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# **Building Capacity on Green Finance Through Reform and Innovative Pilot Zones**

**An Input Paper to the G20 SFWG**

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China's green finance reform and innovation pilot zones (hereinafter referred to as the Green Pilot Zones) have provided a number of lessons and key takeaways with broad applications in China and beyond. One of the most important takeaways from the pilot process was "Learning by doing", both prior to and during the application period, which assured sufficient manpower and capital were mobilized. The importance of quantitative and qualitative targets such as green loan growth and risk profiles was also highlighted for performance assessment and motivational purposes. The importance of leveraging think tanks and industrial organizations, both local and supranational, was noted as important for cultivating talent, driving research, and knowledge exchanges that would enhance green finance capacity.

Understanding green finance is complex undertaking, and hence, capacity building is critical for green finance development. The meaning of green finance is constantly shifting, and its interpretation varies around the world. A full understanding also requires green finance to be interpreted through local context. In the Chinese context, the People's Bank of China (PBOC) have defined it as "financial services provided for economic activities that are supportive of environmental improvement, climate change mitigation, and more efficient resource utilization.

Put in simpler terms, green finance can be broadly interpreted as a combination of product and services that encourages the development of green projects or mitigate the impact of climate change and environmental pollution. As one of the original signatories to the UN Framework Convention on Climate Change (UNFCCC) in 1992, through a top-down governance model, China's Central government demonstrated its commitment, focusing first on banks, with the launch of the 'Green Credit Policy' by the China Banking Regulatory Commission (CBRC) in 2007.

In 2014 the PBOC established a green finance task force with the UN environment program, and in 2016, established a roadmap for action that set performance targets and progress indicators. In 2015, the Central Committee of the Communist Party of China and the State Council launched two groundbreaking policy documents which have underpinned green policies in China. While these guidelines have laid a new course, altering financial systems takes a significant amount of time.

To address this challenge, China's green finance reform and innovation pilot zones were leveraged as powerful tools for developing the financial system, at the city or province level, in a controlled environment before implementation at the national level. Differentiated models suited to regional features can be tested while experience and best practices with common characteristics are replicated and scaled up. China has set up 10 pilot zones, including three in the east, one in the central and six in the west regions. Among this first batch, eight pilot zones have completed pilots.

Overall, China's green journey and adoption of pilot zones reflect a proactive approach toward sustainable development. By testing and refining strategies in designated zones, China can effectively address environmental challenges, drive economic growth, and position itself as a global leader in green innovation. Development and expansion of these pilot zones will continue to play a crucial role in shaping China's green policies and practices in the future.

This paper is structured as follows. Part I introduces the green finance pilot zones in China and experiences and lessons learnt on capacity building, while part II provides a few thoughts

on next steps to further enhance capacity building throughout China. This paper also has two case studies with detailed analysis on local experiences for capacity building from Huzhou and Chongqing.

## I. Development of Green Pilot zones and Green Finance Capacity Building

Development of green finance capacity and the evolution of the pilot zones are mutually reinforcing efforts. Improving green finance capacity is foundational to pilot zone development while advancements in the pilot zones reinforce green finance capacity building efforts on a deeper level and at a larger scale. Through these reinforcing cycles, China hopes to develop a green financial system with local characteristics, capable of stable and safe operation, serving a rich catalogue of products and services for green industries with complete infrastructure and organizational systems and smooth policy coordination.

### (I) Strong demand for capacity building in Initial Phases

According to the United Nations Development Program (UNDP) survey, the secretariat of the G20 Sustainable Finance Working Group (SFWG), covering 20 countries and international organizations, there is great demand for knowledge related to green finance at all levels of the financial system, including government agencies, financial regulators, financial institutions, and corporates. These results demonstrate the need for capacity building at the global level as the demand for green finance grows.

These findings are also true for China. A special survey conducted of 70 enterprises and 100 bank staff in 2019 by the Chongqing branch of the PBOC showed that 90% of firms were not sure whether their projects were "green" and 95% of credit management staff had limited green finance expertise. During the initial construction phase, local governments, enterprises and financial institutions lack the requisite professional knowledge and understanding of green finance topics, including standards, carbon accounting and financial instruments. However, as demonstrated by the G20 survey, participants are keen to improve their perception and knowledge.

