However, our study found a drop in both new UN Principles for Responsible Investment (PRI)^{xiii} signatories and new launches of ESG mutual funds in the GBA during 2022, compared with 2021.

With respect to GSSS bonds, Hong Kong, Guangzhou and Shenzhen still lead the GBA market, as can be seen in Figure 4.

Figure 4. Combined volume of GSSS bonds issued by Hong Kong, Guangzhou and Shenzhen issuers

Quarter	Combined volume of GSSS bonds issued by Hong Kong, Guangzhou and Shenzhen issuers (RMB billions)	Percentage of volume of GSSS bonds issued by all GBA issuers	Year-on-year growth rate
Q1 2023	56.76	100%	138%
Q4 2022	48.04	88%	104%
Year			
2022	146.62	91%	30%
2021	112.83	87%	-15%
2020	132.02	99%	78%
2019	74.17	96%	/

Note: GSSS bonds issued by issuers in Hong Kong, Guangzhou and Shenzhen refer to both onshore and offshore GSSS bonds issued by entities registered or primarily operating in these cities.
Source: Wind, CECEPEC

In March 2023, Guangdong Province unveiled an action plan to encourage finance to support economic growth in 2023. Under the plan, Guangdong Province aims to provide RMB4 trillion of new aggregate financing to the real economy in 2023 (compared with RMB3.5 trillion¹⁴ in 2022), of which RMB1 trillion will support the rural economy and ecological development. Specifically, the government will focus on four areas concerning green finance: establishing a leading green financial system, promoting green projects and green sectors, driving the low-carbon transformation of carbon-intensive sectors, and diversifying the toolbox of environmental equity financing. The government promotes the leveraging of different sustainable finance instruments for different sectors. Green finance instruments, including green loans, bonds and funds, can drive investment in green projects or sectors, such as wind power and photovoltaic industries, while transition finance instruments such as carbon emission reduction loans can facilitate transition activities in high-emitting industries, commonly referred to as “brown industries”, such as steel and cement.

The Hong Kong government has continued to increase support for the local and sustainable market and to provide the market with useful benchmarks by issuing GSSS bonds under the Hong Kong Government Green Bond Programme. Our study found that the volume of GSSS bonds issued by Hong Kong surged during Q1 2023, exceeding RMB56 billion. It more than quadrupled compared with Q1 2022 and reached its highest point since Q4 2019. It is worth noting that the Hong Kong government raised USD5.75 billion in green bonds in dollars, euros and offshore yuan in January 2023; Asia’s largest ESG bond sale.¹ Technology and finance have been two key driving forces behind sustainable development. In February 2023, the Hong Kong government successfully raised HKD800 million by selling digital green bonds, expanding the use of the burgeoning blockchain technology. It was the first tokenised green bond issued by a government globally and an intersection of green finance and fintech. As

xiii PRI is an international organization that works to promote the incorporation of environmental, social, and corporate governance factors into investment decision-making.

announced in the 2023-24 Budget, Hong Kong is committed to establishing a global green technology and financial centre. It has a booming circle of green technology underpinned by passionate startups and innovators. By bringing together green and sustainable financing and the green technology sector, the symbiotic relationship will better support the development of R&D, product commercialisation and mass production and a complete and vibrant industry chain.¹⁵

Trends in the GBA

The GBA has the unique advantage to develop transition finance



Green finance has generally focused on supporting green industries, whose projects have clear environmental benefits, e.g., projects that help reduce and avoid pollution and carbon emissions. However, much more financing is required in brown industries, i.e., carbon-intensive sectors that need to decarbonise. According to the Emissions Gap Report 2022, a global transformation from an economy heavily dependent on fossil fuel and unsustainable land use to a low-carbon economy is expected to require investments of at least USD4–6 trillion per year.¹⁶ To this end, transition finance has emerged to become one of the hottest issues in sustainable finance. Transition finance refers to financial services supporting the whole-of-economy transition, in the context of the Sustainable Development Goals (SDGs)^{xiv}, towards lower and net-zero emissions and climate resilience, in a way that is aligned with the goals of the Paris Agreement.¹⁷ Transition finance bridges the gap between traditional and “green” financing in companies’ transition journey to Net Zero.

The unique industrial structure and sophisticated financial system of the GBA lay a solid foundation for the development of transition finance. The proportion of secondary industry in Guangdong Province stood at 41% in 2022.¹⁸ Moreover, the added value of advanced manufacturing and high-tech manufacturing accounted for 55% and 30% of the above-scale industries, respectively, in 2022.¹⁹ The pace of industrial transition and upgrading is accelerating, especially for the manufacturing sector. Significant financial support, i.e., transition finance, plays an important role in the GBA’s pathway towards a low-carbon future.

In addition to the GBA’s prowess in manufacturing and innovation, its status as a green and sustainable finance hub constitutes a unique advantage that will enable it to support the development of transition finance. Sustainability-linked loans (SLLs) is be an effective transition finance tool to support the decarbonisation of brown industries. In fact, a total of USD6.7 billion SLLs were raised to support enterprises in mainland China in 2021, and around 40% of the total proceeds were issued by the Hong Kong banking syndicate.²⁰ Moreover, Guangzhou and Shenzhen have actively encouraged financial institutions to leverage carbon emission reduction loans and the special re-lending tool for promoting the clean and efficient use of coal, which are two kinds of transition finance instruments.

To further leverage the transition finance instruments to support the low-carbon transition in the GBA, governments and organisations within the GBA are strengthening collaboration, such as co-developing an applicable transition taxonomy, exploring the scientific transition pathway for carbon-intensive sectors, and so on.

xiv The SDGs are a collection of 17 interlinked global goals designed to be a “shared blueprint for peace and prosperity for people and the planet, now and into the future”. They were set up in 2015 by the United Nations General Assembly (UN-GA) and are intended to be achieved by 2030.

