

# CARBON ACCOUNTING POLICIES AND PRACTICES IN CHINA'S BANKING SECTOR 2024

November 2024



**Cover Image:** Huzhou Taihu Lake Tourism Resort, Huzhou, Zhejiang Province

As a pioneer in practicing the green finance reform and innovation, Huzhou has strengthened its requirements for all the financial institutions operating within its jurisdiction to conduct environmental information disclosure. In addition, many commercial bank branches in Huzhou are taking the lead in carbon accounting, a key step for climate-risk management, sustainability disclosure, and transition finance innovation.

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## About Huzhou Green Finance Institute (HZGF)

Huzhou Green Finance Institute (HZGF) is a non-profit research institution based in Huzhou City, Zhejiang Province, China. We specialize in forward-looking research and conduct pilot projects on issues of green finance and ESG investment. We empower domestic green finance capacity building and advance international cooperation. Together with our partners, we are dedicated to promoting Huzhou as a demonstration center for China's green finance, and establishing it as a global innovation base for sustainable development.

## About G:HUB

Greenovation Hub (GHub) is an independent environmental think tank with a global outlook, registered with the Beijing Municipal Civil Affairs Bureau. GHub advances the policy development and dialogues in cutting-edge areas of sustainable development, seeks innovative solutions to quality growth, climate resilience and carbon neutrality in China and beyond, contributing to a net-zero and nature-positive future.

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**Note:** This report is part of a series of studies on sustainability disclosure. Please refer to previous research publications for more information:

**Chinese Report:** *Enhancing Climate-Related Environmental Information Disclosure of Financial Institutions: Policies and Practices (2023)*

<https://www.ghub.org.cn/news/detail/briefing-climate-disclosure-23nov>

**English Briefing:** *Enhancing Climate-Related Environmental Information Disclosure of Financial Institutions: Policies and Practices (2023)*

<https://en.ghub.org.cn/news/detail/briefing-climate-disclosure-23nov>

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## List of Abbreviations

Abbreviation	Description
AI	Artificial Intelligence
BCBS	Basel Committee on Banking Supervision
BOH	Bank of Huzhou
CSRC	China Securities Regulatory Commission
CSRD	Corporate Sustainability Reporting Directive
DEFRA	United Kingdom Department for Environment, Food & Rural Affairs
EEIO	Environmentally Extended Input-Output
EPA	United States Environmental Protection Agency
ESG	Environmental, Social and Governance
EU	European Union
GEM	Growth Enterprise Market
GFANZ	Glasgow Financial Alliance for Net-Zero
GHG	Greenhouse Gas
GRCB	Guangzhou Rural Commercial Bank
HKFRS S1	General Requirements for Disclosure of Sustainability-related Financial Information
HKFRS S2	Climate-related Disclosures
HKICPA	Hong Kong Institute of Certified Public Accountants
HKSAR	Hong Kong Special Administrative Region
HXB	Huaxia Bank
ICBC	Industrial and Commercial Bank of China
IEA	International Energy Agency
IFRS S1	International Financial Reporting Standards-General Requirements for Disclosure of Sustainability-related Financial Information

(continued)

Abbreviation	Description
IFRS S2	International Financial Reporting Standards Climate-related Disclosures
IMO	International Maritime Organization
IPCC	Intergovernmental Panel on Climate Change
ISSB	International Sustainability Standards Board
MEE	Ministry of Ecology and Environment of the People's Republic of China
MOF	Ministry of Finance of the People's Republic of China
NBS	National Bureau of Statistics of China
NDRC	National Development and Reform Commission of the People's Republic of China
NFRA	National Financial Regulatory Administration of China
NGFS	Network for Greening the Financial System
NZBA	Net Zero Banking Alliance
PBoC	People's Bank of China
PCAF	Partnership for Carbon Accounting and Financials
SAMR	State Administration for Market Regulation of China
SASAC	State-owned Assets Supervision and Administration Commission of the State Council of China
SEC	United States Securities and Exchange Commission
SEHK	Stock Exchange of Hong Kong Ltd.
TCFD	Task Force on Climate-related Financial Disclosures
URE	Urząd Regulacji Energetyki



## Executive Summary

Faced with the increasing impacts of the global climate crisis, taking climate action has emerged as a critical agenda for countries and regions worldwide. The international community is accelerating mitigation and climate adaptation through policy cooperation and multilateral actions. At the meso-level, industrial chains are accelerating the green and low-carbon transition to achieve the climate goals of the *Paris Agreement* and the United Nations Sustainable Development Goals. Financial institutions could play a crucial role in shifting financial flows and optimizing resource allocation. On the one hand, they could manage their own climate-related financial risks, on the other hand, they could drive the economy-wide low-carbon transition through investment and financing.

Carbon accounting provides the foundation for financial institutions' financing for the green and low-carbon transition of the real economy. First, carbon accounting provides precise data for climate risk analysis, helping financial institutions identify high-carbon risk exposures and conduct forward-looking management through climate scenario analysis and stress testing. Second, with the increasingly stringent sustainability disclosure standards, carbon accounting offers quantitative evidence to meet national and international ESG disclosure requirements which helps ensure the transparency and accuracy of the disclosed carbon emission information at their operational and portfolio levels. Finally, as the core data foundation for transition finance, carbon accounting helps financial institutions to identify the carbon-intensive sectors in the portfolio, helps private investors to support the low-carbon transition of the carbon-intensive industries, and facilitates the monitoring of corporate performance on carbon emission reduction. This could promote financing for an orderly transition of carbon-intensive industries, and manage financial institutions' climate-related transition risk. Accurate carbon accounting not only drives the green and low-carbon transition of financial institutions, enhances their climate risk management capabilities and sustainability information disclosure quality, but also enables financial institutions to help their clients to formulate roadmaps for the low-carbon transition and upgrading of their carbon-intensive industrial chains.

The development of carbon accounting in China has been driven by both policy support and market progress. On the policy front, governments at all levels from central to local

have introduced carbon accounting management measures for different actors and have introduced pilot projects in some regions. At the central level, multiple departments including the People's Bank of China (PBoC) and the Ministry of Ecology and Environment of the People's Republic of China (MEE), have issued policy documents to define the framework and requirements for financial institutions to develop carbon accounting. In Hong Kong of China, the Hong Kong Special Administrative Region Government and the Stock Exchange of Hong Kong Ltd. (SEHK) are committed to harmonizing with international sustainability information disclosure standards, providing better data access and accuracy for financial institutions to conduct the Scope 3 emission accounting. At the local level, some local governments have taken the lead in releasing local standards, guidelines, and even legislation, to provide guidance and references for local financial institutions' carbon accounting. In practice, Chinese financial institutions have made notable progress in both the quantity and quality of climate information disclosure. They have conducted carbon emission accounting and disclosure for their operational activities. However, there remains a need for improvement in the scope and accuracy of carbon accounting. Taking commercial banks as an example, as of the third quarter of 2024, more than two-thirds of A-share listed banks in China have disclosed their operational carbon emissions, primarily focusing on Scope 1 and Scope 2 emissions. A couple of banks, such as Ping An Bank and Huaxia Bank, have begun exploring the accounting and disclosure of Scope 3 (value chain) emissions. Additionally, green finance reform and innovation pilot zones are building local carbon accounting systems tailored to regional characteristics. As of June 2024, over 200 financial institutions within these pilot zones have compiled environmental information disclosure reports, with Huzhou City in Zhejiang Province achieving full coverage of environmental information disclosure for financial institutions.

To better promote and support financial institutions in implementing carbon accounting, this report analyzes and compares the major carbon accounting methods and studies the carbon accounting practice cases of eight selected banking financial institutions both domestically and internationally to identify experience that could be referenced and adopted by Chinese financial institutions. The analysis focuses on four PCAF member commercial banks, all of which have accounted for Scope 1 and Scope 2 emissions at the operational level, managing their operational carbon emissions in line with their developmental strategies. The analysis of international PCAF member commercial banks indicated that all four have conducted carbon emission accounting at both the operational and financed

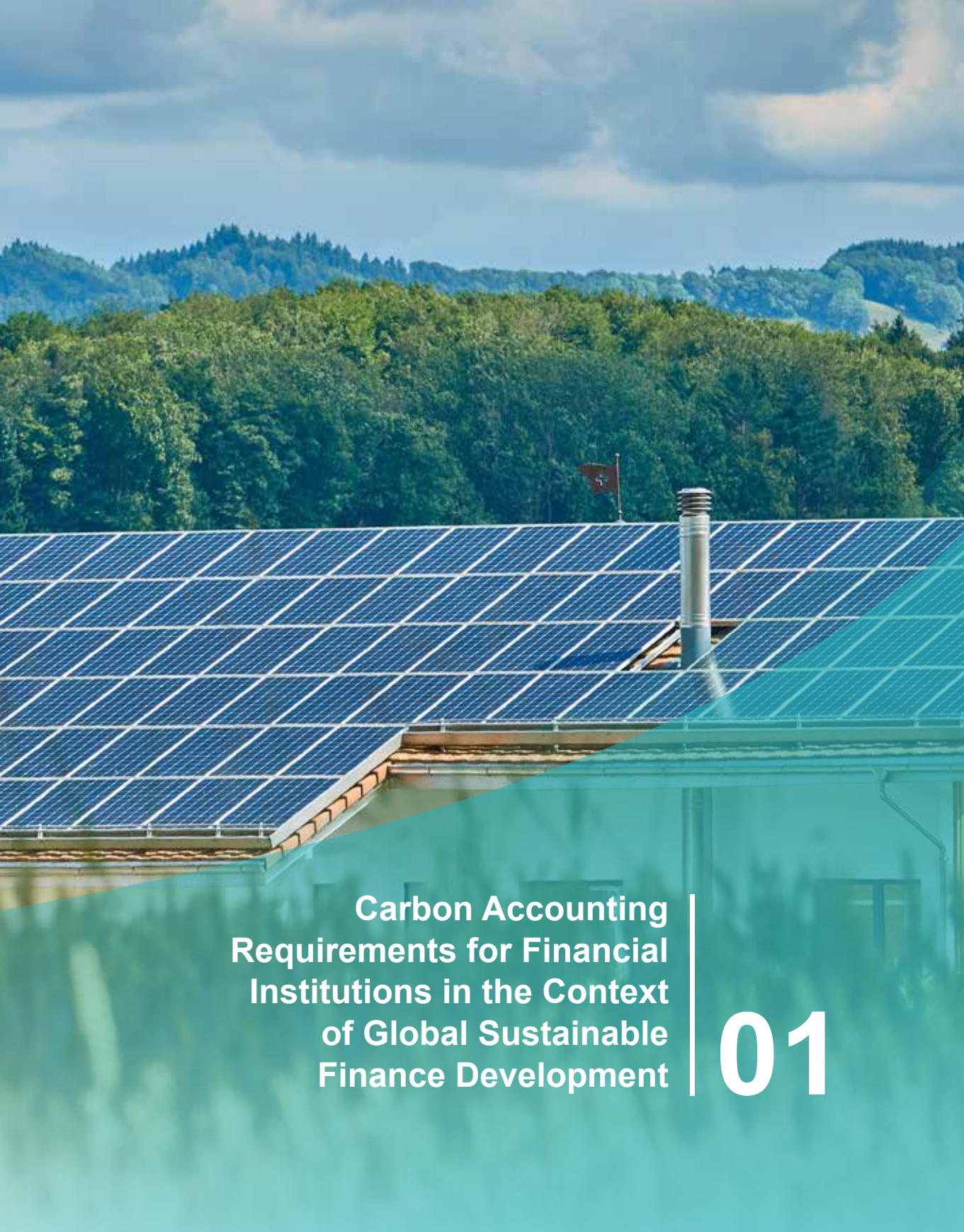
levels with varying levels of granularity and methodologies. They usually start with the carbon accounting for carbon-intensive industries and gradually expand their coverage. Domestically, four different types of commercial banks were selected: a state-owned commercial bank, a joint-stock commercial bank, a city commercial bank, and a rural commercial bank. The findings indicate that most selected Chinese commercial banks have mostly accounted for Scope 1 and Scope 2 emissions at the operational level. Some banks have started to account for part of the Scope 3 emissions<sup>1</sup>, focusing on carbon-intensive industries with indicators regarding the control over total carbon emission amount.

