

ADB's Experience in Air Quality Improvement in the Greater BTH

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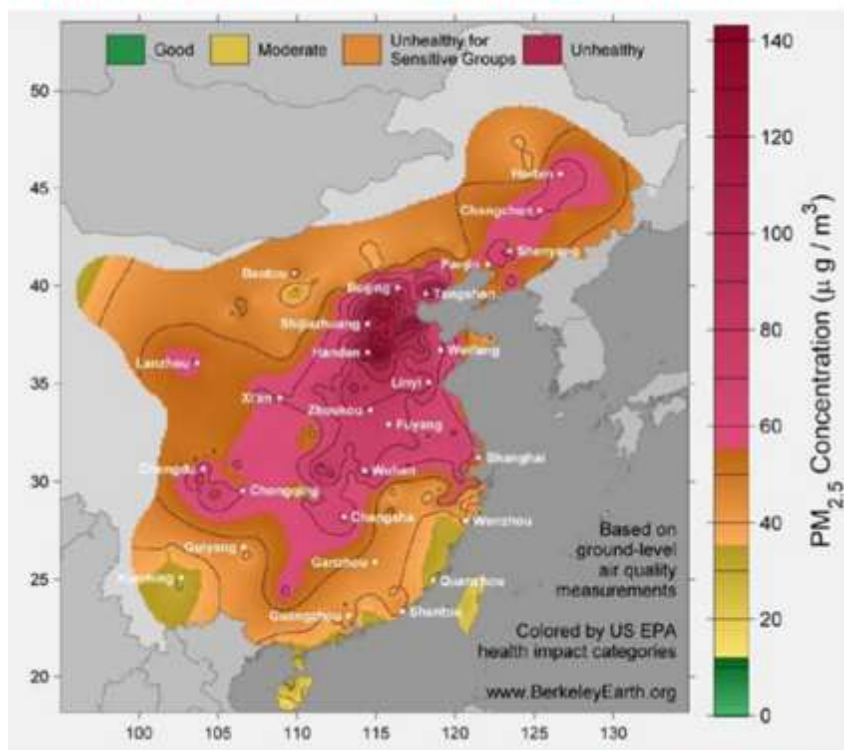
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China's Air Quality Challenges

- Many cities do not meet acceptable air quality
- Exposure to high levels of PM_{2.5} contributes to about 1 million premature deaths annually in the PRC
- The cost of premature mortality to the national economy is estimated as approximately 7.5% of the GDP

What need to be done?

NATIONWIDE AMBIENT PM_{2.5} CONCENTRATIONS



Source: Berkeley Earth, 2015

Strengthen Policy and Regulatory Framework

Leverage investments through innovative approaches

Help demonstrate and deploy advance technologies

How ADB has responded ?

- Cross-sectoral coverage; programmatic approach
- Target policy, financing and technology gaps; address market failures
- Aim air pollution reduction + CO₂ mitigation
- Essential value add features—innovation, leverage, synergy, and better results

ADB's lending in BTH

Project	(\$ million)	Year	
Hebei Policy Based Loan	300.0	2015	} Already approved
I&G's Green Financing Platform	500.0	2016	
CECEP's Pollution Control Fund	500.0	2017	

	Project	(\$ million)	Year
Being processed	Shandong Air Pollution Control	500.0	2018
	Cities' (Hebei) air quality improvement program	500.0	2019
	Scaled-up Green Financing	500.0	2020

BTH Air Quality Improvement Program

- ❖ Build on the policy actions initiated in Hebei PBL in 2015 and strengthen implementation of policy actions throughout the greater BTH region through targeted investment in subprojects aligned with key policy actions.
- ❖ Establish a dedicated green financing platform (GFP) in 2016 to leverage financing and scale-up investments in green and low emission development, especially among SMEs.
- ❖ Establish a dedicated technology leapfrogging fund in 2017 to deliver best available low-emissions technologies in key sectors, targeting major emitters in some of the most polluted cities and provinces of the region.
- ❖ Direct contribute to improving air quality, inclusive economic growth, environmentally sustainable growth, private sector development and climate change mitigation in the greater BTH region of the PRC.