GBA ESG

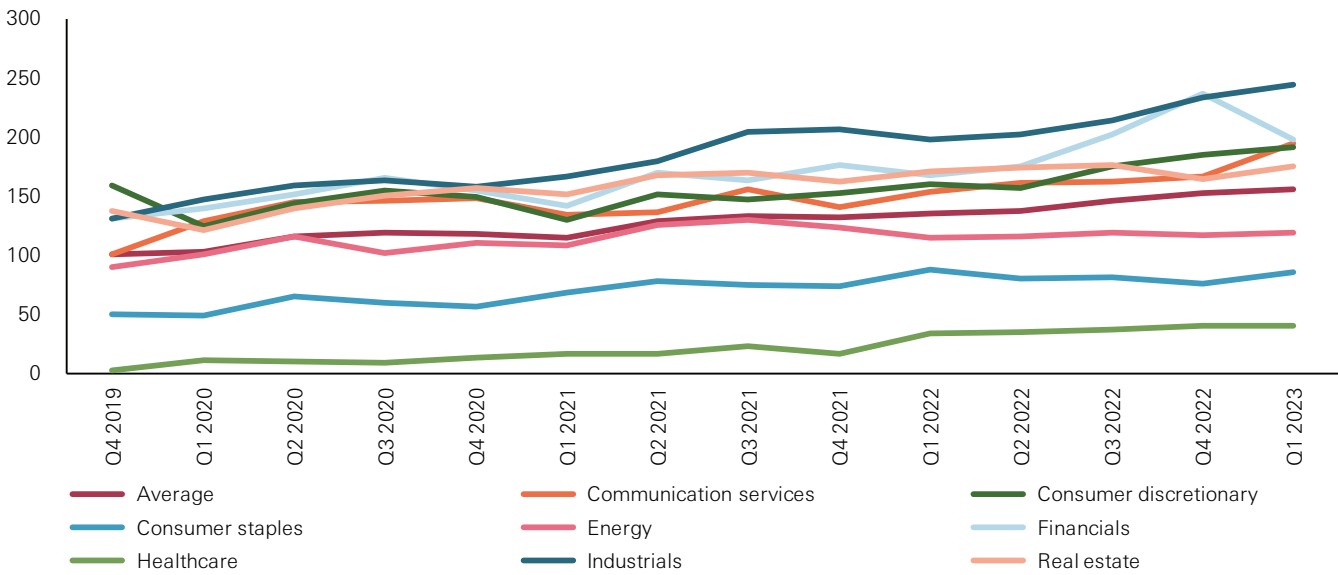
Industry Sub-indices





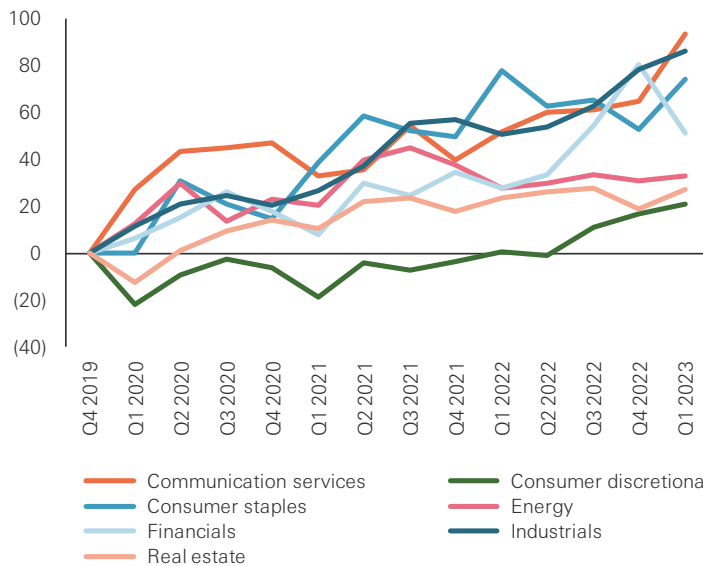
GBA ESG Industry Sub-indices

Figure 5. Relative ESG performance evolution of the eight sectors



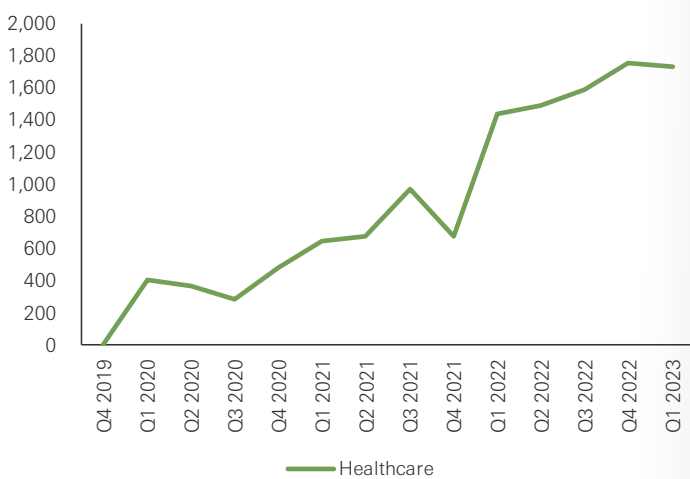
Note: The average value of the GBA ESG Industry Sub-indices was set at 100.00 for Q4 2019 (base period), as a benchmark with which to compare each key sector's individual ESG performances as well as their average performance.
Source: China's official statistical database, public sources, CECEPEC

Figure 6. Rates of improvement in ESG performance levels of the key sectors (excluding healthcare) (%)



Note: Q4 2019 is the base period. Rate of improvement = (Value for a specific period - Value for base period)/Value for base period.
Source: China's official statistical database, public sources, CECEPEC

Figure 7. Rate of improvement in ESG performance levels of healthcare (%)



According to our findings, the average values of the GBA ESG Industry Sub-indices increased from Q3 2022 to Q1 2023 and were 152.07 and 155.05 in Q4 2022 and Q1 2023, with year-on-year increases of 16% and 15%, respectively. Of the eight key sectors, industrials and financials still led in ESG over the past two quarters, performing much better than other sectors in the pillars of policy and green and sustainable finance. At the same time, most of the six remaining sectors have continuously improved and begun to catch up.

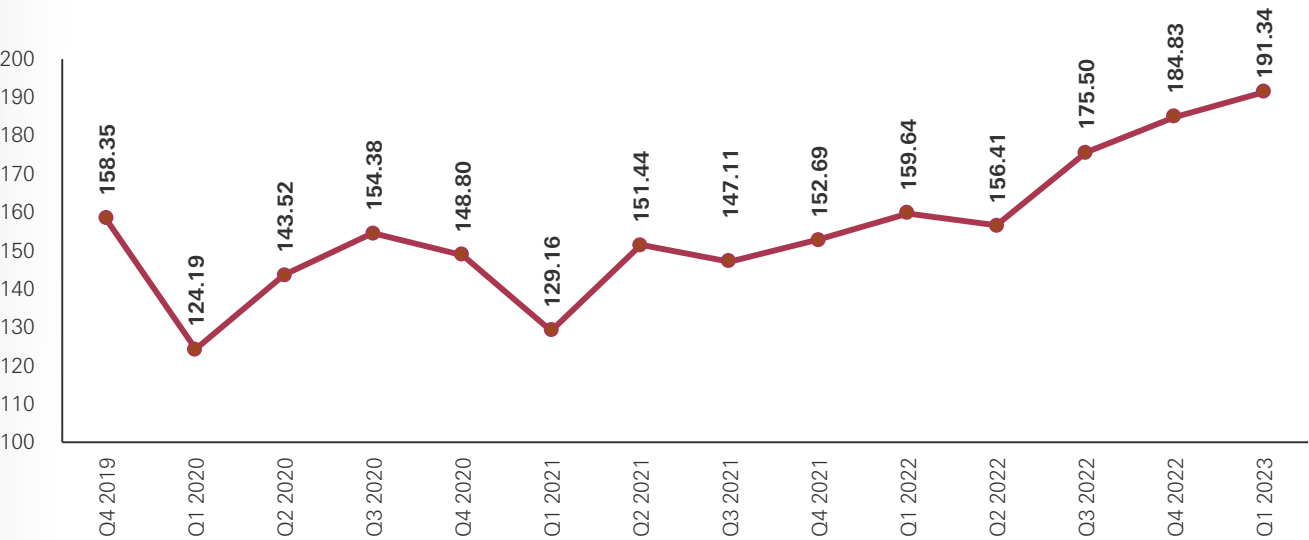
As per Figures 6 and 7, healthcare, as a relative latecomer to sustainable development, continued its excellent performance and retained its position as the sector with the highest rate of improvement in the past two quarters, primarily due to the significant improvements in the pillar of policy, ESG disclosure and, most especially, climate action. Financials had the second highest rate of improvement in Q4 2022, coming in at 80%, while communication services took second place in Q1 2023 with a rate of 93%. The rapid improvement of financials in Q4 2022 was primarily driven by three pillars, i.e., policy, climate action and green and sustainable finance. Our study found that financials experienced a significant improvement in the issuance of GSSS bonds in Q4 2022, reaching around RMB30 billion with a year-on-year increase of 366%. This significant improvement was mainly attributable to one Shenzhen-based local bank's first green bond of RMB20 billion in November 2022.²¹ With regard to communication services, climate action and ESG disclosure are the two main pillars that account for its rapid improvement. At the same time, industrials remained in third place over the past two quarters, helped by improvements in the pillars of climate action, ESG disclosure, and green and sustainable finance.

Case Study: Consumer Discretionary^{xv}

With more supportive policies aimed at reviving consumer demand, the consumer discretionary sector is playing a significant role in driving sustainable development within the GBA by encouraging sustainable purchasing behaviour, and promoting sustainable products and business strategies. A recovering economy, demographic dividend and high per capita disposable income are the main driving forces behind the growth in consumer discretionary spending. As mentioned in the GBA ESG Regional Index section, the GBA's economy shows clear signs of rebounding and government at the national and regional level has recently rolled out a series of supportive policies and measures to revive consumer demand. According to our study, the GBA, a key mega-region of the Chinese economy, accounted for 11% of China's GDP in 2022. Moreover, with a large population of approximately 86.68 million in 2021, the per capita disposal income in the GBA was RMB108.4 thousand in 2021, much higher than that of other city clusters in China.²²

Our findings reveal that the ESG performance of consumer discretionary fluctuated between Q4 2019 and Q2 2022, but has improved in recent quarters. According to the data, the overall improvement was due to the key pillars of policy and climate action.