In conclusion, carbon accounting serves as a fundamental task in driving the sustainable development of financial institutions. It provides a data foundation for financial institutions to set ambitious net-zero targets and transition plans, conduct climate scenario analysis, stress testing, and other risk management activities, and design sustainable financial products linked to carbon emissions. To enhance the carbon accounting practice of Chinese financial institutions and promote high-quality development in the sustainable progress of the financial sector, the report proposes the following recommendations:

1. Financial regulatory authorities and relevant industrial ministries in China could define national carbon accounting standards, based on national emission factors and industry classification, taking into consideration of existing carbon accounting experiences around the world and national context. In addition, promote the harmonization of national and international carbon accounting methodologies, and thirdly, integrate carbon accounting-related data into the development of local green financial infrastructure.
2. Financial institutions could strengthen the application of financial technology to improve the efficiency and data quality of carbon accounting, leveraging digital technologies such as big data, and blockchain, etc.
3. Third-party agencies and think tanks could enable financial institutions by broadening the application of carbon accounting results, enhancing financial institutions' climate-related risk management capabilities, showcasing innovative transition finance products and models, and providing third-party data for carbon accounting.

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1. According to the GHG Protocol, Scope 1 emissions refer to all direct emissions from an institution, including fossil fuel combustion and fugitive emissions from human activities. Scope 2 emissions are indirect emissions resulting from the consumption of purchased electricity, heat, or steam. Scope 3 emissions are those occurring outside the physical boundaries of the institution, representing supply chain emissions that are not under the direct control of the institution.



**Carbon Accounting  
Requirements for Financial  
Institutions in the Context  
of Global Sustainable  
Finance Development**

**01**

The application of carbon accounting results has become increasingly diverse within the realm of sustainable finance. It serves as a critical data foundation for climate risk management, sustainability disclosure, and transition finance. First, carbon accounting supports financial institutions in identifying high-carbon risk exposures, conducting climate scenario analyses, and designing decarbonization pathways to ensure the stability of the financial system. Second, with the widespread adoption of Environmental, Social and Governance (ESG) disclosure standards, carbon accounting has emerged as a core data source for meeting both international and domestic disclosure requirements, which promotes precise emissions data disclosure and the formulation of emission reduction strategies by financial institutions. Finally, carbon accounting supports the development and implementation of transition finance products, guiding capital towards low-carbon industries and dynamically tracking the emission reduction effects of projects. This promotes an orderly transition and sustainable development of high-carbon industries by guiding capital towards low-carbon industries and dynamically tracking the emission reduction effects of projects.

## 1.1 Carbon Accounting as a Vital Data Basis for Managing Climate Risk of Financial Institutions

**Climate risk management has emerged as a priority within global financial regulation.**

The impact of climate change on the real economy is increasingly significant, expanding the climate risk exposure faced by financial institutions and heightening the potential of systemic financial risks. Consequently, global financial regulatory authorities are placing greater emphasis on climate risk. Operating from core policy objectives centered on "price stability" and "financial stability", central banks play a crucial role in guiding the financial system to manage climate risks and engage in green and low-carbon investments and financing. The Network for Greening the Financial System (NGFS) updated the *Guide on Climate-related Disclosure for Central Banks-Second Edition* (hereinafter referred to as "the Guide") in June 2024, focusing on four key areas identified by the Task Force on Climate-related Financial Disclosures (TCFD): governance, strategy, risk management, and metrics and targets. The Guide assists central banks worldwide in enhancing their capabilities to identify, assess, and manage climate risks, and includes recommendations on natural risks and transition planning<sup>2</sup>. In November 2023, the Basel

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2. NGFS. Guide on Climate-related Disclosure for Central Banks- Second Edition [R/OL]. [24-06]. [https://www.ngfs.net/sites/default/files/medias/documents/ngfs\\_guide\\_on\\_climate-related\\_disclosure\\_for\\_central\\_banks\\_-\\_second\\_edition.pdf](https://www.ngfs.net/sites/default/files/medias/documents/ngfs_guide_on_climate-related_disclosure_for_central_banks_-_second_edition.pdf)



Committee on Banking Supervision (BCBS) dedicated to coordinating international banking sector regulation, released the third pillar document *Disclosure of Climate-Related Financial Risks (Issued for Comment by 14 March 2024)*. The Draft emphasizes the incorporation of qualitative and quantitative requirements and indicators for climate risk within the third pillar (disclosure) of the Basel regulatory framework. Its goal is to promote the accuracy, consistency, and quality of climate-related data, thereby enhancing data applicability and encouraging proactive climate risk assessment by banks<sup>3</sup>. In April 2024, the BCBS revised the *Core Principles for Effective Banking Supervision*, incorporating climate risk into the regulatory framework for the first time to ensure the stability of the global financial system amidst global climate change and the transition to a net-zero society<sup>4</sup>. In China, various departments including the People's Bank of China (PBoC), the Ministry of Finance of the People's Republic of China (MOF), the Ministry of Ecology and Environment of the People's Republic of China (MEE), the National Financial Regulatory Administration of China (NFRA), and the China Securities Regulatory Commission (CSRC) are strengthening climate risk management and related information disclosure requirements for different regulatory entities. For example, in March 2024, seven departments including the PBoC issued the *Guiding Opinions on Further Strengthening Financial Support for Green and Low-Carbon Development*, proposing to gradually incorporate climate-related risks into the macro-prudential policy framework. Financial institutions are encouraged to integrate climate-related risks into their risk control systems and corporate governance frameworks and promote the organic integration of financial digitalization and green development<sup>5</sup>. In summary, it is imperative for financial institutions to establish climate-related risk management frameworks, utilizing risk assessment and predictive models, along with climate stress testing, to prevent and mitigate risks associated with climate change.

**Carbon accounting is a crucial tool for financial institutions in climate-related risks management.** It enables these institutions to identify carbon-intensive sectors and assess their risk exposure within their own operations and high-carbon investment portfolios, providing references for business admission, climate risk scenario analysis, and portfolio decarbonization strategies. For example, by referring to climate scenarios provided by the NGFS, the Intergovernmental Panel on Climate Change (IPCC), and the International

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3. BCBS. Disclosure of Climate-related Financial Risks [R/OL]. [23-11-29]. <https://www.bis.org/bcbs/publ/d560.htm>

4. BCBS. Core Principles for Effective Banking Supervision [R/OL]. [24-04-25]. <https://www.bis.org/bcbs/publ/d573.htm>

5. Central People's Government of the People's Republic of China. Guiding Opinions on Further Strengthening Financial Support for Green and Low-Carbon Development [Z/OL]. [24-03-27]. [https://www.gov.cn/zhengce/zhengceku/202404/content\\_6944452.htm](https://www.gov.cn/zhengce/zhengceku/202404/content_6944452.htm)

Energy Agency (IEA), financial institutions can compare these scenarios with their own carbon emission indicators, helping assess whether their decarbonization pathways align with relevant scenarios. Based on the assessment, financial institutions can enhance their climate-related risk management and strengthen the resilience of their investment portfolios against climate change.

## 1.2 Carbon Accounting Improves the Transparency and Accuracy of Financial Institutions' Sustainability Disclosure

**Sustainability disclosure has become a commonly asked requirement for the development of sustainable finance, transitioning from voluntary to mandatory disclosure.** Major economies, developed economies and some developing economies mostly, and international organizations have introduced relevant regulations and standards that require financial institutions and enterprises to disclose sustainability report, particularly data related to greenhouse gas (GHG) emissions. Internationally, following the introduction of the TCFD's four-pillar climate-related information disclosure framework in 2017, the *International Financial Reporting Standards - General Requirements for Disclosure of Sustainability-related Financial Information* (IFRS S1) and *International Financial Reporting Standards Climate-related Disclosures* (IFRS S2) in June 2023. From 2024, the ISSB will officially assume the TCFD's supervisory role regarding corporate climate-related information disclosures, contributing to establishing a unified global standard<sup>6</sup>. In major economies, the *Corporate Sustainability Reporting Directive* (CSRD)<sup>7</sup> of European Union (EU), which came into effect in January 2023, and the *Rules to Enhance and Standardize Climate-Related Disclosures for Investors*<sup>8</sup> of United States Securities and Exchange Commission (SEC), which was passed in March 2024, both require listed companies to regularly report GHG emission data. In China, financial regulatory authorities including the PBoC are promoting sustainability disclosures by financial institutions. Since 2020, the PBoC has led in the implementation of the *Manual of Environmental Information Disclosure for Financial Institutions in the Banking Sector (Trial)* in green finance reform

6. IFRS. General Sustainability-related Disclosures [EB/OL]. [24-10-06]. <https://www.ifrs.org/projects/completed-projects/2023/general-sustainability-related-disclosures/>

7. European Union. CSRD Directive [Z/OL]. [22-12-14]. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022L2464>

8. U.S. Securities and Exchange Commission. SEC Adopts Rules to Enhance and Standardize Climate-Related Disclosures for Investors [Z/OL]. [24-03-06]. <https://www.sec.gov/newsroom/press-releases/2024-31>

and innovation pilot zones, encouraging legal entities and major pilot banks in the pilot zones to adopt specialized disclosure practices within a unified framework. In 2021, the PBoC released the *Guidelines on Environmental Information Disclosure for Financial Institutions*, which set forth disclosure requirements for carbon accounting in the investment and financing activities of financial institutions<sup>9</sup>. Meanwhile, the PBoC issued the *Technical Guidelines on Carbon Accounting for Financial Institutions (Trial)* (hereinafter referred to as "the Guidelines"), providing references for carbon accounting in the investment and financing of Scope 3 (value chain emissions) and promoting carbon accounting pilot projects among financial institutions<sup>10</sup>.