In the early stage of the pilot zones construction, basic work such as green project identification and financing heavily relies on manual work due to the lack of maturity in green finance infrastructure and the scattered nature of green information. Weak infrastructure in this phase contributes to a lack of professional platforms availability to support participants. As a result, Line ministries lack a clear idea on how to develop green finance ecosystems and envision a clear and feasible implementation path. This challenge was further highlighted in another 2019 survey of 16 banks and government departments in three districts in Chongqing, which revealed that 89 percent of respondents didn't know "how to systematically carry out green finance".

### (II) Enhancing capacity building during different phases of zone development

#### *Phase 1: Application for green pilot zones*

During Phase 1 regulators plays an important role in setting the foundational work for pilot zone development. To ensure that the overall plans are reasonable, feasible, and compatible with local features, one-to-one counselling is arranged between the PBC and the applicant to facilitate communication. At this stage, in-depth scoping research is also conducted, covering topics including the basic status of green finance in applying areas, applicable pathways for local green and low-carbon development, as well as the status of any existing green finance support programs already in place.

Following the initial data gathering and feasibility check, PBC provides opportunities for staff from local branches and local government to train and work at the central bank. Based on the nature of assignment and the progress of the application, the length of the training will be flexibly set to ensure adequacy. Further, local governments can proactively reach out to schedule study visits in areas where green finance is considered to be relatively more advanced, allowing local officials to draw on experience and best practices from these areas.

To create important reference points for gap-filling and orientation, core targets for the pilot zones are set by the central bank. These targets include quantitative indicators such as green loan growth, and qualitative indicators including local financial risks profiles. Regular checks are conducted to assess performance against these targets, encouraging local governments to "learning by doing " and "to build the pilot zones while applying". This learning is essential as leading groups set up by the local government are responsible for the overall plans, roadmaps and implementation. This includes rules making, inspection and performance assessment mechanism establishment, and resources mobilization and coordination, which helps strengthen capacity building at a higher level. To encourage capacity building, pilot zones are also urged to input more manpower and capital, learn green finance standards, leverage monetary and financial support such as structural monetary policy instruments, establish green project libraries, and innovate and promote green financial instruments.

Pilot zones can also leverage think tanks and industrial associations to assist in disseminating green concepts, financial instrument development, and policy implementation. Local Green Finance Committees, Societies of Finance and Banking, industry self-regulatory organizations, research institutions, etc., are established to support these processes. International cooperation and professional talent cultivation is also encouraged through research projects, training, and exchanges, which have greatly enhanced theoretical and practical policy research output.

### ***Phase 2: Developmental Stage of the Green Finance Pilot Zones***

Following approval, goals and key construction issues are clarified by the central bank and other relevant departments. Local governments are guided and urged to announce the launch of the pilot zone through press conferences and kick-off meetings to ensure a good start. Following these initial meetings, a self-regulatory mechanism of joint meetings was established with a rotating chairmanship between active pilot zones with the aim of facilitating the learning and exchange of best practices.

Linkages between the central bank and pilot zones are also strengthened, enabling an organic combination of specialized research and practice to take place in the pilot zones. Topics are confirmed and research is jointly carried out by ministries and local governments, mobilizing

financial institutions and research institutions. Through this combination, the research topics undertaken not only have local features but reflect common green finance problems faced across the country and the world. In addition to research, green finance policies and standards are publicized, annual China Green Finance Progress Reports are published, casebooks and Green Finance Updates are compiled, and typical experiences within the zones are promoted regularly.

New digital platforms, or modification of existing ones, are done to increase the efficiency of green finance systems. This includes more efficient collection of compiling green finance statistics, intelligent project identification, measurement of environmental benefits, carbon accounting, asset management, and green project matching. These platforms increase access to green financial services, allowing participants to acquire knowledge and experience more easily. Pilot zones are guided and motivated to "take the first step" in improving the quality of environmental information disclosure. When compared with non-pilot areas, the percentage of companies and financial institutions disclosing environmental information has been found to be greater on average, with wider and deeper content being disseminated.

Mid-term assessments are carried out by third-parties to determine progress against plans and targets. At this stage, achievement recognition and problem identification are carried out to allow for suggestions and targeted help to be undertaken. Pilot zones also participate in international exchange and cooperation to promote the application of international best practices. As a result, a series of cases that demonstrates systems with Chinese characteristics and international influence has emerged.