BTH PBL in Hebei (2015)

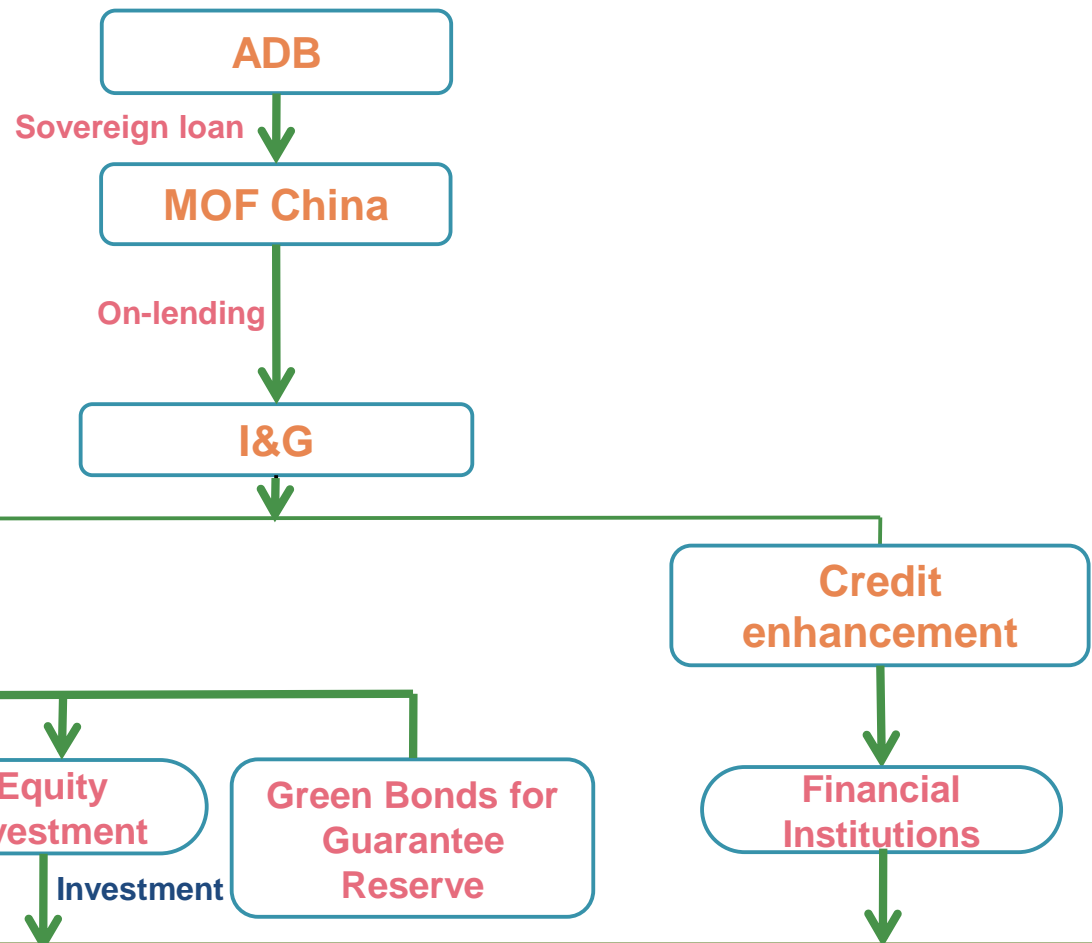
ISSUES	REFORM APPROACH
Fragmented and short-term air pollution control policies	Comprehensively support industrial transformation and adjustment of energy structure and urban and rural services
Weak environmental policy and institutional framework to support effective pollution control	Strengthen regulatory framework, enhance monitoring coverage and quality, and increase enforcement capacity at different levels
Incomplete coverage of social protection and training program to support industrial transformation	Provision of quality training and support for reemployment of skilled and unskilled workers

BTH I&G's Green Financing Platform (2016)