**Carbon accounting provides essential data support for sustainability disclosure and management.** Carbon accounting data helps financial institutions measure their own emissions, identify key emission areas, design carbon reduction pathways, and manage carbon emission indicators. Specifically, financial institutions can calculate operational GHG emissions, including Scope 1 (direct emissions), Scope 2 (indirect emissions) and Scope 3 (category 1 to 14). They can implement measures including paper usage reduction and energy-saving building renovation, while offsetting unavoidable emissions through carbon credit purchases. More importantly, financial institutions need to account for and disclose investing and financing emissions (category 15 of Scope 3), to identify sectors with the greatest climate impact in their investment portfolio, allowing for targeted carbon emission reduction management. Through this approach, financial institutions not only support the low-carbon transition of the real economy but also uncover new growth opportunities for their businesses.

**Given the importance of financial institutions in supporting the development of the real economy, both international and Chinese sustainability reporting frameworks have established specific carbon accounting requirements.** Internationally, organizations including the Glasgow Financial Alliance for Net-Zero (GFANZ) and the Net Zero Banking Alliance (NZBA) have outlined detailed requirements for member financial institutions

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9. People's Bank of China. Guidelines on Environmental Information Disclosure for Financial Institutions [Z/OL].

[21-07-22]. [http://group1.ccb.com/cn/group/regime/upload/20220726\\_1658822708/20220726160537518146.pdf](http://group1.ccb.com/cn/group/regime/upload/20220726_1658822708/20220726160537518146.pdf)

10. The People's Bank of China. Technical Guidelines on Carbon Accounting for Financial Institutions (Trial) [Z/OL]. [21-07]. [http://fangs.srbcz.com/res\\_base/srbcz\\_fangs\\_com/upload/article/202406/21/20240621153834739.pdf](http://fangs.srbcz.com/res_base/srbcz_fangs_com/upload/article/202406/21/20240621153834739.pdf)



regarding carbon accounting methodologies, performances, targets, and emission trends. In China, the Guidelines that financial institutions need to disclose information on direct emissions (Scope 1), indirect emissions (Scope 2), and investment & financed emissions (category 15 of Scope 3). Furthermore, the Guidelines provided specific operational guidance for carbon accounting related to Scope 3, promoted pilot initiatives in carbon accounting among financial institutions<sup>11</sup>.

### 1.3 Carbon Accounting Enables Financial Institutions to Develop Transition Finance and Shift Financial Flows in line with Climate Goals

**Carbon accounting serves as a fundamental component in transition finance, providing accurate GHG emissions data supporting financial institutions in guiding capital allocations.** By conducting carbon accounting, financial institutions can identify high-carbon sectors within their investment portfolios and formulate more precise investment strategies based on emissions data, enabling them to direct and incentivize capital flows towards low-carbon industries in accordance with market principles. Furthermore, carbon accounting results assist financial institutions in determining decarbonization pathways for high-carbon portfolios, supporting the orderly transition of high-carbon assets and mitigating climate transition risks.

**Carbon accounting data is the basis for developing transition finance products, such as transition-linked bonds, which meet the market demand for green finance solutions while providing funding support for the low-carbon transition of high-carbon industries.** As a complement and bridge to green finance, transition finance has a broader potential market but remains in its early stage of development. Through carbon accounting, financial institutions can dynamically track the carbon emission reduction effects of transition finance products and projects, ensuring the effectiveness of capital investments and the authenticity of low-carbon transition.

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11. The People's Bank of China. Guidelines on Environmental Information Disclosure for Financial Institutions [Z/OL]. [21-07-22]. [http://group1.ccb.com/cn/group/regime/uplo\\_ad/20220726\\_1658822708/20220726160537518146.pdf](http://group1.ccb.com/cn/group/regime/uplo_ad/20220726_1658822708/20220726160537518146.pdf)



**Progress in China's  
Carbon Accounting  
Policies and Practices**

**02**

Based on international best practices and local realities, China has gradually established its carbon accounting policies and standards. With a focus on cost control, the consistency and comparability of carbon accounting data among financial institutions have improved. There is a growing trend in the number and scale of initiatives among financial institutions in researching and applying sustainability disclosure standards and carbon accounting methodologies. The PBoC has developed standards related to carbon accounting, encouraging pilot regions to lead in local carbon accounting practices and to explore financial institutions' carbon accounting methodologies that reflect local unique characteristics. To enhance carbon accounting efforts within these institutions, various relevant departments and local governments have introduced tailored policy measures, further supporting the adoption of carbon accounting across Chinese financial institutions.

## 2.1 Policy Progress

**China has prioritized and advanced carbon accounting and sustainability disclosure among financial institutions.** In August 2016, the PBoC and six other departments issued the *Guidelines for Establishing the Green Financial System*, underscoring the significance of environmental information disclosure as one of the "five pillars" of green finance development<sup>12</sup>. In early 2020, the PBoC implemented the *Manual of Environmental Information Disclosure for Financial Institutions in the Banking Sector (Trial)* in green finance reform and innovation pilot zones, encouraging banks in these areas to adopt specialized disclosure practices within a unified framework. In July 2021, the PBoC released the *Guidelines on Environmental Information Disclosure for Financial Institutions*, which provided guiding principles for financial institutions navigating the environmental information disclosure process. The same year saw the publication of the *Technical Guidelines on Carbon Accounting for Financial Institutions (Trial)*, which offered technical support for calculating carbon emissions and reductions associated with financing activities. In August 2022, the National Development and Reform Commission of the People's Republic of China (NDRC), the National Bureau of Statistics of China (NBS), and the MEE issued the *Implementation Plan for Accelerating the Establishment of a Unified and Standardized Statistical and Accounting System for Carbon Emissions*. This plan emphasizes the need

12. The Ministry of Ecology and Environment of the People's Republic of China. Guidelines for Establishing the Green Financial System [Z/OL]. [16-08-31]. [https://www.mee.gov.cn/gkml/hbb/gwy/201611/t20161124\\_368163.htm](https://www.mee.gov.cn/gkml/hbb/gwy/201611/t20161124_368163.htm)

to accelerate the establishment of national and local carbon emission statistical accounting systems, consolidate statistical foundations, strengthen statistical capabilities, and proposes that relevant departments, including the PBoC, could develop more detailed corporate or facility-level carbon emission accounting methodologies or guidelines tailored to the needs of the green finance sector, while fully coordinating with existing carbon emission statistical accounting methodologies in key industries<sup>13</sup>.

**In 2024, China's sustainability disclosure policies continued to drive carbon accounting for financial institutions and financing entities.** Financial regulatory authorities, finance departments, industrial sectors, and stock exchanges introduced guiding policies for carbon accounting by financial institutions, aimed at enhancing the quality and accessibility of carbon accounting data and researching carbon accounting methodologies. These efforts would strengthen the infrastructure necessary for the real economy's low-carbon transition through financial mechanisms. In March 2024, the PBoC, along with six departments, issued the *Guiding Opinions on Further Strengthening Financial Support for Green and Low-Carbon Development*, which promoted the gradual implementation of carbon accounting by financial institutions. This guidance integrated emissions information from high-carbon industries with credit evaluations, providing banking sector financial institutions with access to carbon emission data from high-emission enterprises<sup>14</sup>. In April, under the coordinated efforts of the CSRC, the Shanghai, Shenzhen, and Beijing stock exchanges released the *Guidelines for Self-Regulation of Listed Companies - Sustainability Report (Trial)*. These guidelines mandated that listed companies disclose their Scope 1 and Scope 2 GHG emissions, while encouraging the disclosure of Scope 3 emissions. They also included specific requirements for the disclosure of carbon credit and carbon emission rights trading information, thereby supporting financial institutions in obtaining corporate carbon

13. Central People's Government of the People's Republic of China. Implementation Plan for Accelerating the Establishment of a Unified and Standardized Statistical and Accounting System for Carbon Emissions [Z/OL]. [22- 04-22]. <https://www.gov.cn/zhengce/zhengceku/2022-08/19/5706074/files/a924a706a96645f1a4eee8981e7da686.pdf>

14. Central People's Government of the People's Republic of China. Guiding Opinions on Further Strengthening Financial Support for Green and Low-Carbon Development [Z/OL]. [24-03-27]. [https://www.gov.cn/zhengce/zhengceku/202404/content\\_6944452.htm](https://www.gov.cn/zhengce/zhengceku/202404/content_6944452.htm)

15. Shanghai Stock Exchange. Notice of Issuing the Guidelines for No. 14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies - Sustainability Report (Trial)" [Z/OL]. [24-04-12]. [https://www.sse.com.cn/lawandrules/sselawsrules/stocks/mainipo/c/c\\_20240412\\_5737862.shtml](https://www.sse.com.cn/lawandrules/sselawsrules/stocks/mainipo/c/c_20240412_5737862.shtml)

16. Shenzhen Stock Exchange. Guidelines No. 17 for Companies Listed on Shenzhen Stock Exchange — Sustainability Report (For Trial Implementation) [Z/OL]. [24-04-12]. [https://www.szse.cn/lawrules/rule/stock/supervision/currency/t20240412\\_606839.html](https://www.szse.cn/lawrules/rule/stock/supervision/currency/t20240412_606839.html)

17. Beijing Stock Exchange. Continuous Supervisory Guidelines No. 11 for Companies Listed on Beijing Stock Exchange - Sustainability Report (For Trial Implementation) [Z/OL]. [24-04-12]. [https://www.bse.cn/uploads/6/file/public/202404/20240412193432\\_9yjsl1e33w.pdf](https://www.bse.cn/uploads/6/file/public/202404/20240412193432_9yjsl1e33w.pdf)

emission data from public sources for their financing carbon accounting activities<sup>15,16,17</sup>. In May, the MOF released the *Corporate Sustainability Disclosure Standards - Basic Standards (Exposure Draft)*, highlighting the necessity for enterprises to establish robust internal control systems for sustainability disclosure to ensure the accuracy and completeness of the disclosed data<sup>18</sup>.