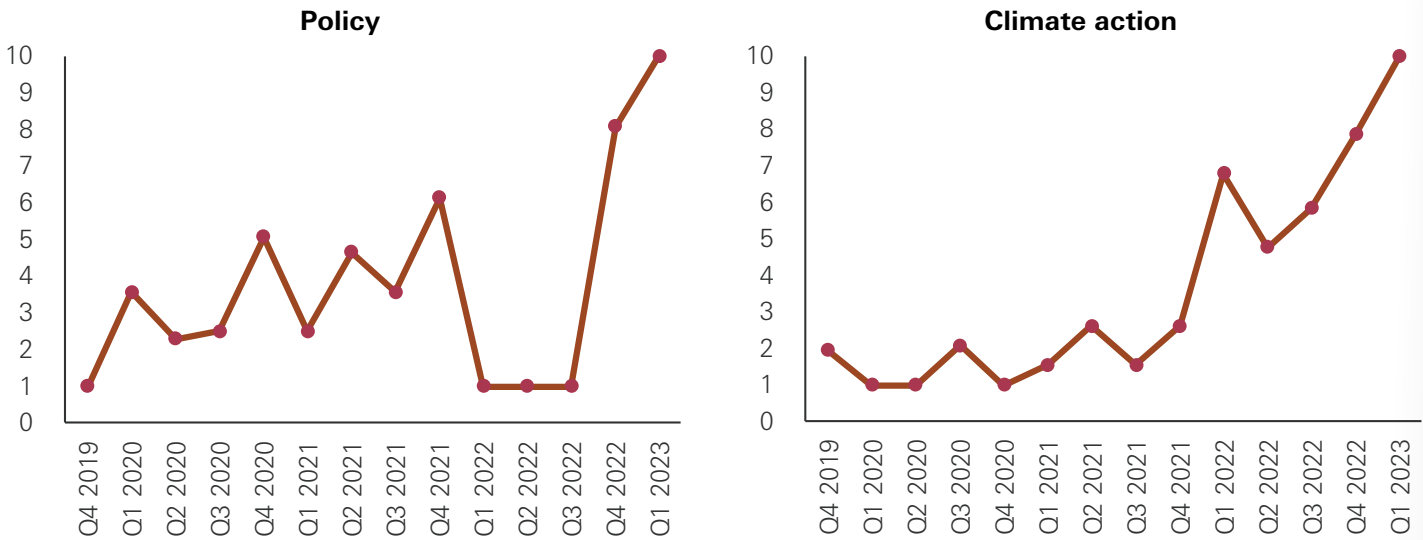
Figure 8. GBA ESG Sub-index – Consumer Discretionary



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

xv In this report the term consumer discretionary refers to consumer services, retailing and manufacturing of automobiles and components, consumer durables and apparel industries in line with well-known industry classification standards such as the Global Industry Classification Standard (GICS) and China's Industrial Classification for National Economic Activities.

Figure 9. Consumer Discretionary performance with regard to the policy and climate action



Note: The values are normalised. The closer the value of the Y-axis is to 10, the better the performance of the two pillars.
Source: China’s official statistical database, Wind, public sources, public disclosures of listed companies, CECEPEC

There was a notable increase in the implementation of public policies relating to consumer discretionary in the past two quarters, promoting new industries and enhancing the transition to low-carbon. Guangdong Sub-Administration of China Customs unveiled 48 measures to support to implementation of the *Overall Plan for Deepening Globally Oriented Comprehensive Co-operation* amongst Guangdong, Hong Kong and Macao in Nansha of Guangzhou and increase the cross-border retail export of e-commerce and promote the development of industries such as NEVs and intelligent connected vehicles (ICVs) ^{xvi}. Furthermore, the *Work Plan (2023-2025) for Establishing a Carbon Footprint Labeling and Certification System in the GBA to Promote Green and Low-Carbon Development* was implemented in October 2022.

The performance of consumer discretionary in the pillar of climate action has improved immensely over the past few years, peaking in Q1 2023. According to our findings, the proportion of GBA consumer discretionary companies ^{xvii} invited to disclose via CDP increased from 47% in 2020 to 75% in 2022. In addition, consumer discretionary companies started to respond to consumers’ shifting preference for green products. The disclosure rate of consumer discretionary increased to 38% in 2022 from 29% in 2020, and the number of GBA consumer discretionary companies that set targets or made commitments via SBTi increased from one in 2020 to nine in 2022.

Figure 10. Proportion of GBA consumer discretionary companies requested to disclose via CDP, and disclosure rate and the number of GBA consumer discretionary companies that set targets or made commitments via SBTi

Year	Proportion of GBA consumer discretionary companies that were invited to disclose via CDP	Disclosure rate of GBA consumer discretionary companies	Number of GBA consumer discretionary companies that set targets or made commitments via SBTi
2022	75%	38%	9
2021	60%	28%	2
2020	47%	29%	1

Note: Proportion of GBA consumer discretionary companies invited to disclose via CDP = no. of companies invited to disclose via CDP/no. of GBA consumer discretionary companies.
Disclosure rate = no. of companies disclosed/no. of companies invited to disclose via CDP.
Source: CDP, SBTi, CECEPEC

xvi ICVs are vehicles equipped with environmental awareness, intelligent decision making and autonomous control, or the ability to interact with external information and collaborative vehicle control.
xvii “GBA consumer discretionary companies” refer to the consumer discretionary companies that are registered or primarily operating in the GBA.

Sustainability trends have been shaping the consumer discretionary sector, driven by three key factors – changes in consumer preferences, pressure from regulators, and the pursuit of enterprise efficiencies. With regard to the shift in consumer preferences, an increasing number of consumers are proactively adopting a more sustainable lifestyle by choosing brands with sustainable values and by purchasing recyclable products. This brings opportunities and challenges to consumer discretionary and its subsectors. For example, the automotive industry is quickly heading towards a new reality driven by sustainability and changing consumer behaviour, especially with regard to NEVs. The textile and garment industry is facing growing pressure from different stakeholders to upgrade and complete the transition to a low-carbon model. This report focuses on these two industries and looks at the GBA’s practices and solutions with regard to sustainability-related opportunities and challenges.

Consumer Discretionary Sector Close-up – Automotive Industry

Importance of the automotive industry in the GBA

Given its power to shape and mould purchasing and consumer behaviour, the automotive industry is a key driver of China’s transition towards a low carbon economy. This is especially true in the NEV era.

The GBA plays an indispensable role in China’s automotive industry. As of 2022, China was the leading country in terms of automobile production and sales for the 14th consecutive year. ²³ Last year another milestone was reached when China overtook Germany as the world’s second-largest car exporter. ²⁴ Guangdong Province is the top producer and consumer of automobiles in China. The automotive industry of Guangdong Province first recorded an operating income of over RMB1 trillion in 2022, becoming the 8th industry cluster of the province to pass the RMB1 trillion mark. ²⁵ The GBA is home to some of the leading traditional automobile manufacturers as well as to producers of NEVs. It has built a comprehensive automotive value chain encompassing R&D, automobile and component manufacturing; retail and financial services. In particular, automotive industry clusters have formed in **Guangzhou** (Districts of Huadu, Panyu and Nansha) and **Shenzhen** (Pingshan District). ²⁶ Guangzhou produced more than 3.1 million automobiles in 2022, making it China’s leading automobile producing city for the fourth consecutive year. ²⁷ This accounts for 76% of Guangdong Province’s automobile volume, and 11% of the mainland China’s total, as shown in Figure 11.