### ***Phase 3: Pilot Conclusion***

Completion of the pilot program at the proper time, ensuring its proper completion and withdrawal, does not indicate the end of the green finance journey in the region. It does, however, signal a new starting point for capacity building and exceptional performance. Transference of the experience from the pilot zones to other regions allows for the promotion of a new pattern in green finance reform, innovation, and overall development.

Replication, promotion, and application of pilot zone experiences requires the application of clear goals, deadlines, and detailed exit evaluation criteria. Proper application of these criteria, in conjunction with the previously discussed assessment process, encourage pilot zones to develop consistently and with a sense of urgency. Publicity and dissemination of their experiences, where conditions are appropriate is encouraged to ensure acquisition of knowledge and skills is broadcast to a broader audience. This includes promotion of local green finance legislation to strengthen the supporting judicial system.

## **II. Next Steps**

Best practices developed in the pilot zones serve as a reference for the country as a whole. Looking forward, green finance capacity building will be carried out on a larger scale, which will tailor solutions to local needs. This will focus developments in the green finance system on improving systemic planning, consolidating capacity, accelerating the promotion of best practices, encouraging innovation, and enhancing international cooperation.

Defining objectives and specific tasks is necessary to strengthen system planning. To this

end, effort has been directed into the development of thematic focus areas, such as carbon accounting, climate and environmental information disclosure, and climate-related financial risk assessment. Regarding carbon accounting, further guidance and support will be provided to the pilot zones, allowing them to take the lead in developing a transitional finance and green finance taxonomy. Significant work has been completed in establishing a carbon accounting system and a legally binding disclosure system for environmental information while promoting carbon accounting information sharing among financial institutions and firms. Further effort is required in the areas of biodiversity finance, climate risk assessment and management, decarbonization of carbon-intensive industries, and creating synergy between pollution and carbon reduction efforts.

As the number of pilot zones expands, supporting platforms should be convened to facilitate the dissemination of best practices and knowledge. These types of multi-stakeholder events, such as the joint meeting mechanism, allow for the consolidation of green finance capacity across the differing pilot zones and local governments, social organizations, and third-party agencies such as local green finance commissions who play a key part in capacity building.

Local green finance guidelines and regulations are encouraged to accelerate the promotion of good practices. Integrated development of national new areas and provincial capital cities in pilot zones will be expanded, promoting financial support in the transition towards a green and low-carbon economy. Excellent examples of pilot zones practices will be summarized and spread through this approach.

Fintech, such as big data and artificial intelligence, will be leveraged to encourage innovative technological solutions which will improve the quality and efficiency of green finance data. Technological solutions will enhance local and national capacity building in several areas, including carbon accounting, environmental disclosure, development and application of financial instruments, and environmental risk assessment. Improved efficiency of environmental disclosure and reporting will result in reduced information search costs.

Importantly, international cooperation and coordination will be enhanced to improve exchanges between economies. Financial institutions will be encouraged to develop and use more green finance products, join international organizations or initiatives, and improve ESG performance for overseas financing. Participation in key research and capacity building exercises through the G20 SFWG will ensure alignment between advances in domestic and international green financial standards and international. International organizations will be invited to provide direct guidance to the pilot zones by establishing offices in China. Further, local governments and financial institutions will engage with professional third-party institutions, colleges, and universities to cultivate well-rounded talents that possess knowledge of international finance, law, and the environment.

## Case Study 1

### **Main practices and Achievements of Green Finance**

#### **Capacity Building in Chongqing**

Located in southwest China in the upper reaches of the Yangtze River, Chongqing is a beautiful mountain city with 3000 years of history. Chongqing is one of four municipalities directly administered by the central government and is a major manufacturing, transportation, and finance hub. With a population of more than 30 million, which is nearly evenly split between the rural and urban areas, it is the fourth largest Chinese city by urban population.

Facing rapid urbanization, and as an important ecological barrier in the upper reaches of the Yangtze River, the municipal city has a strong desire for green transition. Chongqing applied to become a pilot zone for green finance reform and innovations (hereinafter referred to as green pilot zone) in 2019 and followed the "reform and innovate while applying" mindset. As an entry point, the municipality tried to enhance its green finance capacity through learning, practice, and digital governance, achieving good results despite facing serious challenges.

