ASIA CLEAN ENERGY FORUM 2024
Accelerating the Clean Energy Transition and Ensuring Energy Security and Affordability – Time for Urgent Action Now
3-7 JUNE 2024

Best Practice on Climate Investment and Financing of Wuchang, Wuhan City

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In cooperation with
ASIA CLEAN ENERGY FORUM 2024
Accelerating the Clean Energy Transition and Ensuring Energy Security and Affordability – Time for Urgent Action Now

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Vice President, China Carbon Technology (Hubei)Ltd
Background

Practice on Wuchang Climate Investment and Financing

Case Study

Key Learnings
01

Background
Huge climate Finance needed for meeting dual carbon targets

China’s Dual Targets Bring both New Investment and Financing Opportunities

- Carbon Peak Carbon Neutral requires a capital investment of 150 trillion yuan and 300 trillion yuan, equivalent to an average annual investment of 3.75 trillion yuan to 7.5 trillion yuan.

- Investment-related industries for meeting the "Carbon Peak" target reach more than 100 trillion yuan.
Climate Finance Gap and Climate Investment & Financing Pilots

- **Big climate finance gap for meeting dual carbon targets**
  - Climate finance demand
  - Climate finance supply
  - Climate finance gap: 1.6 trillion yuan per year

- **Urgent need for establishing an investment and financing system that matches the dual-carbon targets**
  - In 2020, MEE together with other 4 ministries issued "Guidance on promoting climate investment and financing to address climate change", which states that guide and support local practices in climate investment and finance.
  - In 2021, the MEE together with other Ministries issued "Notification of the launch of the pilots on climate investment and financing.

In 2022, MEE approved 23 pilots for climate investment and financing, including Wuchang.
Targets and Tasks of Pilots

**Targets (3 to 5 yeas)**

- Building an enabling policy environment
  - Participate in the construction of the national carbon market
  - Develop carbon financial product associated with carbon market
  - Innovative climate financial products for climate-friendly project financing and refinancing
  - Mobilize small and micro enterprises and public participation in addressing climate change
  - Manage climate risks
  - Cultivate climate investment and financing projects
  - Establish a climate financial services platform for matchmaking between project and fund

- Cultivate a number of climate-friendly market players
  - Oderly develop carbon finance

- Explore different climate investment and financing models
  - Intensify the innovation of climate financing models and instruments
  - Build national climate investment and financing projects pipeline

- Establish international cooperation platforms
  - Control carbon- and pollution-intensive industries
  - Enhance carbon accounting and carbon disclosure
  - Enhance policy synergies

- Gather capital, talent, technology and other types of resources
  - Incorporate into local investment and industrial policy making
  - Link up the implementation of the Peak Carbon Action Program and related policy requirements
  - Carry out Corporate Carbon Accounting
  - Establish corporate climate information disclosure system
  - Establish environmental information sharing platform
  - Promote carbon accounting and climate information disclosure by financial institutions
  - Local Policies to match Dual Carbon Targets
  - Incentives and constraints mechanism

**Key Tasks for pilots**

Gather capital, talent, technology and other types of resources

- Incorporate into local investment and industrial policy making
- Link up the implementation of the Peak Carbon Action Program and related policy requirements
- Carry out Corporate Carbon Accounting
- Establish corporate climate information disclosure system
- Establish environmental information sharing platform
- Promote carbon accounting and climate information disclosure by financial institutions
- Local Policies to match Dual Carbon Targets
- Incentives and constraints mechanism
Practice on Wuchang Climate Investment and Financing
1. Features of Wuchang District

- Service-oriented industrial structure: The service industry contributes 88% of Wuchang's GDP
- The financial industry is a pillar industry in Wuchang District:
  - Gathered more than 360 regional headquarters and corporate financial institutions,
  - The added value of the financial industry accounting for 25% of Wuhan City,
  - Accounting for 25% of Wuchang District GDP;
  - contributing one-third of Wuchang District tax revenue
- Location of the National Carbon Emissions Registry and Hubei pilot emission trading market
2. Wuchang District Overlapping Advantages

Wuchang District has triple overlapping advantages of national carbon market, provincial pilot carbon market and climate investment and financing pilot.
3. Key Tasks of Wuchang Climate Investment and Financing Pilot Project

- Building a centralized registration system for carbon emissions and carbon reduction
- Foster an enabling policy environment for climate investment and financing
- Promote gathering of various types of climate investment and finance resources
- Vigorously develop carbon finance centered in carbon market
- Cultivate climate-friendly market players
- Innovate for climate investment & financing development models and green finance mechanism
4. Steps for implementation of pilot project