Figure 11. Automobile production in Guangzhou, Guangdong Province and mainland China in 2022

	Total number of automobiles produced in 2022 ('000)	Guangzhou’s share (%)	Guangdong Province’s share (%)
Guangzhou	3,100	/	/
Guangdong Province	4,100	76%	/
Mainland China	27,020	11%	15%

Source: Guangzhou Municipal Industry and Information Technology Bureau, People’s Government of Guangdong Province, China Association of Automobile Manufacturers

The automotive industry has an enormous role to play in the key goals of decarbonisation and sustainable development. Road transport accounts for about 9% of mainland China’s carbon emissions ²⁸ and is also a significant source of air pollutants including carbon monoxide, hydrocarbons, nitrogen oxides and particulate matter ²⁹. The environmental impact of the automotive industry’s entire supply chain is also substantial. The transition of the automotive industry to a green and low-carbon model is, therefore, one of the focus areas in order to meet China’s dual carbon goals. In fact, clean transportation is one of the focus industries listed in the *14th Five-Year Plan for Promoting Clean Production*. As a nation committed to climate action, China launched the Automobile Industry Chain Carbon Publicity Platform (CPP) in February 2023, which is the world’s first carbon footprint disclosure platform targeting the supply chain of the automotive industry.³⁰



Challenges and opportunities

The eventual phasing out of Internal combustion engine vehicles is a crucial challenge to the automotive industry. Many countries around the world are announcing timelines to effectively ban new ICE vehicles running on fossil fuels, as part of their decarbonisation plans. With long-term business viability at stake, many large traditional players in the automotive industry have been allocating resources to R&D and building production capacity for NEVs. Meanwhile, many new entrants to the automotive industry are focussing solely on producing NEVs and components.

Strong incentives such as the national purchase subsidy and vehicle purchase tax exemption have helped China to become a global leader in NEVs. As of 2022, China was ranked first in the world in terms of NEV production and sales for the eighth consecutive year.³¹ In 2022, mainland China’s production and sales of NEVs was almost double that of the previous year. Similarly, in 2022, mainland China’s exports of NEVs more than doubled compared to the year before. With the support of favourable policies, such as the aforementioned purchase subsidy and vehicle purchase tax exemption for NEVs, the market penetration of NEVs in mainland China has been outstanding. In 2022, 1 in 4 (25.6%) of all new car sales in mainland China was a NEV.^{32, 33}

As the national NEV purchase subsidy ended on 31 December 2022, continued policy support in other forms will be especially important if the current momentum in the growth of NEV sales is to be sustained. Guangdong Province continues to provide support to the industry as evidenced by the policies and measures set out in the *Implementation Plan for Further Invigorating Automobile Circulation and Expanding Automobile Consumption in Guangdong Province*, issued in February 2023.³⁴ Areas of note include the promotion of NEV charging facilities, and the phasing out of old vehicles, lowering value-added tax (VAT) for used car dealerships, and the promotion of automobile financial services. In September 2022, Guangdong Province announced the extension of the vehicle purchase tax exemption policy for NEVs purchased in 2023.³⁵ Guangdong Province released its Carbon Peaking Implementation Plan in February 2023, which sets out numerous goals for green and low-carbon transportation. These include the target of electric passenger vehicles accounting for more than 30%



Guangzhou has leveraged its position as China’s top automobile city to become a NEV powerhouse. In 2022, Guangzhou produced more than 1 million NEVs. This accounts for 77% of Guangdong Province’s and 14% of the country’s production, as shown in Figure 12. Guangzhou is an early adopter of autonomous driving with one of the greatest testing mileages in the country. In *The 14th Five-Year Plan for the Innovation and Development of Intelligent and New Energy Vehicles in Guangzhou*, the city sets out its target to reach a production value of RMB1 trillion by 2025. The plan also specifies ambitious targets for NEV production and market penetration.

of new car sales by 2030, and for fast NEV charging stations to be available in all expressway service areas by 2025.³⁶ At city level, the Pearl River Delta (PRD) municipalities of the GBA, including Guangzhou and Shenzhen, have put forward a number of policies in favour of NEVs.

In Hong Kong, private cars account for 71% of all registered vehicles. Private cars have the highest total carbon emissions of all vehicle types. Hong Kong published the *Roadmap on Popularisation of EVs* in 2021, setting out, among other goals, a ban of the registration of fuel-propelled private cars (including hybrid vehicles) by 2035, and the target of having more than 150,000 private NEV charging facilities by 2025. Relevant key incentives include reductions in the first registration tax and private car license fees, the requirement for the parking spaces of new buildings to install charging facilities, and an investment of HK\$2 billion in the EV-charging at Home Subsidy Scheme.³⁷ The incentives have led to an increase in sales of NEVs in Hong Kong, where private electric cars accounted for 52.8% of all new private cars registered in 2022, more than double the figure of the previous year.³⁸

The GBA is well positioned to harness the opportunities presented by the shift away from fossil fuel cars. It has a well-established R&D platform to support the automotive industry, covering all aspects from basic research to applied research, and product development. The GBA has world-class technological expertise in the three core components of NEVs, namely, automotive battery, motor and control systems. In a recent ranking published by the Institute of Scientific and Technical Information of China in February 2023, Shenzhen and Guangzhou placed first and fourth, respectively, among the mainland China’s cities in terms of innovative capacity.³⁹ Industry-academia collaboration is especially important for the technology-intensive NEV industry. Major industry players in the GBA (including Guangzhou Automobile Group (GAC), BYD and XPeng) and leading research institutes (including Tsinghua University, Shenzhen Automotive Research Institute of Beijing Institute of Technology and Sun Yat-sen University) formed the Greater Bay Area Automobile Technology Association in 2021 to promote technological innovation in the NEV industry within the GBA.⁴⁰

Figure 12. NEV production volumes of Guangzhou, Guangdong Province and mainland China in 2022

	Total number of NEVs produced in 2022 ('000)	Guangzhou’s share (%)	Guangdong Province’s share (%)
Guangzhou	1,000	/	/
Guangdong Province	1,300	77%	/
Mainland China	7,060	14%	18%

Source: Guangzhou Municipal Industry and Information Technology Bureau, People’s Government of Guangdong Province, China Association of Automobile Manufacturers

The city estimates that as of January 2023, Guangzhou has built a complete value chain of 12 major automobile makers and 1,200 component producers. Guangzhou is the headquarters of leading automaker, GAC, which was ranked 6th in mainland China and 2nd in Guangdong Province in terms of 2022 NEV sales, according to China Association of Automobile Manufacturers (CAAM), following Shenzhen-based BYD, which was ranked top with 27% market share nationally.⁴¹ In October 2022, the municipal governments of Guangzhou and Qingyuan^{xviii} put forward a development plan⁴² for the integration of a number of areas including transportation, industry, and business; public services and ecological and environmental protection. In particular, the integration of the automotive supply chains of Guangzhou and Qingyuan is an important part of the inter-municipal development plan.

Leading multinational carmakers are tapping into the advanced supply chain offered by the GBA. Guangzhou Toyota Motor Co Ltd, a joint venture between GAC and Toyota, the world’s largest carmaker, completed the second-phase expansion of its NEV production base in Guangzhou in December 2022.⁴³ GAC Honda Automobile Co., Ltd., another joint venture between GAC and a foreign automobile company, is constructing a new NEV plant in Guangzhou targeted to begin operation in 2024.⁴⁴ South Korean carmaker Hyundai, which was the world’s third largest carmaker in terms of vehicle sales in 2022,⁴⁵ chose to open its first overseas hydrogen fuel cell system facility in Guangzhou to leverage the technological expertise of the city.⁴⁶

Auto loan and auto lease ABS are common in the automotive industry. The boom in NEVs has resulted in the growth of green auto ABS issuances. The data collected for the indicator “volume of sustainable debt instruments”, under the pillar of green and sustainable finance, shows that the automotive industry in Guangzhou was active in issuing sustainable debt instruments in Q4 2022 and Q1 2023, including the issuances from XPeng and GAC.



Although Shenzhen produces automobiles on a smaller scale, it is a leader in the field of NEVs and ICVs. Indeed, **Shenzhen is the top NEV city in China, with the highest level of NEV sales and penetration rate.**⁴⁷ The first legislation on autonomous driving in China came into effect in Shenzhen in August 2022. Shenzhen is a technological hub with an advanced NEV and ICV supply chain, encompassing more than 1,200 related companies such as battery makers, internet companies and artificial intelligence (AI) companies. In 2022, the Development and Reform Commission of Shenzhen Municipality published an action plan setting out the target of RMB200 billion operating income for the ICV industry.⁴⁸ Shenzhen set a target for NEVs to account for 60% of all new registered vehicles from 2021 to 2025.⁴⁹ In November 2022, Shenzhen announced a subsidy for eligible consumers wishing to purchase NEVs within the period 20 September 2022 – 31 December 2022 to replace their existing vehicles (China IV emission standards or before).⁵⁰

Shenzhen is the headquarters of BYD, which is by far the largest NEV company in terms of vehicle sales in China, and overtook Tesla (which has a large production base in Shanghai) as the world’s best-selling NEV maker in the world in 2022.⁵¹

The data collected for the indicator “volume of sustainable debt instruments”, under the pillar of green and sustainable finance, shows that the automotive industry in Shenzhen was also active in issuing sustainable debt instruments in Q4 2022, including the issuances from BYD.

xviii Qingyuan borders Guangzhou to the north, but is not one of the nine PRD municipalities in the GBA.