**In 2024, China enhanced its regulatory capacity in carbon accounting through institutional development, standard research, and accounting methodologies.**

In May, the MEE, along with fifteen other departments, issued the *Implementation Plan for the Building of the Carbon Footprint Management System*, which outlined phased construction goals of the carbon footprint management system<sup>19</sup>. In June, the State-owned Assets Supervision and Administration Commission of the State Council of China (SASAC) released the *Guiding Opinions on Fulfilling Social Responsibilities According to High Standards by Central Enterprises in the New Era*<sup>20</sup>. Following this, in July, the Central Committee of the Communist Party of China and the State Council issued the *Opinions on Accelerating the Comprehensive Green Transition of Economic and Social Development*<sup>21</sup>. Both documents set forth requirements for corporate carbon emissions and product carbon footprint accounting standards, providing policy support for financial institutions in financed emission accounting based on corporate carbon data sources. In August, the General Office of the State Council issued the *Work Plan for Accelerating the Building of a Dual Control System for Carbon Emissions*, proposing the establishment of carbon emission management mechanisms at local, industry, enterprise, project, and product level, to provide institutional support for carbon accounting across

18. Ministry of Finance of the People's Republic of China. Letter on soliciting opinions on the Corporate Sustainability Disclosure Standards-Basic Standards (Exposure Draft) [Z/OL]. [24-05-22]. [https://kjs.mof.gov.cn/gongzuotongzhi/202405/t20240527\\_3935674.htm](https://kjs.mof.gov.cn/gongzuotongzhi/202405/t20240527_3935674.htm)

19. Ministry of Ecology and Environment of the People's Republic of China. Implementation Plan for the Building of the Carbon Footprint Management System [Z/OL]. [24-05-22]. [https://www.mee.gov.cn/xxgk2018/xxgk/xxgk03/202406/t20240604\\_1074986.html](https://www.mee.gov.cn/xxgk2018/xxgk/xxgk03/202406/t20240604_1074986.html)

20. The State-owned Assets Supervision and Administration Commission of the State Council. Guiding Opinions on Fulfilling Social Responsibilities According to High Standards by Central Enterprises in the New Era [Z/OL]. [24-06-04]. [https://www.gov.cn/zhengce/zhengceku/202406/content\\_6955457.htm](https://www.gov.cn/zhengce/zhengceku/202406/content_6955457.htm)

21. Central People's Government of the People's Republic of China. Opinions on Accelerating the Comprehensive Green Transition of Economic and Social Development [Z/OL]. [24-07-31]. [https://www.gov.cn/zhengce/202408/content\\_6967663.htm](https://www.gov.cn/zhengce/202408/content_6967663.htm)



various dimensions<sup>22</sup>. In September, the State Administration for Market Regulation of China (SAMR) and three other departments released the *Guidance Catalogue for Building Carbon Emission Measurement Capacity (2024 Edition)*, which further required key emitting entities to enhance the accuracy of their carbon accounting<sup>23</sup>. In October, the PBoC and three other departments released the *Opinions on Leveraging Green Finance to Support the Beautiful China Initiative* emphasizing the need to improve of carbon accounting standards and methodologies<sup>24</sup>. In the same month, the NDRC and seven other departments issued the *Work Programme for Improving the Statistical Accounting System of Carbon Emissions*, which outlines the main objectives for two phases, emphasizing support for local carbon assessments, industry carbon control, enterprise carbon management, project carbon evaluations, product carbon footprints and related activities. It aims to enhance the carbon emission accounting system and establish standards at regional, industry, enterprise, project, and product levels<sup>25</sup>.

22. The General Office of the State Council. Notice on Issuing Work Plan for Accelerating the Building of a Dual Control System for Carbon Emissions [Z/OL]. [24-08-02]. [https://www.gov.cn/zhengce/content/202408/content\\_6966079.htm](https://www.gov.cn/zhengce/content/202408/content_6966079.htm)

23. Central People's Government of the People's Republic of China. Notice on Issuing Guidance Catalogue for Building Carbon Emission Measurement Capacity (2024 Edition) [Z/OL]. [24-09-10]. [http://www.hunan.gov.cn/zqt/zcsd/202409/t20240930\\_33467963.html](http://www.hunan.gov.cn/zqt/zcsd/202409/t20240930_33467963.html)

24. Central People's Government of the People's Republic of China. Opinions on Leveraging Green Finance to Support the Beautiful China Initiative [Z/OL]. [24-10-12]. [https://www.gov.cn/zhengce/zhengceku/202410/content\\_6979595.htm](https://www.gov.cn/zhengce/zhengceku/202410/content_6979595.htm)

25. National Development and Reform Commission. Work Programme for Improving the Statistical Accounting System of Carbon Emissions [Z/OL]. [24-10-24]. [https://www.ndrc.gov.cn/xwdt/tzgg/202410/t20241024\\_1393880.html](https://www.ndrc.gov.cn/xwdt/tzgg/202410/t20241024_1393880.html)

Table 1. Policies Related to Sustainability Disclosure and Carbon Accounting in the Chinese Mainland in 2024

Policy	Time	Issued by	Main Content
Guiding Opinions on Further Strengthening Financial Support for Green and Low-Carbon Development	March 2024	People's Bank of China, National Development and Reform Commission, Ministry of Industry and Information Technology, Ministry of Finance, Ministry of Ecology and Environment, National Financial Regulatory Administration, China Securities Regulatory Commission	Drive the financial system to progressively implement carbon accounting, by establishing a robust carbon accounting methodology and database for financial institutions, focusing on promoting the application of mature carbon accounting methodologies and results within the financial sector; formulating unified carbon accounting standards applicable to financial institutions and their operations, enhancing the management and statistics tracking of carbon emissions data related to both the institutions themselves and their financing activities. Elevate the standardization, authority, and transparency of carbon accounting practices within financial institutions. Encourage financial institutions and enterprises to leverage technologies including big data and financial technology to provide technical support for effective carbon accounting.
Guidelines for Self-Regulation of Listed Companies - Sustainability Report (Trial)	April 2024	Shanghai Stock Exchange, Shenzhen Stock Exchange and Beijing Stock Exchange	Publicly listed companies are required to disclose their Scope 1 and Scope 2 GHG emissions. Qualified disclosing entities are encouraged to conditionally disclose their Scope 3 emissions. Furthermore, if the disclosing entity utilizes carbon credits or participates in carbon emissions trading, it is required to disclose relevant information related to these activities

(continued)

Policy	Time	Issued by	Main Content
Corporate Sustainability Disclosure Standards - Basic Standards (Exposure Draft)	May 2024	General Office of the Ministry of Finance	Enterprises need to establish robust systems for data collection, verification, analysis, utilization, and reporting concerning sustainability disclosure. It is essential to enhance internal controls to ensure the quality and reliability of this disclosure.
Implementation Plan for the Building of the Carbon Footprint Management System	May 2024	Ministry of Ecology and Environment, National Development and Reform Commission, Ministry of Industry and Information Technology, Ministry of Finance, Ministry of Human Resources and Social Security, Ministry of Housing and Urban-Rural Development, Ministry of Transport, Ministry of Commerce, People's Bank of China, State-owned Assets Supervision and Administration Commission of the State Council, General Administration of Customs, State Administration for Market Regulation, National Financial Regulatory Administration, China Securities Regulatory Commission, National Data Administration	It is crucial for enterprises to develop a comprehensive database of product carbon footprint factors and to explore the establishment of a carbon footprint disclosure system. Financing entities are encouraged to efficiently, accurately and promptly calculate product carbon footprints with efficiency and accuracy and to subsequently calculate carbon emissions from financing projects based on this data. This process aims to provide essential information for green finance and transition finance services.



(continued)

Policy	Time	Issued by	Main Content
Guiding Opinions on Fulfilling Social Responsibilities According to High Standards by Central Enterprises in the New Era	June 2024	State-owned Assets Supervision and Administration Commission of the State Council	Coordinate industrial restructuring, pollution control, ecological conservation, and responses to climate change to accelerate the transition to a green and low-carbon economy. Advance the goals of peak carbon emissions and carbon neutrality, strengthen the conservation and efficient use of energy resources, enhance the supply of green and low-carbon products and services, promote green and low-carbon ways of working and living, and actively participate in global climate change governance.
Opinions on Accelerating the Comprehensive Green Transition of Economic and Social Development	July 2024	Central Committee of the Communist Party of China, the State Council	Establish a standard system for carbon peaking and carbon neutrality. Advance the development and revision of foundational general standards and standards related to carbon emission reduction and removal. Additionally, formulate standards for accounting, reporting, and verification of enterprise carbon emissions and product carbon footprints.

(continued)

Policy	Time	Issued by	Main Content
Work Plan for Accelerating the Building of a Dual Control System for Carbon Emissions	August 2024	General Office of the State Council	Enhance carbon emissions accounting mechanisms in key industry sectors, by leveraging the roles of industry regulatory authorities and industry associations. Focus on sectors including electricity, steel, non-ferrous metals, construction materials, petrochemicals, and chemicals, urban & rural construction and transportation. Define the scope of carbon emissions accounting within these sectors, utilizing energy and industrial statistics, carbon emissions data from energy activities and industrial production processes, and information from the national carbon emissions trading market to conduct carbon emissions accounting in critical industries.
Guidance Catalogue for Building Carbon Emission Measurement Capacity (2024 Edition)	September 2024	State Administration for Market Regulation, National Development and Reform Commission, Ministry of Ecology and Environment	Provincial-level market regulation departments and ecology & environment departments are tasked with overseeing key emission units and the owners of voluntary GHG emission reduction projects to enhance their awareness and capabilities in carbon measurement. This includes strengthening the provision, management, and use of carbon emission measuring instruments, emphasizing traceability requirements for measuring instruments, enhancing the collection, analysis, and utilization of carbon emission-related measurement data to improve the overall quality of carbon emission data. Provincial-level development and reform departments need to provide essential support and guidance for the development of carbon emission measurement capabilities.

(continued)

Policy	Time	Issued by	Main Content
Opinions on Leveraging Green Finance to Support the Beautiful China Initiative	October 2024	People's Bank of China, Ministry of Ecology and Environment, National Financial Regulatory Administration, China Securities Regulatory Commission	Enhance foundational systems to facilitate the establishment of a unified green finance standard system, refining carbon accounting standards and methodologies in the process. Optimize incentive and constraint mechanisms while evaluating the implementation of green finance policies. Strengthen risk prevention and control mechanisms, and improve monitoring and analysis of project financing in key areas.
Work Programme for Improving the Statistical Accounting System of Carbon Emissions	October 2024	National Development and Reform Commission, Ministry of Ecology and Environment, National Bureau of Statistics, Ministry of Industry and Information Technology, Ministry of Housing and Urban-Rural Development, Ministry of Transport, State Administration for Market Regulation, National Energy Administration	The programme outlines the main objectives for two phases, emphasizing support for local carbon assessments, industry carbon control, enterprise carbon management, project carbon evaluations, product carbon footprints and related activities. It aims to enhance the carbon emission accounting system and establish standards at regional, industry, enterprise, project, and product levels.