**Carbon accounting, tracking carbon footprints as basis for climate investment and finance**

1. Establishing systems of policies and standards for climate investment and financing
2. Building the infrastructure: a platform for evaluating and disclosing climate benefits with carbon accounting at its core
3. Build up climate finance projects Pool
4. Establish and improve incentive and assessment mechanisms for climate investment and financing, such as green refinancing and carbon emission reduction supporting instrument
5. Innovation in climate investment and financing models and mechanisms with carbon trading as core.
6. Enhancing international and domestic cooperation on climate investment and finance, and talent development
5. Practices of Wuchang Pilot Project

I. Establish joint working mechanism and enhance policy synergies

Make joint efforts in carbon market construction

Establish a working group for carbon market and joint meeting mechanism at provincial, municipal and district levels

Establish incentive mechanism to promote the green and low carbon industries

- Issue <Supporting policies for featured buildings>
- Provide subsidies to green corporates for IPO, 12 million yuan per company

Promote Policy synergies to support pilot development

Incorporate pilot project into the Hubei Provincial Action Program for Adaptation to Climate Change (2023-2035), Wuhan city Implementation Program for Carbon Peaking etc.

Promote implementation of measures

- Establishing a regular “carbon debriefing” assessment mechanism for 44 units of the district
- Incorporating the core indicators of the pilot project into the annual assessment
5. Practices of Wuchang Pilot:

II. Building high-quality projects pipeline for climate investment and financing underpinned by standards

Build infrastructure of climate project pool and climate finance: Integrated climate investment and finance Services Platform

Project Pipeline
• 161 projects
• Mobilize climate financing of 12.3 billion yuan.

01. Develop standards for climate investment and financing
• Wuhan Evaluation Methods for Climate Investment and Financing Projects
• Wuhan Evaluation Method for Climate-Friendly Companies
• Management Measures for Evaluation of Climate Investment and Financing Projects and Companies

02. Build infrastructure of climate project pool and climate finance: Integrated climate investment and finance Services Platform

03. Evaluate projects
• Location of project: Hubei province
• Evaluate project in seven dimensions: taxonomy conformity, compliance, climate benefits, project priority, financial benefits, co-benefits, low carbon management
• Project threshold: 60 scores
• Rating Projects: A, AA, AAA

04. Project Pipeline
• 161 projects
• Mobilize climate financing of 12.3 billion yuan.
5. Practice of Wuchang pilot:

III. Innovative models of carbon finance

01. Leverage two carbon market’s infrastructures to attract financial resources
   - Create first China carbon finance buildings to attract carbon finance services companies.
     ✓ Introduced 47 carbon market service companies to set up offices,
     ✓ Attracted nearly 200 carbon service companies and organizations to settle in Wuchang

02. Innovate for carbon finance products linked to carbon trading
   - First emission allowance-pledge loan, sustainable development-linked loan, GHG emission reduction-linked loan,
   - First single carbon insurance,
   - Single low-carbon transition-linked corporate bond;
   - First carbon emissions allowance repurchase transaction;
   - Launch financial + carbon inclusive products “Wuchang low-carbon credit card products”

03. Establish investment fund
   - Wuchang government established an innovation fund of funds with 5 billion yuan to support green and low carbon Sci-tech companies
   - Promote the establishment of a green high-quality development fund of 2.6 billion yuan through contribution to the fund.
5. Practice of Wuchang pilot:

IV. Low-carbon urban construction

01 Create low-carbon projects in urban area
• Wuchang government focuses on construction of six types of low-carbon projects, including low-carbon institutions, parks, buildings, campuses, communities, and scenic spots.
• Support pilots and demonstrations in low-carbon shopping malls, low-carbon communities, and carbon-neutral conferences and events etc.

02 Push green buildings
• Build low-carbon green and low-carbon flag buildings, green star-labeling buildings, pilot demonstration projects in ultra-low-energy (near-zero carbon) buildings.
• Over 60 low-carbon demonstration communities have integrated the concept of green development into the transformation of old neighborhoods, low-carbon life;

03 Build carbon inclusive platform
• Build carbon inclusive platform Carbon Jianghu” to promote a low-carbon lifestyle
• The Platform accounts for the individuals’ carbon footprints and carbon reduction of individual activities and offers vouchers and incentives for individual mitigation activities
✓ As of March, 21 enterprises registered with the “Wu Carbon Jianghu”
✓ 25 thematic events have been carried out, the number of registered users has reached 17,000, and a total of 22.7 tons of carbon emission reductions have been generated
5. Practice of Wuchang Pilot:

V. Push green and low carbon transition of financial institutions

Initiate pilot program of accounting for financed emissions of banking institutions

- Hubei provincial branch of PBOC pushes pilots of accounting for financed emissions by financial banking institutions.
- Pilots were selected in the sub-branch level of banks
- Accounting for financed emissions either at Scope 1&2, or Scope 1,2,3

Launch the Green Finance Pioneer Bank Award

- Wuhan Local Financial Regulatory Administration Bureau and the Wuhan Branch of PBC jointly initiated the first “Green Finance Pioneer Bank” and “Cases of Green Finance Innovation and Practice” in Wuhan, to incentivize best practices on green finance.

