Low Carbon Odyssey - People’s Republic of China’s Story

Ningbo’s Innovation Pursuit of Green Development

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Accelerating the Clean Energy Transition and Ensuring Energy Security and Affordability –
Time for Urgent Action Now

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Featured Speaker
Innovative pursuit of Green Development in Ningbo

Four Goals:

- Promote NingBo Inclusive, low-carbon, and sustainable development
- Reduce GHG emissions reductions of 750,000 tons of CO₂ equivalent in annual
- Improve local air quality and public health, benefiting 9.7 million residents
- Contribute to the attainment of carbon neutrality
1. Ningbo has potentials and demands to promote green development

- Ningbo is a famous industrial city in China.
- The world’s largest port by cargo throughput (1.32 billion tons) and the world’s third busiest container port (35.30 million TEUs).
- GDP reached 1.65 trillion yuan (Per capita GDP is 24,020 dollars), ranking 12th nationwide.
- The industrial added value reached 677 billion yuan, ranking 7th nationwide.
- The primary energy consumption is about 76 million tons of standard coal (coal 39%, natural gas and renewable energy 7.2%).
- The industrial electricity consumption accounts for over 70% of the total social electricity consumption.
1. Ningbo has potentials and demands to promote green development

- Support the project of Integrated development of wind power, photovoltaic power and energy storage: Advance offshore wind power in an orderly manner; Implement the “photovoltaic” projects
- Support energy efficiency improvement in industry, public building, logistics etc.
- Support the development of renewable energy sources such as biomass, waste incineration power generation, geothermal energy and Marine energy.

Ningbo’s township Photovoltaic Village Project
Ningbo’s offshore wind power project
Ningbo’s kitchen waste disposal project in cooperation with WB loan
2. Ningbo’s challenges and constraints

**Government of Ningbo**
- Lack the **clear timetable, roadmap and construction drawings** for achieving the goal of green development.

**Micro and small enterprises**
- Promote the **new low-carbon technologies** in difficulties.
- Lack the **technological innovation capability** of achieving carbon neutrality.
- Lack **motivation** for energy-saving renovations.
- ESCOs lack **guarantees**, and construction entities face financial difficulties.

**Local commerce banks**
- Lack the **ability to identify** green and low-carbon projects;
- Lack the **bidirectional communication mechanisms** between financial institutions and enterprises.
3. Technical assistance project

- **ADB:**  
  Developing climate-friendly refrigeration industry through market and financing innovation

- **EF:**  
  The Assessment of green and efficient refrigeration potential and comprehensive solution research in Ningbo.

- **WB:**  
  Green and Carbon Neutral Cities Project
In 2022, Ningbo Urban Green and Low Carbon Development Project was included in the alternative projects of the ADB Loan.

- **2022.10**: Prepare for the fact-finding mission; Conduct financial analysis and due diligence of financial institutions.
- **2022.11-2023.7**: Hold a project kick-off meeting and sign an memorandum.
- **2023.8-2023.10**: Prepare for technical discussion or Loan Negotiations meeting.
- **2023.11-2024.5**: Signing of the Minutes of the Loan Negotiations.
- **2024.5.16-2024.5.17**: Technical Discussions meeting.
4. Ningbo’s urban green and low-carbon development with ADB loan

Amounts of loan:
- 200 millions dollars

Lending Modality:
- financial intermediation loan

Output:
- Strengthen institutional capacity in climate mitigation and green finance
- Establish Climate financing platform with ADB loan
- Green insurance system piloted
- Establish Digital carbon accounts

Four Measures:

1. Strengthen the institutional capacity to address climate change of Ningbo Municipal Government

2. Build the climate financing capability of Ningbo’s banking sector

3. Support investments in energy efficiency improvement across the industrial, cooling, and logistics sectors.

4. Enhance financial inclusion for MSEs.
5. Description outputs

Strengthen institutional capacity in climate mitigation and green finance

- The preparation and disclosure of the first ESG report of a city commercial bank in the PRC in 2025.
- The financial intermediaries to develop corporate strategies on climate financing and the environmental and social management system (ESMS).
- Provide capacity building on ESG reporting, new low-carbon technologies, and climate financing to MSEs.
- Conduct knowledge-sharing activities to disseminate the experience gained from the project to other provinces in the PRC, as well as to other ADB DMCs.

Public participation in surveys; Financial intermediary and project site investigation; On-site study and research of the project office and sub-project offices
Establish Climate financing platform with ADB loan

- Support the implementation of new technologies to decarbonize the industrial and related logistics sectors;
- Address the need for system-wide cooling efficiency improvements in Ningbo;
- Provide support to MSEs and energy service companies (ESCOs) for the implementation of low-carbon projects, with a special focus on enterprises owned or led by women.
Green insurance system piloted

- Provide support for the design and development of a green and energy efficiency insurance and guarantee products
- This products aim to
  - act as a collateral guarantee for MSEs and ESCOs to lower the barriers to accessing green financing
  - underwrite the implementation of energy-saving measures in the event of unexpected disruptions of their operations. If the effects of energy-saving projects are less than expected, energy efficiency service providers, such as ESCOs, will receive indemnity from the green insurance system.
5. Description outputs

- Establish Digital carbon accounts
  - to provide a comprehensive virtual infrastructure for the improvement of energy consumption and carbon emissions reduction management in Ningbo
  - Collect, monitor, and analyze real-time energy usage data from industrial emitters
  - Establish a carbon rating system will facilitate carbon emissions trading in the future

The Ningbo Carbon Emission Data Center
5. Financing Case of Ningbo chemical enterprise energy efficiency improvement

Financing Background

- On the basis of the existing waste heat circulation system in Ningbo petrochemical area, the thermal energy cascade utilization and digital energy control system between Yisheng new material PTA-AISI Kai synthetic rubber is constructed.
- Amount of energy saving is 16,000 tons of standard coal
- The project is expected to invest 37.5 million yuan, of which 20% is capital, and bank financing is about 30 million yuan.

Financing Difficulties

- Traditional project financing generally requires the provision of collateral or third-party guarantees.
- Energy-saving green projects led by small and micro enterprises have the characteristics of long project cycle and high management pressure.
5. Financing Case of Ningbo chemical enterprise energy efficiency improvement

- **Target scenario**: Project loan support for energy conservation and emission reduction projects and clean energy replacement projects based on contract energy management projects.

- **Target customers**: All kinds of energy-saving service enterprises providing contract energy services, such as construction, industry, new energy and other energy-saving application service enterprises.

- **Product repayment source**: Accounts receivable generated by energy saving service contract as the source of repayment.

- **Risk mitigation methods**: Project receivables pledge and fund flow debt management, no need for real estate mortgage for small and micro enterprise borrowers.

Introduction of Innovative Financing Scheme

- **Energy-using enterprise**
  - Remuneration
  - Distribution
  - Benefits of energy efficiency

- **ESCO**
  - Service
  - Distribution

- **BANK**
  - Borrow
  - Repayment

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5. Financing Case of Ningbo chemical enterprise energy efficiency improvement

**Highlights and Significance of the Scheme**

01. **支持服务小微企业**
   Support services for small and micro enterprises
   The project parties are all types of small, medium and micro enterprises, and such market players are encouraged to improve their access to financing

02. **鼓励新技术应用**
   Encourage the application of new technologies
   ESCO enterprises have strong technical strength, which is conducive to the promotion and application of various green and low-carbon technologies

03. **提升机构能力**
   Enhance institutional capacity
   Cooperate with the Asian Development Bank to explore the improvement of banks' green financial management capabilities under the ESMS framework
The End
感谢聆听～
WELCOME TO NINGBO