- Targets near-untapped SME sector for pollution reduction
- Offers suite of innovative financing tools to meet the financing requirements and credit quality of diverse set of borrowers
- Leverages domestic financing: ADB's €458 million leverage €3.6 billion equivalent in commercial financing
- Open architecture - suitable for expansion
- Enhancing local financial institutions' capacity and willingness
- Leverages large CO₂ mitigation (~ 8.5 MT)

BTH AIR QUALITY IMPROVEMENT 2016- GREEN FINANCING PLATFORM

**Tailored Made Solutions
to Support SME Access
to Finance for Clean
Energy Investments**

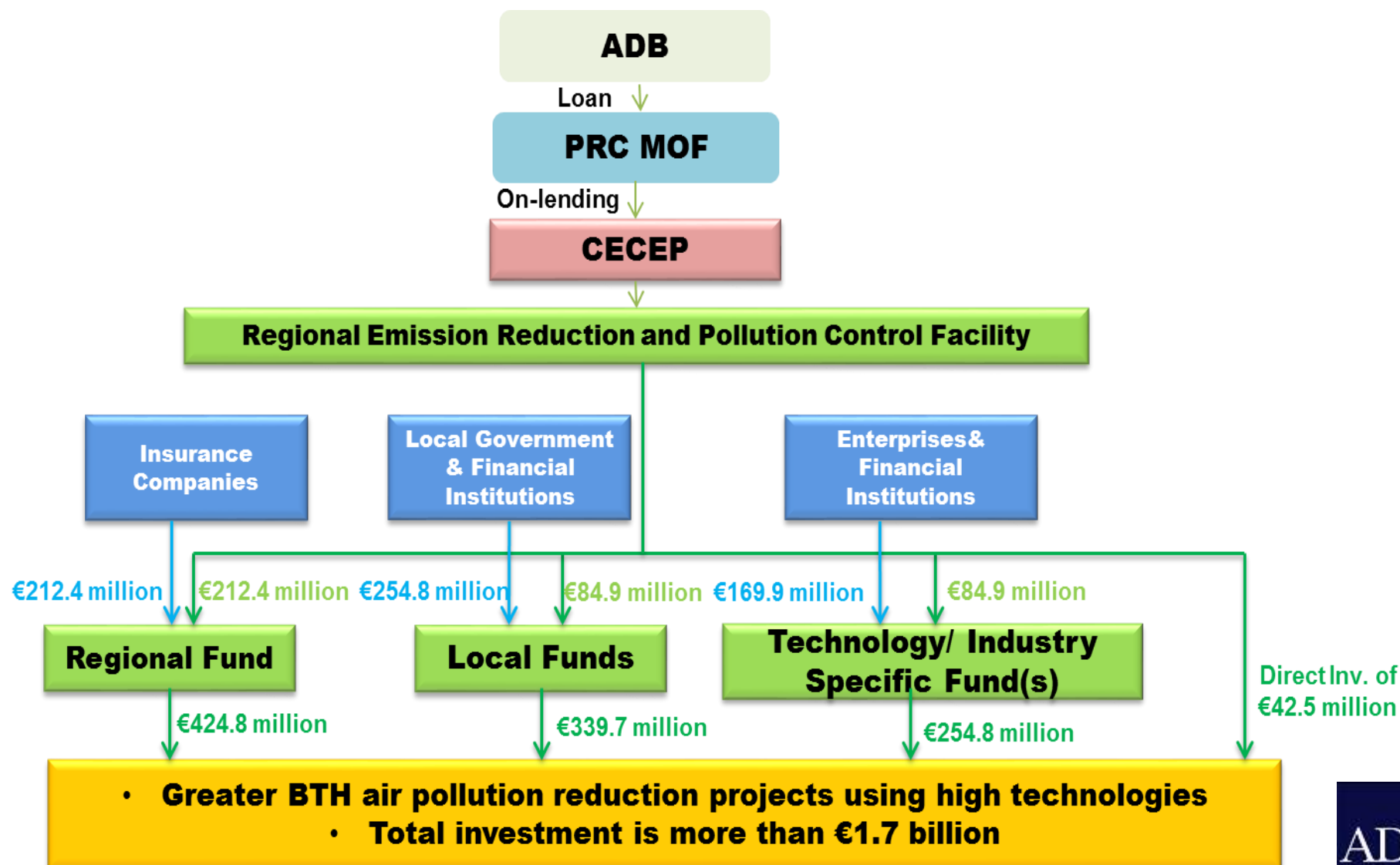


€3.6 billion of Air quality improvement projects (in Greater BTH region)