Source: Compiled by the research team based on publicly available information

**In terms of developing sustainability disclosure systems, Hong Kong is leading the way in China by promoting alignment with international standards and advancing its own sustainability disclosure framework.** In 2024, Hong Kong continued to integrate its sustainability disclosure policies with the criteria set by the ISSB, mandating that three categories of issuers listed on the SEHK disclose their Scope 1 and Scope 2 GHG emissions starting in 2025. In March 2024, the Government of the Hong Kong Special Administrative Region (HKSAR) issued the *Vision Statement on Developing Sustainability Disclosure Ecosystem in Hong Kong*, outlining the vision and guidelines of HKSAR and financial regulatory bodies to establish a comprehensive sustainability disclosure ecosystem. This initiative highlights the goal of positioning Hong Kong as one of the first jurisdictions to align with ISSB standards<sup>26</sup>. In April, SEHK published the conclusions of a consultation aimed at improving climate-related disclosure requirements. Considering the market readiness of issuers and adopting a phased implementation approach, SEHK categorized issuers into three groups: large-cap issuers, Main Board issuers (excluding large-cap issuers), and Growth Enterprise Market (GEM) issuers. Based on this classification, different levels of disclosure will be required from various effective dates<sup>27</sup>. In September 2024, the Hong Kong Institute of Certified Public Accountants (HKICPA) initiated public consultations on *HKFRS S1-General Requirements for Disclosure of Sustainability-related Financial Information* and *HKFRS S2 - Climate - related Disclosures* (Hong Kong Sustainability Disclosure Financial Reporting Standards). The recommendations advocate for full alignment of HKFRS S1 and HKFRS S2 with the corresponding ISSB standards, IFRS S1 and IFRS S2<sup>28</sup>. In October 2024, the Hong Kong Monetary Authority (HKMA) launched the Sustainable Finance Action Agenda, which sets "support high quality and comprehensive sustainability disclosures" as one of the eight goals, with a vision to consolidating Hong Kong's position as the sustainable financial hub in the region, and to supporting sustainable development of Asia and beyond<sup>29</sup>.

26. The Government of the Hong Kong Special Administrative Region. The government of HKSAR issued the Vision Statement on Developing Sustainability Disclosure Ecosystem in Hong Kong. [Z/OL]. [24-03-25]. <https://www.info.gov.hk/gia/general/202403/25/P2024032500389.htm>

27. The Stock Exchange of Hong Kong Limited. Consultation summary on climate disclosure requirements published by HKEX [Z/OL]. [24-04-19]. [https://sc.hkex.com.hk/TuniS/www.hkex.com.hk/News/Regulatory-Announcements/2024/240419news?sc\\_lang=zh-CN](https://sc.hkex.com.hk/TuniS/www.hkex.com.hk/News/Regulatory-Announcements/2024/240419news?sc_lang=zh-CN)

28. Hong Kong Institute of Certified Public Accountants. Public consultation on the first two Hong Kong Sustainability Disclosure Standards [Z/OL]. [24-09-16]. [https://www.hkicpa.org.hk/zh-CN/News/News-Release/20240916\\_HKFRS-S1\\_S2](https://www.hkicpa.org.hk/zh-CN/News/News-Release/20240916_HKFRS-S1_S2)

29. Hong Kong Monetary Authority. Sustainable Finance Action Agenda [Z/OL]. [24-10-21]. <https://www.hkma.gov.hk/media/eng/doc/key-information/press-release/2024/20241021e4a1.pdf>

Table 2. Update on Carbon Accounting Policies in Hong Kong, China in 2024

Policy	Time	Issued by	Main Content
Vision Statement on Developing Sustainability Disclosure Ecosystem in Hong Kong	March 2024	Government of Hong Kong Special Administrative Region	To establish local sustainability disclosure standards that align with the IFRS S1 and IFRS S2, along with associated application and implementation guidelines.
Implementation Guidance for Climate Disclosures under HKEX ESG reporting framework	April 2024	Stock Exchange of Hong Kong Limited	Starting January 1, 2025, the SEHK will gradually implement mandatory climate-related disclosure requirements for issuers under HK-ESG. Large cap issuers, Main Board issuers, and GEM issuers, with fiscal years beginning on or after this date, will be required to disclose Scope 1 and Scope 2 GHG emissions, as well as emissions beyond these scopes.
HKFRS S1 - General Requirements for Disclosure of Sustainability-related Financial Information HKFRS S2 - Climate-related Disclosures	September 2024	Hong Kong Institute of Certified Public Accountants	After a comprehensive assessment of relevant factors, HKICPA has formulated a plan to fully align Hong Kong with international standards. The recommendation is to converge HKFRS S1 and HKFRS S2 be fully converged with the IFRS S1 and IFRS S2, with an effective date set for August 1, 2025.
Sustainable Finance Action Agenda	October 2024	Hong Kong Monetary Authority	The Action Agenda outlines a vision to strengthen Hong Kong's position as a sustainable financial hub in the region while supporting sustainable development in Asia and beyond. It is a key component of the eight goals aimed at supporting high-quality and comprehensive sustainability disclosures.

Source: Compiled by the research team based on publicly available information

**At the local level, several green finance reform and innovation pilot zones have introduced specialized carbon accounting policies and even enacted local regulations. These measures specify standards and requirements for carbon accounting within green finance and transition finance policies, providing a systematic environment and policy foundation for financial institutions' carbon accounting practices. In terms of green finance,** in September 2022, the Shenzhen Municipal Financial Regulatory Bureau issued the *Guidelines of the Shenzhen Municipality for Environmental Information Disclosure by Financial Institutions*, which incorporates overall investment carbon dioxide disclosure at the carbon accounting level. This Guidelines refines disclosure indicators and methodologies, requiring financial institutions to disclose both their operational and financed carbon emissions while ensuring feasibility of these disclosures<sup>30</sup>. In November 2022, Huzhou released the local standard *General Rules for Carbon Emission Accounting in Bank Credit*. This standard provides a systematic process and methodology carbon emission accounting related to bank credit, such as outlining principles, processes, methodologies, and requirements for financial institutions<sup>31</sup>. In June 2024, the Shenzhen Administration for Market Regulation sought public opinions on the local standard *Implementation Guidelines for Carbon Neutrality in Financial Institutions*, addressing key aspects of carbon accounting, emission reduction measures, carbon offsetting, and information disclosure, guiding financial institutions in systematically and scientifically achieving their carbon neutrality goals<sup>32</sup>. **In terms of transition finance,** pilot zones are primarily developing transition finance taxonomies that focus on local key carbon-intensive industries. They utilize carbon accounting results as a foundation to guide local financial institutions in innovating financial products based on these taxonomies, facilitating an orderly transition for relevant local industries. For instance, Shanghai issued the *Shanghai Transition Finance Catalog (Trial)* along with the *Usage Guidelines for the Shanghai Transition Finance Catalog (Trial)*, classifying financing entities' disclosure into three levels: Level I, Level II, and Level III. Level II entities need to disclose their current

30. Shenzhen Municipal Financial Regulatory Bureau. Guidelines of the Shenzhen Municipality for Environmental Information Disclosure by Financial Institutions [Z/OL]. [22-09-30]. [http://jr.sz.gov.cn/sjrb/xxgk/zcfg/dfjrzc/jrfzzc/content/post\\_10150564.html](http://jr.sz.gov.cn/sjrb/xxgk/zcfg/dfjrzc/jrfzzc/content/post_10150564.html)

31. National Standard Information Public Service Platform. General Rules for Carbon Emission Accounting in Bank Credit [Z/OL]. [22-11-25]. <https://std.samr.gov.cn/db/search/stdDBDetailed?id=EE7F3BA9ABD02FD0E05397BE0A0AB92E>

32. Shenzhen Administration for Market Regulation. Notice on Public Solicitation of Opinions on Six Local Standards Including the Implementation Guide for Carbon Neutrality in Financial Institutions [Z/OL]. [24-06-21]. <https://amr.sz.gov.cn/hdjlpt/yjzj/answer/37104>

Scope 1 and Scope 2 GHG emissions, while Level III entities also need to report on their Scope 3 GHG emissions<sup>33</sup>. **In terms of legislation**, several regions have introduced local regulations that focus on carbon peaking and carbon neutrality. In March 2021, Shenzhen implemented the *Regulations of Shenzhen Special Economic Zone on Green Finance*, which require financial institutions to assess environmental impact reports, evaluate the environmental risk management capabilities of project entities, and consider the environmental benefits of projects expected to emit 3,000 tons of carbon dioxide equivalent or more of GHG annually<sup>34</sup>. In August 2021, Huzhou introduced the *Huzhou City Green Finance Promotion Regulations*, becoming one of the first cities in China to elevate the development of carbon finance and the promotion of carbon emission reduction to the level of local regulation. This marked the first instance of including carbon emission information disclosure, project investment carbon evaluation, and industrial carbon emission evaluation management within regulatory frameworks<sup>35</sup>.

33. Shanghai Finance. Shanghai Transition Finance Catalog (Trial) [Z/OL]. [23-12-29]. <https://jrj.sh.gov.cn/ZXYW178/20231229/078f722f64b540678cd496d3f62f6764.html>

34. Shenzhen Local Financial Supervision Bureau. Regulations of Shenzhen Special Economic Zone on Green Finance [Z/OL]. [20-11-18]. [http://jr.sz.gov.cn/sjrb/xxgk/zcfg/djrzq/jrfzcc/content/post\\_8279891.html](http://jr.sz.gov.cn/sjrb/xxgk/zcfg/djrzq/jrfzcc/content/post_8279891.html)

35. Standing Committee of the Huzhou Municipal People's Congress. Regulations on the Promotion of Green Finance in Huzhou City [Z/OL]. [21-10-14]. <http://renda.huzhou.gov.cn/lzgg/lfgj/20211015/i3056490.html>

Table 3. Carbon Accounting Policies at Local Level in China

Policy	Time	Issued by	Main Content
Regulations of Shenzhen Special Economic Zone on Green Finance	March 2024	Shenzhen	Financial institutions are required to assess the environmental impact assessment reports, evaluate the environmental risk management capabilities, conduct evaluations of the environmental benefits of investment project entities if investment projects within the Shenzhen Special Economic Zone need to meet the following criteria: (1) The total project amount reaches RMB 50 million, and requires an environmental impact assessment by law. (2) The project's annual GHG emissions are expected to reach 3,000 tons of carbon dioxide equivalent. (3) Any other circumstances where green investment assessments are mandated by laws and regulations.
Huzhou City Green Finance Promotion Regulations	August 2021	Huzhou	The Regulations stipulate that the municipal government needs to establish a carbon emission evaluation system for fixed asset investment projects, promoting carbon emission evaluations for new projects. The economic and information department is tasked with managing industrial carbon emission evaluations and is required to promptly disclose the results to financial institutions. The banking sector needs to progressively align their operations and investment and financing activities with carbon neutrality, utilizing financial services to support low-carbon development, thereby facilitating a comprehensive green and low-carbon transition for the economy and society.
Guidelines of the Shenzhen Municipality for Environmental Information Disclosure by Financial Institutions	September 2022	Shenzhen	The key content of the Guidelines includes both general and specific provisions. In the specific provisions, banks are required to disclose information about their green financing systems, provide an overview of financing activities during the reporting period, and quantify and disclose the associated environmental impacts. Banks need to separately report carbon emissions from their financing activities based on project financing and non-project financing, indicating the proportion of reported financing activities related to each type of business. Additionally, banks need to develop and uncover a plan for carbon emission accounting and disclosure in financing activities, gradually expanding the scope of carbon emission accounting and disclosure each year.



