Greater BTH program: Funds to Promote Innovative Technologies’ Application - Case study by China Energy Conservation and Environmental Protection Group

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Path to Low-carbon and Sustainable Development

Barriers

Prioritize investments in end-of-pipe control measures which give immediate benefits but do not address the underlying issues

Follow cheaper, high-return investments in capacity expansion and diversification instead of capital-intensive, modest-return investments in pollution reduction

Absence of appropriate financing vehicles and instruments to deal with associated risks

Goal of Loan3629

- Remove market failures and barriers to deploying advanced and clean technologies
- Unlock project financing by lowering risks and closing finance gaps

By 2030
Peak carbon

By 2060
Carbon neutrality

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Creating An Enabling Mechanism for Sustainable Development

**The Facility**

- **Direct Investment**
- **Regional Fund**
- **Local Funds**
- **Technology/Industry Specific Funds**

Qualified subprojects located in the greater BTH region, China

Leverage financing from industries, local governments, and institutional investors

- Finance subprojects with high energy-saving and pollution-reduction potential
- Meet both PRC and ADB environmental and social safeguard requirements

**Deployment of High-Level Technologies**

- **Deploying high-level technologies to support low-carbon and sustainable development**
- **Debt Investments**
- **Equity Investments**
Progress and Performance

Funds Established
4 funds, total size CNY 5 billion
innovative use of FIL to establish a Fund-of-funds Structure

Subprojects Invested
19 subprojects, CNY 3.7 billion financing from funds
mobilizing investments of CNY 28 billion from co-financing

Areas Focused
• residual heat utilization
• integrated waste treatment and utilization
• industrial by-product hydrogen and flue-gas waste heat utilization
• large-scale use of graphene heaters and heat pumps
• treatment of VOCs and fugitive emissions
• new-energy vehicles, PV power generation, energy-efficient buildings, etc.

Environmental Benefits
save standard coal 1.2 million tons, provide clean heating 30.02 million square meters, reduce CO₂ 2.5 million tons, SO₂ 23,316 tons, NOx 9,321 tons and PM 1.2 million tons annually

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Our Practice: (1) Matching Risk Profiles

Energy Efficiency & Emission Reduction Potential in A Chemical Industrial Park

**End-of-pipe Measures**

- Equipment installation to reduce point-source emissions
- VOCs collection and removal
- Flue gas treatment and heat recovery

**Industrial Process Upgrades**

- Adopt international leading energy-efficient electrolysis technology to save energy
- Reutilize waste heat and by-product hydrogen to replace the natural gas consumption
- Displace the traditional incineration of high concentration wastewater to avoid air pollutants
- Recover residual pressure energy to save electricity
**Our Practice: (1) Matching Risk Profiles**

*Energy Efficiency & Emission Reduction Potential in A Chemical Industrial Park*

**Challenges**
- Capital intensive investment
- High perceived risks
- Insufficient registered capital
- No necessary debt funding

**Outcomes**
- Finance the deployment of cleantech
- Meet stringent emission standards
- Be put into operation successfully
- Grow continually and attract new investors

**Close Finance Gap**

**Unlock Untapped Potential**

- Evaluate financial viability
- Make direct investment to raise debt timely
- Establish a subfund to leverage social capital
- CNY 500 million from the Facility and subfund
**Our Practice: (2) Financing New Technologies**

**Heat Pumps to Assist in Energy Transition**

- Enable a more efficient use of renewable energy sources such as air, water and geothermal.
- Transfer — rather than generate — heat, an energy-efficient alternative to coal-fired heating.
- Address the need for clean heating and cooling.
- Reduce CO₂ emissions by 60%-80% compared with coal-fired boilers.

- Invest in the deployment of 4 heat pump technologies.
- Support 30.03 million square meters of clean space heating in 3 provinces.
- Offer long-term tenures to match the long-term payback period of renewable energy investments.
Our Practice: (3) Promoting Inclusive and Sustainable Development

**Smart, Green and Energy-Efficient Complex Subproject**

- **Environmental Benefits**
  - Green Buildings

- **Social Benefits**
  - Rural Vitalization
  - SME Financing

**Building Decarbonization**

- One of the three largest sectors of energy consumption and carbon emissions
- Green and low-carbon development throughout the life cycle of buildings

**Financial Support for Small Business**

- Face more hurdles in accessing local commercial credits than large ones

**Broaden the Channels for Farmers to Increase Their Incomes**

- Pilot project of collective construction land for commercial use entering the market
- "No. 1 central document" for 2023 on rural vitalization tasks
- Common prosperity among farmers in rural areas
Thank You