Sustainable finance in the automotive industry

Sustainable finance has an important role to play in the decarbonisation of road transport. It is estimated, according to WRI China, that between 2020 and 2060, public and private funds totalling RMB39-83 trillion in low-carbon investments are needed to enable China to reach its target of being carbon neutral.⁵² Both public and private investment is needed in a number of key areas such as the purchase of NEVs, the construction of NEV charging stations, and in public transport and cargo train infrastructure. The table below gives examples of sustainable finance in the automotive industry in the GBA.



Figure 13. Examples of sustainable finance for the automotive industry in the GBA

Sustainable Finance for the Automotive Industry	Green supply-chain financing.	Green and sustainable private equity.	Green ABS. ^{xix}
Target group of the automotive supply chain	Suppliers.	Suppliers.	Automobile manufacturers.
Type of financing	Accounts receivable financing.	Private equity investment.	ABSs collateralised by auto loans or leases.
Financial benefits	Improve cashflow of suppliers with recognised green credentials, especially small and medium enterprises (SMEs) that usually encounter greater difficulty and higher interest rates when borrowing on their own.	Provide SMEs in the NEV and ICV supply chain access to equity financing.	Improve cashflow and diversify risk for automobile and NEV manufacturers by way of green auto ABS, at a lower interest rate compared to regular auto ABS.
ESG benefits	Encourage green development of the automotive supply chain.	Support green technology needed for the shift to NEV and ICV.	Incentivise the production and sale of clean and low-carbon vehicles.
Case Study	GBA Green Supply Chain Financing Action Guide (Automotive Manufacturing Industry) published by the Green Finance Committee of Guangdong Society for Finance and Banking. ⁵³	RMB30 billion investment fund started by GAC Group and Guangzhou Industrial Investment and Capital Operation Holding Group Ltd.	Green auto ABS issuances from GAC, BYD and XPeng.

Source: Public sources, CECEPEC

Consumer Discretionary Sector Close-up – Textile and Garment Industry

Importance of the textile and garment industry in the GBA

The textile and garment sector, a traditional, competitive industry in the GBA, plays an important role in the region’s economic and social development. At the same time, with significant decarbonisation potential, the GBA’s textile and garment industry has gradually moved towards increasing sustainability and, as such, offers a roadmap for traditional industries that wish to follow a similar route.

The industrial-added value of the textile and garment industry within the nine PRD municipalities of the GBA accounted for 66% of the total output of that industry in Guangdong Province. Textile and garments, being a labour-intensive industry, provides a lot of employment opportunities. There are more than 450 thousand textile and garment companies in Guangdong, accounting for approximately 14% of the total

xix In mainland China, green ABS may be classified into three main types: the green versions of respectively credit ABSs, enterprises asset-backed notes (ABNs) and corporate ABSs. The “green” elements, including the base assets, uses of proceeds/funds raised. The base assets of green credit ABSs are green loans. The green elements of green enterprises ABNs are implied in the definition of green enterprise bonds in the related business guidelines issued by the National Association of Financial Market Institutional Investors (NAFMII) in March 2017 (Source). The basic requirement of the green corporate ABSs is the use of proceeds in green projects (Source).

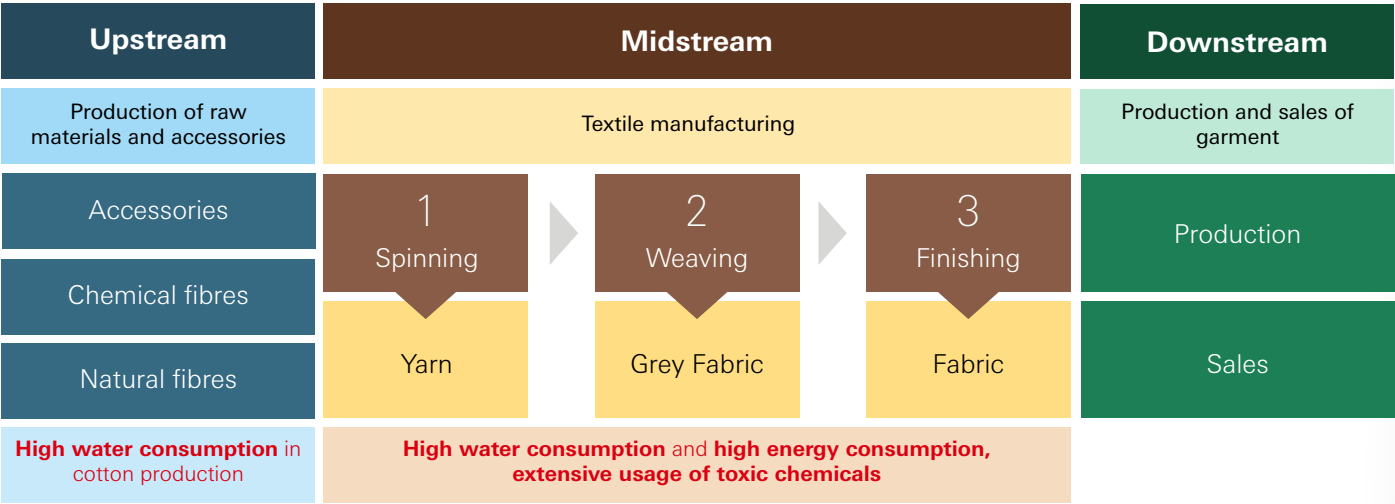
number in mainland China ^{xx}. Together they employ over 270 thousand people, which represents 12% of workforce in the consumer discretionary sector ^{xxi}. Due to its massive carbon footprint ^{xxii}, the textile and garment industry has an important role to reduce carbon emissions and in so doing help the region to achieve carbon peak and carbon neutrality. The Carbon Peaking Implementation Plan, issued by Guangdong Province in February 2023, mentioned that textiles is one of the industries which is expected to be incorporated into Guangdong’s provincial emissions trading scheme in the near future.

Challenges and opportunities

The sustainable transformation of the whole supply chain is one of the top priorities for the textile and garment industry, given that it is one of the most polluting industries and each stage of the supply chain can have significant environmental impact. Figure 14 depicts a typical textile and garment supply chain. It starts with the production of raw materials and accessories, followed by the production of yarn and the final fabric. Thereafter, there may be further finishing ^{xxiii}, manufacturing and merchandising and, finally, consumption. ⁵⁴ The environmental impact of textile and garment products is enormous. Specifically, they consume considerable amounts of water, energy and toxic chemicals, not to mention the waste, transportation and packaging materials involved. ⁵⁵

In recent years, leading international textile and garment companies have applied cutting-edge technologies ^{xxiv},

Figure 14. Supply chain of the textile and garment industry



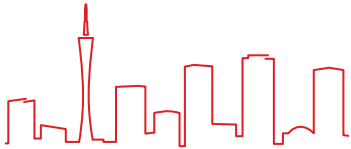
Source: CECEPEC

xx The data is retrieved from Qichacha as of March 2023.
xxi The data is retrieved from China population census yearbook 2020 (Source).
xxii According to UNFCCC, the textile industry accounts for nearly 10% of world GHG emissions (Source).
xxiii Textile finishing processes comprise washing, bleaching, dyeing and coating (Source).
xxiv Such as ozone bleaching for cotton fabric, electrochemical dyeing, supercritical CO2 dyeing and so on.
xxv Such as renewable and biodegradable materials.
xxvi Cradle-to-cradle is a way of designing products or processes that work more like natural systems. This design method is intended to replace a make-take-dispose approach which begins with new raw materials mined from the earth and ends with piles of garbage (Source).
xxvii Cradle-to-Grave is a model used in the scientific footprint method Life Cycle Assessments (LCA). It assesses the complete environmental footprint of products. From raw material extraction, production, and product use, until the end of its life (Source).