(continued)

Policy	Time	Issued by	Main Content
General Rules for Carbon Emission Accounting in Bank Credit	November 2022	Huzhou	The document outlines the principles, processes, methodologies, requirements, evaluations, and improvements for accounting carbon emissions from bank credit. It specifically applies to the accounting of carbon emissions from bank credit and focuses solely on carbon dioxide emissions.
Transition Finance Support Activity Catalogue (Trial Version 2023)	July 2023	Huzhou	The Catalogue establishes benchmark and target values for low-carbon transition in specific industries, utilizing "carbon intensity" as the unit for these values instead of energy consumption intensity. This approach enables a clear representation of carbon dioxide emissions per RMB 10,000 of industrial added value.
Shanghai Transition Finance Catalog (Trial) and Usage Guidelines for the Shanghai Transition Finance Catalog (Trial)	December 2023	Shanghai	Shanghai supports relevant financial institutions, local financial organizations, and third-party service agencies in implementing transition finance practices based on the Catalog and the Instructions. The Catalog classifies the transition disclosure of financing entities into three levels, including Level I, Level II, and Level III. Level II financing entities are required to disclose their current Scope 1 and Scope 2 GHG emissions, while Level III adds the requirement for disclosing the current Scope 3 GHG emissions.

(continued)

Policy	Time	Issued by	Main Content
Guidelines for Transition Finance in the Iron and Steel Industry in Hebei Province (2023-2024 Edition)	December 2023	Hebei	The Guidelines outline a framework for formulating transition plans for steel enterprises in Hebei Province, covering eight sections including enterprise transition strategies and goals, carbon reduction plans, supporting measures, and information disclosure. This framework facilitates the completion of transition plans that meet the requirements for transition finance. It also incorporates requirements such as avoiding "carbon lock-in", ensuring no significant harm to other environmental objectives, and achieving a just transition.
Guidelines for Carbon Emission Accounting and Information Disclosure for Financial Institutions in Pudong New Area (Draft)	March 2024	Shanghai	The Draft specifies the accounting principles and data quality standards for carbon emissions accounting and information disclosure by financial institutions. It develops requirements for the accounting boundaries, principles, contents, and frequency of disclosure for financial institutions. The Draft incorporates all six types of GHGs in the accounting scope, and provides technical guidelines and reference templates for disclosure reports to facilitate carbon accounting and disclosure by financial institutions.
Notice on Public Solicitation of Opinions on Six Local Standards Including the Implementation Guidelines for Carbon Neutrality in Financial Institutions	June 2024	Shenzhen	The Implementation Guideline requires financial institutions to establish short-term, medium-term, and long-term carbon neutrality goals based on their carbon accounting. They need to implement carbon emission reduction and offset measures to achieve carbon neutrality in both operational and financing activities. Additionally, financial institutions are required to regularly disclose carbon emission information to ensure the feasibility and leadership of their carbon neutrality goals.

Source: Compiled by the research team based on publicly available information

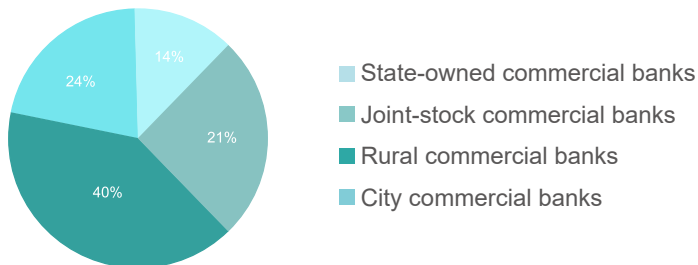
## 2.2 Practical Progress

Under the guidance of relevant policies, China's financial institutions, represented by listed commercial banks and those within green finance reform and innovation pilot zones, have relevant engaged in carbon accounting. Additionally, several large state-owned commercial banks are developing their carbon accounting capabilities, and some branches are already disclosing carbon accounting information.

**China's listed commercial banks are at the forefront of carbon accounting among financial institutions, actively implementing practices at the operational level and exploring financial carbon accounting aligning with domestic and international methodologies.** As of the third quarter of 2024, there were 42 listed commercial banks in China's A-share market, categorized into four groups: state-owned commercial banks, joint-stock commercial banks, city commercial banks, and rural commercial banks (Figure 1)<sup>36</sup>. All these A-share listed commercial banks have disclosed various types of sustainability reports (Appendix), with over two-thirds having undertaken carbon accounting and disclosed their results. Specifically, 30 A-share listed banks disclosed their operational carbon accounting results in 2023, accounting for 71% of all listed banks (Figure 2). However, most of these banks limit their disclosures to Scope 1 and Scope 2 GHG emissions, with only three banks disclosing Scope 3 GHG emissions, representing 7% (Figure 3).

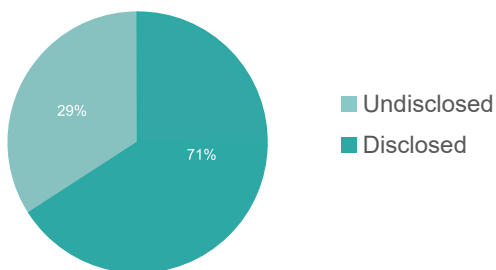
36. Sina Finance. Market Center [DB/OL]. [24-09-23]. [https://vip.stock.finance.sina.com.cn/mkt/#hangye\\_ZJ66](https://vip.stock.finance.sina.com.cn/mkt/#hangye_ZJ66)

**Figure 1. Proportion of Different Types of Commercial Banks in the A-Share Market**



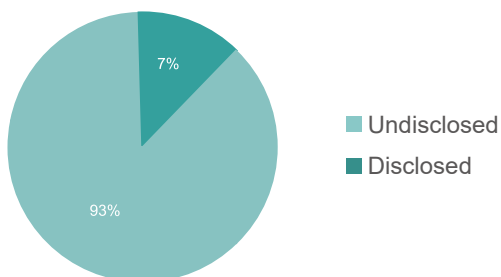
Source: Compiled by the research team based on publicly available information

**Figure 2. Proportion of A-Share Listed Banks Disclosing Operational Carbon Accounting**



Source: Compiled by the research team based on publicly available information

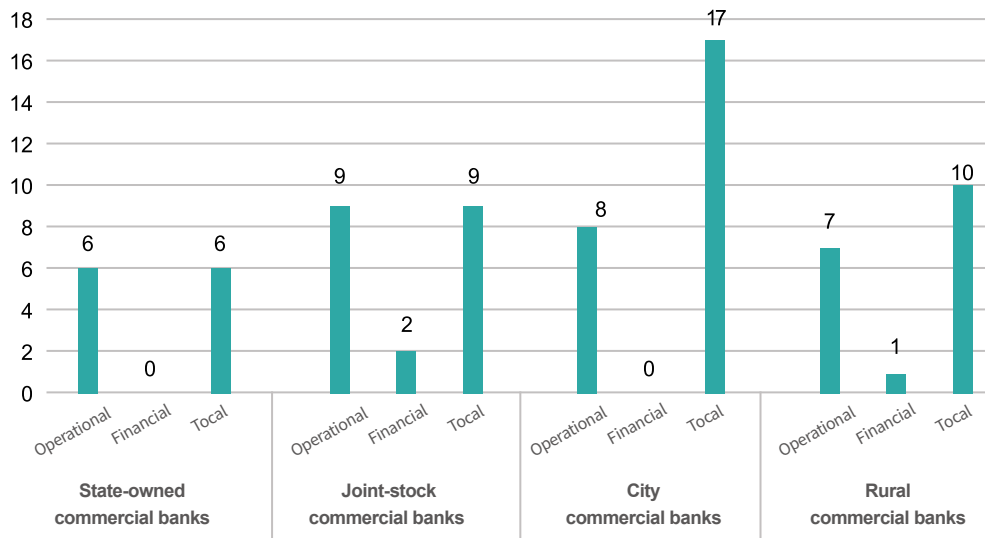
**Figure 3. Proportion of A-Share Listed Banks Disclosing Financing Carbon Accounting**



Source: Compiled by the research team based on publicly available information

The practice of operational carbon accounting has made significant strides within state-owned commercial banks and joint-stock banks, achieving full disclosure of operational carbon emissions. However, city commercial banks have disclosed less than half of this amount. Regarding financial carbon accounting, only some national joint-stock banks and local rural commercial banks have disclosed related initiatives. For example, Hua Xia Bank and Shanghai Rural Commercial Bank primarily follow the *Technical Guidelines on Carbon Accounting for Financial Institutions (Trial)*, focusing on the absolute carbon emissions and carbon intensity of high-carbon industries. Meanwhile, Ping An Bank adheres to the methodology of Partnership for Carbon Accounting and Financials (PCAF) to account for carbon emissions from corporate credit and personal car loans.

**Figure 4. Carbon Accounting Practices among Different Types of A-Share Financial Institutions**



Source: Compiled by the research team based on publicly available information

**As key zones for piloting national sustainable finance initiatives, pilot zones for green finance reform and innovations are steadily advancing the development of region-specific carbon accounting based on local conditions, promoting the construction of local carbon accounting systems.** Since the PBoC issued the *Technical Guidelines on Carbon Accounting for Financial Institutions (Trial)* in 2021, some local governments have introduced regional carbon accounting guidelines tailored to their actual circumstances. These guidelines have facilitated the design and development of carbon accounting tools, the establishment of public data platforms, and the guidance of financial institutions within their jurisdiction in implementing carbon accounting. Regions such as Zhejiang, Jiangxi, and Guangdong provinces, have launched pilot projects for sustainability disclosure among commercial banks, accumulating a series of exemplary cases to serve as references for other regions in China. As of June 2024, over 200 financial institutions within the pilot zones have prepared environmental information disclosure reports. Notably, Huzhou City in Zhejiang Province achieved full environmental information disclosure across all financial institutions, with the carbon accounting initiatives of its commercial bank branches preceding those of other branches. In 2023, Ping An Bank Huzhou Branch calculated Scope 1 and Scope 2 carbon emissions at the branch level<sup>37</sup>. Meanwhile, Bank of China Huzhou Branch transformed its Anji Changshuo Sub-branch into a "zero-carbon" branch, calculating and disclosing total operational absolute carbon emissions (including Scope 1, Scope 2, and Scope 3) up to the end of 2023<sup>38</sup>.

37. Ping An Bank Co., Ltd. Huzhou Branch. 2023 Environmental Information Disclosure Report [R/OL]. [24-05-30]. [https://mp.weixin.qq.com/s?\\_\\_biz=MzAwNjl5NzkwMw==&mid=2456948369&idx=2&sn=37a49fb9e9f\\_ebf36ddce56eafa24caad&chksm=8c892ed1bbfea7c7e02afca98ddac9c7392fbaf83e02eddc68be8b7fc1bcf4d638d21dfbc802&scene=27](https://mp.weixin.qq.com/s?__biz=MzAwNjl5NzkwMw==&mid=2456948369&idx=2&sn=37a49fb9e9f_ebf36ddce56eafa24caad&chksm=8c892ed1bbfea7c7e02afca98ddac9c7392fbaf83e02eddc68be8b7fc1bcf4d638d21dfbc802&scene=27)

38. Bank of China Huzhou Branch. 2023 Environmental Information Disclosure Report [R/OL]. [24-04-18]. [https://m.thepaper.cn/baijiahao\\_27074444](https://m.thepaper.cn/baijiahao_27074444)

A full-page background image showing a fisherman in silhouette, pulling a large net filled with fish from the ocean. The scene is set at sunset or sunrise, with a warm, golden light on the horizon. The fisherman is in the foreground, and the net is being pulled towards the right, creating a dynamic splash of water and fish. The bottom of the image is overlaid with a teal gradient.