#### **I. "Learning by doing" Improving Capacity Building during the green pilot zone application.**

During their application, Chongqing focused on drawing experience from other incumbent pilot areas. Initially, the focus was on enhancing green finance planning and design capabilities, which allowed for rapid consensus building. After an initial green financial reform and innovation framework was formed, Chongqing began to systematically ask for guidance on its application and construction from the central bank and other departments, which lasted for a period of three years.

#### **II. "Learning by doing", Enhancing capacity building by learning what are needed in practice.**

Following approval, problem-oriented approach was implemented to determine what solutions work best in practice. Problem-oriented approaches encourage examining every aspect of a problem before solving it. While it can easily be viewed as a slower process, it minimizes the risk of failure when compared with adopting solutions for complex problems in haste.

For example, in response to inadequate green standards, 11 standards were developed, including the first domestic intelligent identification standards used in the EU-China Common Ground Taxonomy and the green project (enterprise) identification standard which adopted carbon performance as the core indicator.

To address environmental information disclosures a carbon account system for firms was developed, providing carbon emission reduction data of the pilot enterprises in real time and

authenticated data for information disclosure by financial institutions. Additionally, a line of green financing, separately offered by the central bank, provides lending and discounts to address inadequate financing capacity for green projects. A 2% discount for carbon reduction loans is also provided at the municipal level.

### **III. "Digital governance", Improving the Capacity of Information-Based Integrated Processing**

To empower green finance while improving digital governance capabilities, the "Yangtze River Green Financing Platform" was developed to provide a safe, manageable, and open big data system. Through continuous iteration, the system has become a centre for information sharing, security connection, business innovation, monitoring, and evaluation for pilot zone construction. The platform has five main features:

1. Collection of green finance records to facilitate in-depth information mining.
2. Use of artificial intelligence to identify green projects, measure environmental benefits and automatically calculate carbon accounting in alignment with standards such as the China-EU Common Taxonomy.
3. Matching and tracking for the entirety of green finance projects.
4. Ensure accurate delivery of Green monetary policy tools.
5. Provide a cross-regional, cross-department and cross-institutional security link, sharing hierarchical policies and classified cases, institutions, products and credit information databases.

Due to the significant efforts of the municipality, the outstanding balance of green loans exceeded 520 billion yuan (\$74.9 billion USD) at the end of 2022, a 290% increase from the beginning of 2019. Green loans increased 4.9% over the same period accounting for 10.4% of all loans. Climate change mitigation and sustainable development efforts also received strong support through the issuance of green bonds, with issuance increasing by 320% to 42 billion yuan (\$6.05 billion) over the three-year pilot period.

Going forward, Chongqing will continue to build pilot zones, emphasizing enhancement of the cognitive, practical, and digital governance abilities. Competence building will be promoted through platforms such as the China-Singapore (Chongqing) Connectivity Demonstration Project and China-EU, and -Singapore bilateral green finance cooperation mechanisms. Advancements in green finance, such as in finance inclusion, sci-tech finance, and transition finance will also be deeply integrated into the financial system.



## Case Study 2

### Main practices and Achievements of Green Finance

#### Capacity Building in Huzhou

Huzhou City of Zhejiang Province was among the first batch of green pilot zones. Located in the heart of the Yangtze delta economic area, the city is only 10 km away from China's third largest freshwater lake. It has also earned the moniker of "City of Silk" as its economy is based on textiles, building materials, and agriculture. Due to its importance in the region, local government and financial regulators and institutions decided to enhance their green finance competence through the "learning by doing approach" emphasized in the pilot zones.

#### I. Developing a solid environment for building green finance capacity

Beginning in 2017, the Huzhou Municipal Government released 25 measures regarding green finance reform, earmarking a special budget of 1 billion yuan to reward and subsidize specialized institutions for product innovation, talent attraction and green finance standards development. In 2022, Huzhou issued *Green Finance Promotion Regulations* which explicitly defined reform and innovation eligible for special financial assistance to promote their green and low-carbon development concepts experience.