advanced materials ^{xxv}, and environmentally friendly production techniques to facilitate sustainable textile production. The use of sustainable practices at each stage of the supply chain can significantly lessen the overall environmental impact of the industry. For example, textile and garment companies can implement sustainable practices by selecting reusable and recyclable raw materials, such as recyclable polyester and nylon, for use in the manufacture of clothing and textiles. Another approach would be to institute a circular economy to promote the industry’s sustainability. This would imply a “cradle-to-cradle” ^{xxvi} model, as opposed to “cradle-to-grave” ^{xxvii}, where the textile and garment products can be reused, repaired, or recycled at the end of their life cycles. ⁵⁵

Regulations and consumer preferences are critical drivers to accelerate the industry’s sustainable transformation. Government policies and guidelines can directly affect development trends within the industry. Specifically, mainland China continues to implement policies to encourage the textile and garment industry to mitigate environmental impacts and, in some cases, has shut down large polluters and heavily polluting production lines. At the same time, sustainability concerns are increasing to the fore in consumers’ minds. They are willing to pay a premium for garments from a sustainable brand. ⁵⁶ A survey on the sustainable fashion industry revealed that 80% of respondents were keen to avoid purchasing clothes containing plastics, such as nylon and polyester while 32% of respondents had purchased over four items of clothing made from certificated organic materials over the previous two years. ⁵⁷

Guangdong Province



In February, Guangdong Province issued guidelines to promote the high-quality development of the textile and garment industry. One of the major issues highlighted in the document was the low-carbon transformation of the industry. Guangdong Province aims to promote the sustainable transformation of the textile and garment industry by leveraging advanced technologies in dyeing and other key stages of the supply chain and by encouraging a circular economy. Figure 15 shows the key areas on which the provincial government has focussed.

Figure 15. Areas on which Guangdong Province has focussed the sustainable transformation of the textile and garment industry

Main approaches	Specific incentives and measures
Lessen the environmental impact of the dyeing process	<ul style="list-style-type: none">Establish dyeing industrial parks;Encourage companies to upgrade their environmental protection equipment;Offer incentives to encourage companies to develop and apply advanced technologies at the dyeing stage, etc.
Promote the adoption of technologies at key stages of the supply chain	<ul style="list-style-type: none">Promote cutting-edge technologies, such as waterless dyeing and dope dyeing methods;Encourage reductions in the consumption of toxic raw materials and accessories, etc.
Establish a system for recycling waste textile products	<ul style="list-style-type: none">Prompt companies to use sustainable materials such as regenerated fibre;Unleash the potential for recycling textile waste and used textile products, etc.

Source: Opinions on Further Promoting the High-Quality Development of the Textile and Garment Industry (Source)

xxviii The data is retrieved from Guangdong Statistics Bureau (Source).
xxix Upcycling is refurbishing or repurposing a material or product with the purpose of creating something of higher quality or value. This gives old or unwanted materials a second life, which reduces pollution and waste (Source). An upcycled product is generally of higher value than the materials or objects used to create it.

Foshan

Textile and garments is one of the key industries in Foshan. The industrial-added value of the textile and garment industry in Foshan accounts for 36% of the total figure for the nine PRD municipalities ^{xxviii} combined. Foshan has attached great importance to the environmental impact of the finishing stage. Shutting down heavily polluting companies is one of the most effective measures. Indeed, governments in Foshan have set specific targets for eliminating inefficient and heavily polluting companies. They have also set up industrial parks for finishing, with the aim of establishing an environmentally friendly, resource-sharing supply chain. ^{58, 59} Leading companies have increased their investment in R&D and stepped up their efforts to apply advanced technologies in the finishing process. For example, a leading company in Foshan has developed waterless dyeing technology and successfully built a demonstration production line. Compared with the traditional dyeing process, the new technology uses 100% less salt, approximately 96% less water, and 40% less energy. ⁶⁰

Hong Kong



According to the Environmental Protection Department, over 300 metric tonnes of textile waste is dumped in Hong Kong landfills every day. Research institutions and companies in Hong Kong are attaching increasing importance to developing a recycling system to give new life to textile waste and used textile products, with the aim of achieving a circular economy. For example, the Billie System combines existing and new technologies to transform textile waste and used textile products into high-quality recycled fibres, which can produce unique upcycled ^{xxix} yarns after mixing with other raw materials. The Billie System is a fine example as it consumes no water and, therefore, does not discharge wastewater or toxic chemicals. ⁶¹

Increasing consumer awareness of sustainability can provide an impetus to the sustainable transformation of textile and garment companies. It should be noted that some universities in Hong Kong have started to provide education on sustainable fashion to increase awareness among consumers and manufacturers alike.



Other approaches to sustainability within the GBA

Textile and garment companies in the GBA actively engage in sustainability initiatives. Based on our study, eight textile and garment companies in the GBA set carbon emission reduction targets via the SBTi in 2022. This accounted for 57% of the total number of companies in the broader consumer discretionary sector that set carbon emissions reduction targets via SBTi. According to our findings, Hong Kong is the city within the GBA that most actively participates in international sustainability initiatives. Other climate initiatives that Hong Kong textile and garment companies have joined include Roadmap to Zero Programme ^{xxx} and the Fashion Industry Charter for Climate Action under the United Nations Framework Convention on Climate Change ^{xxxⁱ}. Some companies have also signed up to the Women’s Empowerment Principles ^{xxxⁱⁱ} as further evidence of their commitment to social equality.

Figure 16. New companies that set targets or made commitments via SBTi in 2022

Number of new companies in the textile and garment industry in the GBA that set targets or made commitments via SBTi in 2022 (A)	8
Number of new companies in the consumer discretionary sector in the GBA that set targets or made commitments via SBTi in 2022 (B)	14
A/B	57%

Note: All the data are retrieved from the SBTi website as of 31 December 2022.
Source: SBTi, CECEPEC

xxx The Roadmap to Zero Programme is initiated by Zero Discharge of Hazardous Chemicals (ZDHC) to lead the fashion industry to eliminate harmful chemicals from its global supply chain by building the foundation for more sustainable manufacturing to protect workers, consumers and our planet’s ecosystems ([Source](#)).
xxxi Signatories to the Charter commit to reducing 30% aggregate GHG emissions by 2030 and setting a decarbonisation pathway for the fashion industry drawing on methodologies from the SBTi ([Source](#)).
xxxii The Women’s Empowerment Principles were established by the UN Women and UNGC to promote gender equality and women’s empowerment in the workplace ([Source](#)).

Appendices

Glossary

Term/Acronym/Abbreviation	Interpretation
ABS	Asset-backed securities
AI	Artificial intelligence
CECEPEC	CECEP Environmental Consulting Group Limited
CPP	Carbon Publicity Platform
GBA	Guangdong-Hong Kong-Macao Greater Bay Area
GSSS bonds	Green, social, sustainability and sustainability-linked bonds
ICE	Internal combustion engine
ICV	Intelligent connected vehicle
NEV	New energy vehicle
SBTi	Science Based Targets initiative
SDGs	Sustainable Development Goals
SZSE	Shenzhen Stock Exchange
The Index	HSBC Greater Bay Area ESG Index
PBOC	The People’s Bank of China
VAT	Value-added tax

Note: In alphabetical order

References

¹ Hong Kong Monetary Authority. (2023). HKSAR Government’s Institutional Green Bonds Offering. <https://www.hkma.gov.hk/eng/news-and-media/press-releases/2023/01/20230105-4/>

² People’s government of China (2023). 中国人民银行银保监会证监会外汇局广东省人民政府关于金融支持前海深港现代服务业合作区全面深化改革开放的意见 http://www.gov.cn/zhengce/zhengceku/2023-02/23/content_5743026.htm

³ The Hong Kong Special Administrative Region of the People’s Republic of China. (2022). The Chief Executive’s 2022 Policy Address. <https://www.policyaddress.gov.hk/2022/tc/>