03

**Case Studies of Carbon  
Accounting in  
International and Chinese  
Commercial Banks**



The research team selected four representative commercial banks from both international and Chinese markets for case studies. Internationally, PCAF member commercial banks from Europe and North America were chosen. Through case studies, the team summarized the experiences of carbon accounting in the sample banks to provide insights for enhancing carbon accounting practices among Chinese commercial banks. One bank was selected from each category of Chinese commercial banks, including state-owned commercial banks, joint-stock commercial banks, city commercial banks, and rural commercial banks. By studying the carbon accounting practices of these institutions, the progress of carbon accounting among Chinese commercial banks was preliminarily understood. A comparative analysis with international sample banks helped to identify common challenges and explore potential directions and solutions for the development of carbon accounting in China.

The study found that PCAF member financial institutions possess extensive experience in carbon accounting and have generally implemented financed emissions assessments globally. With growing attention to carbon accounting in China's banking sector, operational carbon accounting has become widely practiced. Through their exploratory efforts, some banks have achieved notable success in the application of financial carbon accounting.

### 3.1 Case Studies of Carbon Accounting in International Commercial Banks

**Internationally, PCAF member commercial banks, drawing on their extensive experience in carbon accounting, have established relatively comprehensive frameworks for this practice.** PCAF is a global alliance of various financial institutions that has led the way in exploring and innovating asset-category-based methodologies, accumulating significant expertise in financed emissions accounting. This report selects four leading commercial banks from Europe and North America, namely ABN AMRO Bank, Santander Bank, Citibank, and Bank of America, to study and summarize their carbon accounting practices as reported in non-financial reports for 2023 and 2024, aiming to provide valuable insights for enhancing carbon accounting practices within China's banking sector.

**At the operational level, all four international commercial banks have accounted for emissions across all related categories and managed their operational carbon**

**emissions in line with their development strategies. Specifically, regarding carbon accounting methodologies,** all four commercial banks have adopted the *GHG Protocol*. **In their Scope 3 carbon accounting,** they have assessed emissions for domestic business institutions, involving categories such as employee commuting emissions, business travel and so on.

**In practice, the four banks implemented tailored carbon accounting approaches based on their specific circumstances.** ABN AMRO Bank segmented its physical accounting boundaries into "the Netherlands" and "the rest of the world", utilizing both market-based and location-based methodologies. It employed Environmentally Extended Input-Output (EEIO) emission factors to account for Scope 2 emissions. Santander Bank applied different accounting factors based on territorial principles. For instance, it used factors provided by the Energy Regulatory Office (Urząd Regulacji Energetyki, URE)<sup>39</sup> for building heating in Poland. Citibank adjusted its Scope 2 emissions accounting methodology from location-based to market-based, allowing it to include energy agreement purchases and thereby reduce its baseline emissions. For emission factors, Citibank utilized data from the United States Environmental Protection Agency (EPA) and adjusted its accounting results in accordance with updating in the EPA's GHG Emission Factors Hub. Bank of America accounted for its operational emissions and offset the unavoidable emissions through carbon credits, achieving carbon neutrality at the operational level.

**From the perspective of financed emissions, all four international commercial banks have conducted carbon accounting, albeit with different depths and methodologies.** **In terms of carbon accounting methodologies,** the PCAF methodologies were applied by all four banks. **In terms of accounting sectors,** they generally focused on carbon-intensive sectors. **In terms of accounting indicators,** absolute emissions, physical emissions, and economic intensity were mainly accounted for. **In terms of asset categories,** only ABN AMRO Bank has begun to account for carbon emissions resulting from financing activities in a second type of asset category, i.e. sovereign debt, while the other banks still focus on emissions from corporate loans. **In terms of data quality,** all four banks utilized PCAF data quality requirements to manage the quality of their disclosed data. **In terms of data sources,** sample banks primarily relied on client data and third-party information, supplemented by additional sources depending on their circumstances.

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39. URE. Energy Regulatory Office [EB/OL]. [24-06-20]. <https://www.ure.gov.pl/en>

**Next, we examined the specific carbon accounting practices adopted by the four banks.** ABN AMRO Bank, leveraging years of experience in carbon accounting, has explored multiple carbon-intensive sectors and tackled the challenges of accounting for carbon emissions related to sovereign debt activities. The bank employed the PCAF methodology, EEIO, and PCAF-provided emission factors, relying on client-reported data, third-party data, and national public data to account for financed carbon emissions. Bank of America integrated all its carbon accounting data into a single table, disclosing total carbon emissions while further subdividing emissions resulting from activities across different links in the carbon-intensive sector supply chain. This approach enhances the usability of the report for stakeholders, allowing for precise identification of carbon-intensive sectors impacted by its financing activities. Santander Bank conducted financed emissions accounting using emission factors from IEA and the United Kingdom Department for Environment, Food & Rural Affairs (DEFRA)<sup>40</sup>, establishing Net-Zero Pathways for carbon-intensive sectors based on accounting results. Citibank disclosed and explained the data sources and priorities for its financing emission activities. Its accounting data came from client disclosures, third-party institutions (such as S&P Global Trucost Climate and Environmental Data), and estimates. In cases where there is a significant discrepancy between client-disclosed carbon emission data and third-party data, Citibank prioritizes the use of third-party data.

## 3.2 Case Studies of Carbon Accounting in Chinese Commercial Banks

**Chinese commercial banks have made significant progress in operational carbon accounting under the guidance of the PBoC.** The selected samples of Chinese commercial banks have implemented systematic carbon accounting practices compared to their peers, including Industrial and Commercial Bank of China (ICBC), Huaxia Bank (HXB), Bank of Huzhou (BOH), and Guangzhou Rural Commercial Bank (GRCB). All four sample banks have disclosed their operational carbon emissions in accordance with national or international standards, and some have begun to account for financed emissions.

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40. GOV. UK. Environmental Reporting Guidelines: Including Streamlined Energy and Carbon Reporting Requirements [Z/OL]. [19-03-29]. <https://www.gov.uk/government/publications/environmental-reporting-guidelines-including-mandatory-greenhouse-gas-emissions-reporting-guidance>

**There are notable differences among various types of commercial banks regarding their accounting scope and methodology, as well as the depth and breadth of their disclosures.** First, in terms of accounting scope, the carbon accounting coverage of operations by the ICBC and the HXB is broader, while the BOH and the GRCB concentrate on specific areas. For example, the BOH emphasized the carbon emission reduction benefits of green credit projects, which is an indicator required for disclosure by the PBoC. Second, regarding accounting methodologies, all banks referred to corresponding standards or guidelines such as ISO 14064, but their detailed applications vary. For instance, the HXB employed different accounting measures based on regional and energy type variations, whereas the GRCB accounted for the emissions resulting from its credit business across seven carbon-intensive industries, following the *Industrial Classification for National Economic Activities*.

Table 4. International and Chinese Carbon Accounting Practices in Commercial Banks

Bank	Accounting Methodology	Categories Covered in Operational Carbon Accounting	Sectors Covered in Financial Carbon Accounting	Accounting Indicator	Asset Category	Data Quality Disclosed
ABN AMRO Bank	GHG Protocol & PCAF	<p>Within the Netherlands:</p> <ul style="list-style-type: none"> <li>Upstream: business travel, car use, public transportation, data center emissions, etc.</li> <li>Downstream: electricity consumption, home office, employee private car emissions, etc.</li> </ul> <p>Other countries:</p> <ul style="list-style-type: none"> <li>Business travel and home office emissions</li> </ul>	<ul style="list-style-type: none"> <li>Agriculture, forestry, and fishing</li> <li>Mining and quarrying</li> <li>Manufacturing</li> <li>Electricity, gas, steam and air conditioning supply</li> <li>Water supply; sewage, waste management and remediation activities</li> <li>Construction</li> <li>Wholesale and retail trade; repair of motor vehicles and motorcycles</li> <li>Transportation and storage</li> <li>Real estate activities</li> <li>Other sectors</li> </ul>	Absolute emissions, physical emissions, economic intensity in some sectors	Corporate loans, sovereign debt	Yes
Santander Bank	GHG Protocol & PCAF	<ul style="list-style-type: none"> <li>Business travel</li> <li>Employee commuting</li> </ul>	<ul style="list-style-type: none"> <li>Power generation</li> <li>Energy (Oil &amp; Gas)</li> <li>Aviation</li> <li>Steel</li> <li>Auto manufacturing</li> <li>Auto lending Europe</li> <li>Thermal coal</li> <li>Commercial Real Estate</li> <li>Mortgages</li> <li>Agriculture</li> </ul>	Absolute emissions, physical emissions, economic intensity	Corporate loans	Yes

(continued)

Bank	Accounting Methodology	Categories Covered in Operational Carbon Accounting	Sectors Covered in Financial Carbon Accounting	Accounting Indicator	Asset Category	Data Quality Disclosed
Citibank	GHG Protocol & PCAF	<ul style="list-style-type: none"> <li>▪ Purchased goods and services</li> <li>▪ Capital goods</li> <li>▪ Fuel and energy-related activities</li> <li>▪ Transportation and distribution</li> <li>▪ Waste</li> <li>▪ Business travel: total</li> <li>▪ Employee commuting: total</li> </ul>	<ul style="list-style-type: none"> <li>▪ Auto manufacturing</li> <li>▪ Commercial real estate</li> <li>▪ Energy</li> <li>▪ Power</li> <li>▪ Steel</li> <li>▪ Thermal coal mining</li> <li>▪ Aluminum</li> <li>▪ Shipping</li> </ul>	Absolute emissions, physical emissions, economic intensity	Corporate loans	Yes
Bank of America	GHG Protocol & PCAF	<ul style="list-style-type: none"> <li>▪ Purchased goods and services</li> <li>▪ Capital goods</li> <li>▪ Fuel and energy-related activities</li> <li>▪ Upstream transportation and distribution</li> <li>▪ Waste (traditional disposal)</li> <li>▪ Business travel</li> <li>▪ Employee commuting</li> <li>▪ Downstream transportation and distribution</li> <li>▪ Use of sold products</li> <li>▪ End of life treatment of sold products</li> </ul>	<ul style="list-style-type: none"> <li>▪ Auto Manufacturing: Light-duty passenger car and truck manufacturers</li> <li>▪ Aviation: Commercial aviation</li> <li>▪ Cement: Cement manufacturing</li> <li>▪ Coal: Pure play thermal coal extraction</li> <li>▪ Energy: Upstream producers, refiners, and integrated companies in the oil and gas industry; midstream and downstream oil and gas companies</li> <li>▪ Power generation</li> <li>▪ Iron and steel: Crude steel production</li> <li>▪ Maritime Shipping: Vessel-level commercial shipping</li> </ul>	Absolute emissions, physical emissions, economic intensity	Corporate loans	Yes