30 sub-branches of banks were awarded as “Green Finance Pioneer Bank” and 18 projects were selected as best cases of green finance.
03 Case Study
1. Wuhan Project Pool for climate investment & financing

**Issues related to climate investment and finance**

**Government:**
- Lack of criteria for defining climate-positive project.
- Lack of climate project evaluation mechanism

**Financial institution:**
- Absence of guidelines for evaluating eligible climate investment and financing projects;
- Lack the ability to identify and evaluate projects;
- No performance tracking and assessment mechanism of climate financing.

**Project owner:**
- Insufficient project pipeline preparation
- Inexperience in leveraging climate finance
- Limited awareness of climate funding options
- Limited access to funds
- Limited capacity in climate project structuring

**1. Establish standards system:**
- Wuhan Evaluation Method for Climate investment and finance
- Wuhan Evaluation Method for Climate-friendly Enterprises

**2. Establish guidelines on evaluating climate projects and enterprises:**
- Management Measures for Evaluation of Climate Investment and Financing Projects and Enterprises

**Evaluation of projects and labelling of projects:**
- Scoring projects in seven dimensions: conformity, compliance, climate benefits, the importance of the project, financial benefit, co-benefits, low carbon/climate risk management
- Rating Project: A, AA, AAA

**Project Pipeline/pool**
- Project 1: A
- Project 2: AA
- Project 3: AAA......

**ADB**
### Project Information

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Hubei Yingcheng 300MW Compressed-Air Energy Storage(CAES) Power Plant demonstration project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project site</td>
<td>Yingcheng City, Hubei</td>
</tr>
<tr>
<td>Project description</td>
<td>The project is to construct a set of 300MW/1500MWh CASE generator and supporting facilities. The project will increase absorption of renewable energy and therefore reduce consumption of fossil-fuel electricity. The energy storage and power generation are carried out using air, there is no combustion or electrochemical process in the energy conversion, which is safe and environmentally friendly.</td>
</tr>
<tr>
<td>Starting date of project</td>
<td>July, 2022</td>
</tr>
<tr>
<td>Completion of the project</td>
<td>April, 2024</td>
</tr>
<tr>
<td>Total investment</td>
<td>RMB 1,890 million</td>
</tr>
<tr>
<td>Power input</td>
<td>4.98 x 10^8 kWh</td>
</tr>
<tr>
<td>Power output</td>
<td>3.19 x 10^8 kWh</td>
</tr>
<tr>
<td>Conversion efficiency</td>
<td>66.02%</td>
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</tbody>
</table>

### Project Evaluation

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<td>April, 2024</td>
</tr>
<tr>
<td>Climate finance</td>
<td>RMB 1364 Million, accounting 72% of total investment</td>
</tr>
<tr>
<td>Annual carbon emission reduction</td>
<td>182,500 tCO₂e</td>
</tr>
<tr>
<td>Carbon reduction per capital</td>
<td>0.99 tCO₂e/10 thousand RMB</td>
</tr>
<tr>
<td>Project Score</td>
<td>86</td>
</tr>
<tr>
<td>Project rating</td>
<td>AA</td>
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### Climate Financing By Wuhan Branch of Huaxia Bank

<table>
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<th>Project Name</th>
<th>Hubei Yingcheng 300MW Compressed-Air Energy Storage(CAES) Power Plant demonstration project</th>
</tr>
</thead>
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<tr>
<td>Sector and Program</td>
<td>Clean energy, Operation and Construction of Energy Efficient Storage Facilities.</td>
</tr>
<tr>
<td>Total investment</td>
<td>RMB 1,890 million</td>
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<tr>
<td>Loan</td>
<td>RMB 1,560 million provided by Wuhan branch of Huaxia Bank through introducing World bank sub-loan</td>
</tr>
<tr>
<td>Loan period</td>
<td>15 years</td>
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<tr>
<td>Climate finance by Huaxia bank</td>
<td>RMB 1,118 million</td>
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<tr>
<td>Annual carbon emission reduction</td>
<td>182,500 tCO₂e/year</td>
</tr>
<tr>
<td>Carbon reduction per capital</td>
<td>0.99 tCO₂e/10 thousand RMB</td>
</tr>
<tr>
<td>Financed emissions reduction by loan</td>
<td>154,900 tCO₂e</td>
</tr>
</tbody>
</table>
2. Innovation in carbon finance products: Huaxin Cement emission allowances repurchase

- **Carbon Asset Repurchases**: Securities repurchase transaction trading is a traditional tool for securities firms to provide financial support to companies. It provides short-term funding to companies through trading. For emission control companies with carbon credits (positive repurchasers), selling and repurchasing carbon assets to obtain short-term capital financing which can effectively revitalize carbon assets.