Green finance initiatives have been incorporated into medium- and long-term development plans by the municipal government, building a comprehensive policy system and driving consensus among stakeholders on green finance capacity building at the macro level. A steering group, consisting of members from 45 government agencies and headed by top leaders in the local Party and government was formed to better coordinate among environmental, industrial and financial administrative groups and foster a favorable environment for reform.

#### II. Providing institutional and instrumental support for building green finance capacity

Focusing on the identification of green financing entities, the construction of specialized institutions and the evaluation of green finance development, 14 municipal regulations have been implemented. Standards such as the *Application Guidelines for ESG Evaluation and Credit Process Management of Corporate Financing Subjects by Banking and Financial Institutions* have been promulgated, providing methodological support for the green, low-carbon, and sustainable development of banking institutions in Zhejiang Province. Financial institutions have also received guidance through industry standards such as *Green Finance Terminology* and *Guidelines for Financial Institutions on Environmental Information Disclosure*, standardizing green finance statistics, environmental information disclosure, and issuance of green bond applications.

Huzhou has effectively eliminated data barriers between government departments such as taxation, environmental protection, and the legal system by leveraging specialized databases. Removing these barriers reduces information costs related to the identification of green financing entities and the carbon accounting activities of banking institutions, facilitating green projects or corporate financing. Applications have also been developed, "Lvxitong"

(Green Credit Express) and "Lvdaotong" (Green Loan Express), to promote green financing. As of this writing, 6,945 green enterprises have been evaluated by Lvxintong while has 37,000 enterprises have acquired 460 billion yuan in bank credit, and 2,468 enterprises have received 92.1 million yuan in green loan subsidies through Lvdaotong.

In 2019, Huzhou developed and launched a green finance information management system for the detailed collection of green loan data and conducting online evaluations. In 2022, a new module for environmental information disclosure by financial institutions was added to the system as well as standardized templates for carbon accounting instruments and cases to make the reports more intelligible. Evaluations of 19,500 enterprises have been conducted using an ESG evaluation module that was applicable across the city.

A carbon accounting center for financial institutions, with over 30,000 corporate carbon accounts, was established to provide robust support for financial institutions. The aim of this institution was to enhance carbon accounting capabilities and the management of climatic and environmental risks. As of this writing, over 80% of corporate clients and 80% of the city's carbon emissions of production are collaborating with the institution.

Green finance capacity is thoroughly evaluated from both qualitative and quantitative dimensions through this process. Evaluation of qualitative factors is focused on the ability of financial institutions to formulate plans, implement policies, and support the development of green industries. This includes capacity building activities such as environmental risk prevention and control, and Fintech empowerment of qualitative KPIs; Quantitative evaluation focused on the development of green financem such as carbon reduction and non-performing green loan rates. Results of the evaluations were reincorporated into the prudential management tools such as the central bank' rating on financial institutions.

### **III. Financial institutions embrace green finance capacity building**

Financial institutions setup green finance divisions or branches to enhance competence through the establishment, or development, of separated credit lines, capital prices, risk indicators, credit approval, performance evaluation, innovative financial products, and realization of carbon neutrality in operations. Additionally, improvements in environmental information disclosure were tested to improve green finance management capabilities.

Bank of Huzhou voluntarily participated in an environmental information disclosure pilot program between the UK and China. Textile, furniture manufacturing, and other industries were selected to stress test the system with reference to international scenarios. Results of the testing showed improvement in climate risk management competence during investment and financing activities.

Further, an ESG default-rate model and digital application system for credit customers was developed, evaluating SMEs across three dimensions from a non-financial perspective: environment, society, and governance. Utilizing their IT system to develop set processes, evaluation results are embedded into the overall credit management cycle, improving overall risk management competence. This allows for an accelerated digital transformation and promoting the provision of efficient green finance services.

Participation in the pilot zone program has also led to a deepening of international exchanges

and cooperation across the region. Over the course of the program, Bank of Huzhou became the third Bank in China to adopt the Equator Principles and the first bank to cooperate with the Asian Development Bank in sustainable finance, allowing for a deeper sharing of international sustainable development practices. Anji Rural Commercial Bank became the first corporate bank in Zhejiang Province to sign the United Nations Principles for Responsible Banking while the Zuoli Kechuang Micro-loan Company took the lead in piloting green business with support from the Global Climate Partnership Fund.