(continued)

Bank	Accounting Methodology	Categories Covered in Operational Carbon Accounting	Sectors Covered in Financial Carbon Accounting	Accounting Indicator	Asset Category	Data Quality Disclosed
Industrial and Commercial Bank of China	ISO14064-1:2018 - Greenhouse Gases: Part 1, etc.	—	—	—	—	—
Huaxia Bank	Technical Guidelines on Carbon Accounting in Financial operations of Financial Institutions, etc.	—	<ul style="list-style-type: none"> <li>▪ Electricity</li> <li>▪ Building materials</li> <li>▪ Steel</li> <li>▪ Nonferrous metals</li> <li>▪ Petrochemical</li> <li>▪ Chemical</li> <li>▪ Papermaking</li> <li>▪ Aviation</li> </ul>	—	Loans to non-small and micro enterprises issued between 2020 and 2022, with a non-zero balance at the end of the year	Yes
Bank of Huzhou	GHG Accounting System: Corporate Accounting System and Reporting Standards, etc.	—	—	—	—	—



(continued)

Bank	Accounting Methodology	Categories Covered in Operational Carbon Accounting	Sectors Covered in Financial Carbon Accounting	Accounting Indicator	Asset Category	Data Quality Disclosed
Guangzhou Rural Commercial Bank	Technical Guidelines on Carbon Accounting for Financial Institutions (Trial), etc.	—	<ul style="list-style-type: none"><li>▪ Paper and paper products industry</li><li>▪ Chemical raw materials and chemical products manufacturing industry</li><li>▪ Aviation transportation industry</li><li>▪ Electricity, heat, gas &amp; water production and supply industry</li><li>▪ Non-metallic mineral products industry</li><li>▪ Black metal smelting and rolling processing industry</li><li>▪ Petroleum, coal and other fuel processing industry</li></ul>	Absolute emissions	Credit loan	—

Source: Compiled by the research team based on publicly available information



China places great emphasis on environmental information disclosure, and carbon accounting has become a foundational element for both environmental information disclosure and the development of green finance. Under the guidance of relevant departments, state-owned and local commercial banks have made significant strides in carbon accounting. To enhance the financial support for the green and low-carbon development of the real economy and to align with carbon peak and carbon neutrality goals, the research team proposes the following outlook.

## 4.1 Carbon Accounting of Financial Institutions Supports Sustainable Innovation

China has made initial explorations in carbon accounting, establishing a foundation for the further development of sustainable finance. This progress is evident in four specific areas:

**Financial institutions are developing innovative financial products based on carbon accounting results.** With the rapid growth of transition finance in China, innovative transition finance products are emerging that typically link carbon emission-related indicators as key performance metrics. Carbon accounting implemented by financial institutions serves as a basis for innovation of transition finance products.

**Carbon accounting enables financial institutions to conduct stress tests and scenario analyses, allowing for efficient climate risk management.** When performing stress tests on clients within investment portfolios, carbon emissions are often included as an impact factor for analysis, particularly when screening portfolio in carbon-intensive sectors. The carbon emission data obtained from financial carbon accounting provides a solid foundation for scenario analyses and stress tests, thereby assisting financial institutions in enhancing their climate risk management.

**The transition plans of financial institutions should be based on carbon accounting results.** These plans often require aligning key transition investment portfolios with authoritative domestic or international scenarios, including those from the IEA, IPCC, NGFS, or the International Maritime Organization (IMO)<sup>41</sup> for the shipping industry. Transition targets

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41. IMO. 2023 IMO Strategy on Reduction of GHG Emissions from Ships [Z/OL]. [23-07]. <https://www.imo.org/en/OurWork/Environment/Pages/2023-IMO-Strategy-on-Reduction-of-GHG-Emissions-from-Ships.aspx>

are typically set using physical emissions or economic carbon intensity of the industry as the accounting unit. Therefore, conducting carbon accounting for financing activities becomes a scientific basis and prerequisite for financial institutions when formulating their transition plans.

**State-owned and joint-stock financial institutions prioritize the implementation of carbon accounting at their branches, leveraging the accounting data to advance Net-Zero initiatives at the operational level.** For instance, state-owned and joint-stock commercial banks typically begin carbon accounting at their local branches and then pilot green branches or even develop zero-carbon branches based on the results obtained.

## 4.2 Outlook and Recommendations for Enhancing Innovation via Carbon Accounting

**China's financial and industrial sectors could explore more comprehensive financing carbon accounting methodologies that align with China's national conditions, promote mutual recognition and interoperability of carbon accounting methodologies domestically and internationally, and integrate related carbon accounting data.** It is recommended that Chinese financial regulatory authorities and industrial departments draw on related international methodologies, to design financing carbon accounting methodologies that incorporate Chinese characteristics, considering China's relevant accounting factors and industry classification methodologies. Expanding the carbon accounting scope to encompass all six GHGs and incorporating more asset categories and industries into the design of financing carbon accounting methodologies will enhance data quality assessment methodologies. Meanwhile, Chinese financial regulatory authorities and industrial departments need to support financial institutions in experimenting with both domestic and international carbon accounting methodologies, strengthening cooperation with international financial institutions in carbon accounting-related fields, to facilitate mutual recognition and interoperability of relevant standards and data. Additionally, they also need to integrate big data, establish carbon accounts, develop carbon accounting-related tools as infrastructure to reduce accounting costs for enterprises and financial institutions. These approaches will lay a solid foundation for deepening carbon accounting and fostering innovations based on the accounting results.

**Chinese financial institutions could leverage financial technology to enhance accounting efficiency, thereby reducing costs and increasing the effectiveness of their carbon accounting efforts.** Given the substantial amount of data involved in carbon accounting, financial institutions will benefit from the increasing disclosure of carbon emission data by corporate, industrial, and environmental protection departments in China. It is recommended that financial institutions utilize technologies such as big data, artificial intelligence (AI) and blockchain to support their carbon accounting efforts, improving the efficiency and accuracy of the accounting process.

**Third-party institutions play a crucial role in enabling financial institutions to broaden the application of carbon accounting results, enhancing their capacity to manage climate-related risks and facilitating innovation in transition finance products and models.** As further data sharing between the industrial and financial sectors continues to evolve, financial institutions will face increasing challenges in their own transition and in guiding the real economy's transition. To address these challenges, it is recommended to strengthen the role of third-party institutions. For instance, third-party think tanks could assist financial institutions in expanding the application of carbon accounting results, support the development of innovative financial products based on carbon accounting results, and identify new business growth opportunities such as transition finance. They could also help refine transition plans, identify sectors within investment portfolios that require urgent attention, and design orderly decarbonization pathways. Additionally, conducting stress tests can further enhance climate risk management. Moreover, third-party databases could provide data on enterprise carbon emission disclosure and estimations, improving the efficiency and quality of the data used in financial institutions' carbon accounting efforts.

## Appendix: Carbon Accounting Practices of A-share Listed Banks in China

**Table 5. Current Status of Carbon Accounting of A-share Listed Banks in China**

A-share Listed Bank	Operational Carbon Accounting	Financial Carbon Accounting	Disclosure Channel
Bank of Beijing	√	—	2023 Social Responsibility Report
Bank of Changshu	√	—	2023 Social Responsibility (ESG) Report
Bank of Chengdu	—	—	2023 Social Responsibility Report
Industrial and Commercial Bank of China	√	—	2023 Social Responsibility (ESG) Report
China Everbright Bank	√	—	2023 Social Responsibility (ESG) Report
Bank of Guiyang	—	—	2023 Social Responsibility Report
Bank of Hangzhou	—	—	2023 Social Responsibility Report
Huaxia Bank	√	√	2023 Social Responsibility Report
China Construction Bank	√	—	2023 Social Responsibility Report ESG Report
Bank of Jiangsu	—	—	2023 ESG and Social Responsibility Report
Jiangyin Rural Commercial Bank	√	—	2023 ESG Report
Bank of Communications	√	—	2023 Social Responsibility (ESG) Report
Bank of Lanzhou	—	—	2023 ESG Report of Bank of Lanzhou
China Minsheng Bank	√	—	2023 ESG Report of China Minsheng Bank Co., Ltd.

(continued)

A-share Listed Bank	Operational Carbon Accounting	Financial Carbon Accounting	Disclosure Channel
Bank of Nanjing	√	—	2023 ESG Report
Bank of Ningbo	—	—	2023 Social Responsibility (ESG) Report
Agricultural Bank of China	√	—	2023 Social Responsibility Report (ESG Report)
Ping An Bank	√	√	2023 Sustainability Report
Shanghai Pudong Development Bank	√	—	2023 SPD Bank Corporate Social Responsibility Report (ESG Report)
Qilu Bank	—	—	2023 Social Responsibility Report
Qingdao Rural Commercial Bank	√	—	2023 Social Responsibility Report
Bank of Qingdao	√	—	2023 Social Responsibility Report
Bank of Ruifeng	√	—	2023 ESG Report
Xiamen Bank	√	—	2023 Environmental Information Disclosure Report
Shanghai Rural Commercial Bank	√	√	2023 Environmental Information Disclosure Report
Bank of Shanghai	√	—	2023 Social Responsibility (ESG) Report
Jiangsu Suzhou Rural Commercial Bank	—	—	2023 Social Responsibility (ESG) Report
Bank of Suzhou	√	—	2023 Social Responsibility (ESG) Report
Wuxi Rural Commercial Bank	—	—	2023 Social Responsibility Report
Bank of Xi'an	—	—	2023 Social Responsibility Report
Industrial Bank	√	—	Sustainability Report (2023) (ESG Report)
Postal Savings Bank of China	√	—	2023 Social Responsibility Report
Jiangsu Zhangjiagang Rural Commercial Bank	√	—	2023 Environmental Information Disclosure Report



(continued)

A-share Listed Bank	Operational Carbon Accounting	Financial Carbon Accounting	Disclosure Channel
Bank of Changsha	—	—	2023 Social Responsibility Report
China Merchants Bank	√	—	2023 Sustainability Report
China ZheShang Bank	√	—	2023 Social Responsibility Report
Bank of Zhengzhou	√	—	2023 Social Responsibility Report
Bank of China	√	—	2023 Social Responsibility Report
China CITIC Bank	√	—	2023 Sustainability Report
Chongqing Rural Commercial Bank	√	—	2023 Social Responsibility and ESG Report
Bank of Chongqing	√	—	2023 Social Responsibility Report
Jiangsu Zijin Rural Commercial Bank	—	—	2023 ESG Report

Source: Compiled by the program research group based on publicly available information

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