**CITIC Securities Carbon Asset Repurchase Financing Products**

In April 2024, CITIC Securities, together with China Merchants Bank Wuhan Branch, concluded an emissions allowances repurchase transaction with Huaxin Cement Company Limited in Hubei pilot carbon market, financing the company with more than RMB 100 million, which is the largest emission allowances repurchase financing transaction since the establishment of Hubei pilot carbon market. The funding is used to invest in technological transformation and upgrading projects.
3. Wuhan Integrated Climate investment and Financing Service Platform

Challenges faced in implementing climate investment pilot project

- **Local government:**
  - Lack of carbon data
  - Absence of assessment mechanism for climate benefits of investment activities.
  - Lack of tools for carbon accounting and statistics

- **Corporates and Financial institutions:**
  - Weak capacity for identifying climate-positive projects
  - Lack of capacity for accounting carbon emissions and emission reduction
  - Information asymmetry between project owner and financial institutions

Main tasks of the platform:
- Support government in climate investment and finance management
- Cultivate climate investment and financing projects
- Create a bridge for climate projects and funds;
- Help to project owner to access to funds and financial institutions to access to climate projects
- Guide financial institutions to provide high quality financial services to the projects
3. Wuhan Integrated Climate Investment and Financing Service Platform

**Positioning**
- Guiding financial flows to address climate change
- Intensifying the development of green finance
- Implementing tasks of the pilot

**Targets**
- Data collection, statistics and analysis, project evaluation, match-making of projects and funds, and clustering of diversified market players

- **One Platform:** Integrated Service Platform for Climate Investment and Finance
- **Two Pools:** Pool of climate projects and enterprises, pool of financial products and services
- **Three systems:** 1. Administrative measures for evaluating climate investment and financing projects and enterprises, 2. Carbon emission accounting and information disclosure system for enterprises, 3. Carbon accounting and information disclosure system for financial institutions
- **Five types of users:** Enterprises, financial institutions, government, third-party service organizations, internal review teams
Design of the Platform

Looking for funds → Intelligent matching → Looking for project

Integrated climate investment and financing service platform

Project owner
- Apply
- Evaluation models to identify project/company
- Underpinned by Standards

Climate project pool

Carbon emissions & climate benefits

Computational modeling to account for carbon emissions and carbon reductions

Third-parties & consultancy

Request for financing

Government

Financial institution
- Apply
- Policy pool

financial products/service pool

Release

ADB
Six functions of the Platform

1. Climate data collection
2. Project evaluation and labelling
3. Investment and financing facilitation
4. Climate data disclosure
5. Connection with Third Party Service
6. Statistics, analysis, management
Unique of the Platform: underpinned by standards

- Harmonization of Standards: climate investment and financing projects, green finance standards, and carbon accounting standards
- Embed carbon emission calculation models, carbon reduction calculation models, and evaluation models for climate projects and companies
Unique of the platform: matchmaking of projects and funds

- Provide project owners with functions of accounting carbon emissions and climate benefits, automatic labelling and autonomous disclosure;
- Assist financial institutions in identifying projects and accurately providing climate investment and financing services.
Establish carbon accounts for companies and financial institutions:

- Support financial institutions in scientifically assessing carbon emissions and carbon emission reduction generated by their investment/financing activities
- Carrying out innovation in climate related financial products and service based on carbon data in carbon account
Unique of the Platform: statistics and management

- Supporting the government in monitoring and assessing the whole process of climate investment and financing
- Performance appraisal and optimizing policy measures
- Data statistics and analysis
Wuhan Integrated Climate Investment and Financing Service Platform

- Registered Financial Institutions: 17
- Climate Projects: 161
- Mobilizing Finance: 12.3 RMB billion
Key Learnings

01. Need for coordination between departments and policy synergies

02. Strengthen harmonization of standards

03. Raise awareness of both carbon accounting and climate-related information disclosure in both financial institutions and corporate

04. Establish data sharing-mechanism

05. Consistent capacity-building is necessary

06. Incentives and performance assessment mechanisms are important for both companies and institutions
Thank You

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