⁴ Government Portal of Macao Special Administrative Region of the People’s Republic of China. (2023). Policy Address. <https://www.gov.mo/en/content/policy-address/year-2023/>

⁵ People’s Government of Guangdong Province. (2023). 广东省碳达峰实施方案. http://www.gd.gov.cn/zwgk/wjk/qbwj/yf/content/post_4091117.html

⁶ People’s Government of Guangdong Province. (2023). Action Plan to Guide Finance to Support Economic Growth in 2023. http://www.gd.gov.cn/xxts/content/post_4116058.html

⁷ Sina finance. (2023). 大湾区兔年春节旅游成绩单: 多市实现“开门红” 人次收入双增长 <https://finance.sina.com.cn/china/2023-02-01/doc-imyectwy6817050.shtml>

⁸ Hong Kong Tourism Board. (2023). Monthly Report – Visitor Arrival Statistics: Jan 2023.
https://www.discoverhongkong.com/content/dam/dhk/intl/corporate/newsroom/tourisum-statistics/2023/tourism_stat_01_2023.pdf

⁹ Hong Kong Tourism Board. (2023). Monthly Report – Visitor Arrival Statistics: Feb 2023.
https://www.discoverhongkong.com/content/dam/dhk/intl/corporate/newsroom/tourisum-statistics/2023/tourism_stat_02_2023.pdf

¹⁰ Trading economic. (2023). Hong Kong Unemployment Rate.
<https://tradingeconomics.com/hong-kong/unemployment-rate>

¹¹ News.gov.hk. (2023). Mainland talent policy welcomed.
https://www.news.gov.hk/eng/2023/02/20230209/20230209_203952_590.html

¹² The Government of the Hong Kong Special Administrative Region. (2023). Government launches regularised Greater Bay Area Youth Employment Scheme. <https://www.info.gov.hk/gia/general/202303/01/P2023022800486.htm>

¹³ The People’s Bank of China Guangzhou Branch. (2023).人民银行广州分行举行2022年广东省金融运行形势新闻发布会 (pbc.gov.cn).
<http://guangzhou.pbc.gov.cn/guangzhou/129136/4786685/index.html>

¹⁴ People’s Government of Guangdong Province. (2023). 2022年广东金融业对经济增长贡献率达到创纪录的1/3.
http://www.gd.gov.cn/gdywdt/zwzt/jfqyh/csjrzc/content/post_4129823.html

¹⁵ News.gov.hk. (2023). Virtual asset sector to thrive in HK.
https://www.news.gov.hk/eng/2023/03/20230301/20230301_173757_894.html

¹⁶ United Nations Environment Programme. (2022). Emissions Gap Report 2022.
<https://wedocs.unep.org/bitstream/handle/20.500.11822/40874/EGR2022.pdf?sequence=1&isAllowed=y>

¹⁷ Sustainable Finance Working Group. (2022). 2022 G20 Sustainable Finance Report.
<https://g20sfwg.org/wp-content/uploads/2022/10/2022-G20-Sustainable-Finance-Report-2.pdf>

¹⁸ 广东省统计局. (2023). 2022年广东经济运行情况分析.
<http://stats.gd.gov.cn/attachment/0/513/513802/4096635.pdf>

¹⁹ 广东省统计局. (2023). 2022年广东工业经济运行情况分析.
<http://stats.gd.gov.cn/attachment/0/513/513273/4094206.pdf>

²⁰ 广东省地方金融监督管理局. (2022). 粤港澳大湾区深度减排路径和转型金融机遇: 从转型金融支持目录等三大方面着手, 推动湾区转型金融融合发展
http://gdjr.gd.gov.cn/gdjr/jrzx/jryw/content/post_4019891.html

²¹ 金融界. (2022). 支持绿色发展 平安银行成功发行首只绿色债券.
<https://baijiahao.baidu.com/s?id=1749099501378833393&wfr=spider&for=pc>

²² 21世纪经济报道. (2022). 横琴世界湾区论坛 | 国内首份高品质消费报告发布: 大湾区正成为高品质消费实践地与引领地.
https://view.inews.qq.com/a/20221202A02FGY00?refer=wx_hot

²³ China Association of Automobile Manufacturers. (2023). 2022 Production and Sales of Automobiles.
http://www.caam.org.cn/chn/4/cate_39/con_5236639.html

²⁴ South China Morning Post. (2023). EV makers put China on course to overtake Japan as the world’s top car exporter.
https://www.scmp.com/business/china-business/article/3208048/chinas-ev-makers-put-nation-course-overtake-japan-worlds-top-car-exporter?module=perpetual_scroll_0&pgtype=article&campaign=3208048

²⁵ 广东省人民政府. (2023). 广东形成8个超万亿元产业集群 汽车产业首次实现超万亿元营业收入
http://www.gd.gov.cn/hdjl/hygq/content/post_4076565.html

²⁶ 广东省工业和信息化厅. (2022). 广东省汽车零部件产业“强链工程”实施方案 (公开版)
http://gdii.gd.gov.cn/gkmlpt/content/4/4007/post_4007173.html#2888

²⁷ 南方日报网络版. (2023). 广州2022年汽车产量预计超310万辆 连续4年居全国大中城市之首
http://www.gd.gov.cn/gdywdt/tzdt/content/post_4078612.html

²⁸ 新华网. (2022). 道路基础设施建设中的节能减排
http://www.news.cn/science/2022-11/04/c_1310673036.htm

²⁹ Ministry of Ecology and Environment of the People’s Republic of China. (2022). China Mobile Source Environmental Management Annual Report 2022
<https://www.mee.gov.cn/hjzl/sthjzk/ydyhjgl/202212/W020221207387013521948.pdf>

³⁰ Guangzhou Green Finance Association. (2023). 我国建立首个汽车产业链碳公示平台
<http://www.gzgfa.org.cn/Hangyixinwen-33/1084.html>

³¹ China Association of Automobile Manufacturers. (2023). 2022年汽车工业产销情况
http://www.caam.org.cn/chn/4/cate_39/con_5236639.html

³² 新华社. (2023). 我国每销售4辆新车就有1辆新能源汽车
http://www.gov.cn/shuju/2023-02/02/content_5739765.htm

³³ The Wall Street Journal. (2023). EVs Made Up 10% of All New Cars Sold Last Year
<https://www.wsj.com/articles/evs-made-up-10-of-all-new-cars-sold-last-year-11673818385>

³⁴ China Association of Automobile Manufacturers. (2023). 广东省商务厅等22部门关于印发广东省进一步搞活汽车流通扩大汽车消费实施方案的通知
http://www.caam.org.cn/chn/9/cate_104/con_5236740.html

³⁵ People’s Government of Guangdong Province. (2022). 关于延续新能源汽车免征车辆购置税政策的公告.
http://www.gd.gov.cn/gdywdt/zwzt/zqsk/zqzc/gjj/content/post_4021119.html

³⁶ 广东省人民政府. (2022). 广东省人民政府关于印发广东省碳达峰实施方案的通知
http://www.gd.gov.cn/zwgk/wjk/qbwj/yf/content/post_4091117.html

³⁷ Environment Bureau. (2021). Roadmap on Popularisation of EVs
https://www.eeb.gov.hk/sites/default/files/pdf/EV_roadmap_eng.pdf

³⁸ The Government of the Hong Kong Special Administrative Region. (2023). LCQ15: Promoting the popularisation of electric vehicles
<https://www.info.gov.hk/gia/general/202302/22/P2023022200282.htm?fontSize=1>

³⁹ 中国科学技术信息研究所. (2023). 《国家创新型城市创新能力评价报告2022》
http://m.planning.org.cn/zx_news/13584.htm

⁴⁰ 南方都市报. (2021). 大湾区新能源汽车产业技术创新联盟落户坪山
<https://m.mp.oeeee.com/a/BAAFRD000020210120421645.html>

⁴¹ China Association of Automobile Manufactures. (2023). 中国汽车工业协会信息发布会
http://www.caam.org.cn/chn/4/cate_32/con_5236639.html

⁴² 广州市人民政府办公厅 清远市人民政府办公室. (2022). 《广清一体化“十四五”发展规划》
http://www.gdqy.gov.cn/gdqy/newxxgk/fgwj/szfbgswj/content/post_1628226.html

⁴³ 广汽集团. (2022). 百万产能加速全方位电动化, 广汽丰田新能源汽车扩能二期正式投产!
<https://www.gac.com.cn/cn/news/detail?baseid=18517>

⁴⁴ Honda. (2022). GAC Honda Begins Construction of new EV Production Plant
<https://global.honda/newsroom/news/2022/c220621eng.html>

⁴⁵ The Korea Herald. (2023). Hyundai becomes world’s third-largest carmaker
<https://www.koreaherald.com/view.php?ud=20230315000543>

⁴⁶ Hyundai Motor Company. (2021). Hyundai Motor Group Breaks Ground on First Overseas Fuel Cell System Plant in Guangzhou
<https://www.hyundai.com/worldwide/en/company/newsroom/-/0000016629>

⁴⁷ 证券时报. (2023). 超重视! 同日, 广东省、深圳市一把手, 都会见了这家万亿市值公司董事长谈了同一件事!
<http://www.stcn.com/article/detail/799345>.