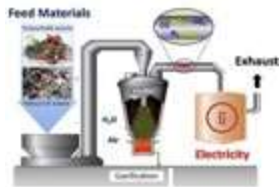
BTH 2017 Regional Emission-Reduction and Pollution Control Facility (€428 million)

- ❖ **Issues:** Air quality challenge in BTH due to technology gaps
- ❖ **Approach:** Establish a dedicated technology leapfrogging fund to deploy advanced low-emission technologies in key sectors, targeting major emitters in some of the most polluted cities and provinces of the greater BTH region.
- ❖ **Design/Specifications:** Essential value add features — innovation, leverage and better results to achieve air pollution reduction and CO₂ mitigation through a SOE which has extensive technical expertise.

Fund of Funds Structure; Emphasis on High Technology



Biomass gas



Hydrogen fuel-cell buses



Smart grids for industrial clusters



Deep well geothermal



Supporting super ESCOs



Coke oven gas to LNG



E-Vehicle



NG filling and E-V charging station



Distributed solar PV



Combined biomass heating and power generation



Clean district heating and cooling



2018 : Shandong Air Pollution Project

- ❖ **Issues:** Air quality challenge in BTH due to increasing residential emissions in highly polluted areas during heating season.
- ❖ **Approach:** Investment for clean heating and cooling systems for residences to accelerate air pollution abatement in Shandong Province.
- ❖ **Design/Specifications:** The heating and cooling systems combine renewable energy technologies and waste heat recovered from industry and power plants to reduce the energy and carbon intensity of heat production and refrigeration, and thereby reduce air pollution and greenhouse gas emissions.

2018 : Shandong Air Pollution Project

- **Why Shandong?** : nearly 1/3rd of the region's population; larger impact on air quality; high urban and rural pollution levels
- Cleaner heating can make an impact for urban, peri-urban, and rural residents
- Syncs well with ADB's ongoing work, including non-lending work



2019: Cities Support Program in Hebei

- **Why?**: demonstrate comprehensive (policy+ financing+ technology) support program to accelerate air quality improvements
- Target 2-3 polluted second-tier cities in Hebei
- Incorporate model system and practices which can be replicated across other similar cities



2020: Scaled-up Green Financing in BTH

- **Why?** to reinforce and expand BTH dedicated financing vehicles in I&G and CECEP
- Leverage social capital and, seek possible PSOD engagement
- Support cross learning and improve results on ground



BTH : Non-lending work : Transaction TA

- Lending is supported through a TRTA Facility (\$1.9 m) approved in 2016
- Facility will be topped up by another \$0.5 m in 2019



BTH : Non-lending work : ongoing KS TA

TA Number and Title	EA
BTH Regional Air Pollution Control	MEE
Develop Cost-Effective Policies and Investments to achieve Climate Change and Air Quality Improvement Goals	MIIT
Study on Coordinated Development of BTH	Hebei Finance Bureau
Study of Clean Energy Supply for the Rural Areas in the Greater BTH Region	MOA



TA to be approved in 2018

EA

Study on Improvement Path of Air Quality in a Typical BTH City (**a critical gap at city level**)

MEE

Study on Municipal Solid Waste Regional Integrated Management Mode for BTH

MOHURD



CONCLUSION

- Air quality improvement need long-term policy, financing and technological supports, cross-sectoral, pragmatic and systematic approach is needed
 - Private investments and commercial financing are difficult but possible
 - Comprehensive solution should be targeted
 - Inclusive financing approach is essential
 - Advanced technologies to leapfrog is important

Thank you !