⁴⁸ 广东省人民政府. (2022). 《深圳经济特区智能网联汽车管理条例》8月1日生效 全无人驾驶开展路测
http://www.gd.gov.cn/gdywdt/dsdt/content/post_3986167.html

⁴⁹ 深圳市发展和改革委员会. (2021). 深圳市发展和改革委员会关于印发《深圳市新能源汽车推广应用工作方案（2021-2025年）》的通知
http://fgw.sz.gov.cn/zwgk/qt/tzgg/content/post_8662484.html

⁵⁰ 深圳市工业和信息化局. (2022). 深圳市出台“淘汰补贴”政策 进一步促进新能源小汽车消费
http://gxj.sz.gov.cn/gkmlpt/content/10/10329/post_10329354.html#3114

⁵¹ SCMP. (2023). BYD beats Tesla in 2022 EV sales, as the world’s No 1 electric car seller vindicated Warren Buffett’s bet
<https://www.scmp.com/business/china-business/article/3205388/byd-beats-tesla-2022-ev-sales-worlds-no-1-electric-car-seller-vindicated-warren-buffetts-bet>

⁵² WRI China. (2022). 迈向碳中和目标: 中国道路交通领域中长期减排战略
https://wri.org.cn/sites/default/files/2022-06/%E9%81%93%E8%B7%AF%E4%BA%A4%E9%80%9A%E6%88%98%E7%95%A5_CN_fin_0.pdf

⁵³ 广州碳排放权交易所. (2020). 助力制造业绿色转型, “大湾区绿色供应链金融服务指南（汽车制造业）” 正式发布
<https://www.cnemission.com/article/jydt/scyj/202009/20200900001982.shtml>

⁵⁴ Textile Learner.(2013).Supply Chain of Textile Industry – An Overview.
<https://textilelearner.net/supply-chain-of-textile-industry/>

⁵⁵ Gajendra Kumar Tyagia* and Nagender Singh. (2023). Recent Sustainable Development and Innovations in Textile Industry.
<https://crimsonpublishers.com/tteft/pdf/TTEFT.000684.pdf>

⁵⁶ Insider.(2020).Sustainability sells: Why consumers and clothing brands alike are turning to sustainability as a guiding light.
<https://www.insider.com/guides/style/sustainability-as-a-value-is-changing-how-consumers-shop>

⁵⁷ Roland Berger and WWD. (2022). 行动在即, 共塑可持续时尚——中国时尚产业的可持续之路
https://www.rolandberger.com>publication_pdf/Sustainable-Fashion-White-Papter.pdf

⁵⁸ 中国纺织网. (2022). 西樵10月前关停首批15家纺织印染企业
<https://info.texnet.com.cn/detail-896790.html>

⁵⁹ Foshan textile and garment association. (2022). 国内首家纺织印染产业综合体——秋盈纺织生态科技产业园开业暨联合投产典礼圆满成功!
<http://www.fsfzxh.com/dynamic/N100733.html>

⁶⁰ Nanfang Daily. (2022) 高明纺织企业“无水染色”技术被鉴定为“达到国际领先水平”助力纺织行业摘掉“排污大户”的帽子
https://epaper.southcn.com/nfdaily/html/202206/02/content_10020610.html

⁶¹ HKTDX Research. (2022). Sustainable Fashion: Upcycling and the Rise of Recycled Fabrics.
<https://research.hktdc.com/en/article/MTA4MjAwMTE5MA>

Table of Indicators

Figure 17. 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

Disclaimer

This document has been prepared by CECEP Environmental Consulting Group Limited (“CECEP”) at the request of The Hongkong and Shanghai Banking Corporation Limited (“HSBC”) in accordance with the agreement between CECEP and HSBC. This document is based on current public information that CECEP has obtained from publicly available sources, believed to be reliable and has not been independently verified by CECEP or HSBC. This document does not represent that historical data and analysis should be taken as an indication or prediction of likely future movements in data, rates or prices. Data, information, views or opinions contained or referred to in this document are subject to change without notice.

The recipients assume all risk of any use of or reliance on this document by them. Neither CECEP nor HSBC makes any guarantee, representation or warranty of any kind, express, implied or statutory statement regarding the accuracy, timeliness, completeness or fitness to a particular purpose with respect to this document (including any data, information, views or opinions contained or referred to in the document such as market data and statistical information). To the maximum extent permitted by applicable law, neither CECEP nor HSBC shall be liable for any direct, indirect, special, punitive, consequential (including loss of profits) or any other loss whatsoever arising from or in connection with the use of or reliance on this document.

This document has been produced for information and discussion purposes only and does not constitute any offer, recommendation, or solicitation to enter into any transaction or adopt any hedging, trading or investment strategy, nor shall it be construed as investment advice or tailored to the needs of any recipient. Recipient should exercise independent judgement and seek professional advice when appropriate.

There is no standard definition of, measurement criteria or methodology for ESG/Sustainability assessments. HSBC does not conduct its own specific due diligence in relation to the methodology adopted by CECEP in respect of the study in this document. ESG/Sustainability assessment is an evolving area and new regulations and measurement criteria may come into effect which may affect how a specific criteria such as a geographical area, industry or business sector is categorised or labelled. A criteria such as geographical location, industry or business sector which is considered to fulfil ESG/sustainable criteria today may not meet those criteria at some point in the future.

This document is not intended for distribution or use by any person in any jurisdiction or country where the distribution or use of this document is restricted and would not be permitted by law or regulation.

Copyright Statement

Copyright © 2023. CECEP Environmental Consulting Group Limited, ALL RIGHTS RESERVED.

The contents available in the document, including text, graphics, images, photographs, logos, trademarks, data, and software (“Contents”) are protected by intellectual property-related laws and treaties in the Hong Kong Special Administrative Region and other jurisdictions. The copyright belongs to CECEP Environmental Consulting Group Limited (“CECEP”). You may not copy, reproduce, modify, adapt or in any way distribute or translate (in whole or in part) of the Contents without prior written permission of CECEP and The Hongkong and Shanghai Banking Corporation Limited (“HSBC”). If a third-party agency wishes to reproduce the document, the source of the document must be indicated. Prior written permission of CECEP and HSBC is required for any changes to the Contents.

About HSBC

The Hongkong and Shanghai Banking Corporation Limited is the founding member of the HSBC Group. HSBC serves customers worldwide from offices in 63 countries and territories in its geographical regions: Europe, Asia, North America, Latin America, and Middle East and North Africa. With assets of USD2,967 billion at 31 December 2022, HSBC is one of the largest banking and financial services organisations in the world.

About CECEPEC

CECEP Environmental Consulting Group Limited is a professional sustainability consulting company established by CECEP. We are headquartered in Hong Kong with branch offices in Beijing, Shenzhen, and Shanghai. Our partners and clients are found throughout Greater China, Europe, and America, covering national governments, industry associations, mainstream financial institutions and nearly 200 well-known enterprises in and out of China. We are committed to providing bespoke solutions to satisfy the specific sustainability needs for various industries, which include sustainability management consulting, green and sustainable finance consulting, climate change and carbon neutrality consulting with implementation solutions, and others.

