# Agricultural Development Bank of China 2017 Green Financial Bond

Independent Third Party
Verification Report



# **Verification Opinion**

With respect to the 2017 Green Financial Bond (hereinafter referred to as "Green Financial Bond") to be issued by Agricultural Development Bank of China (ADBC), we, CECEP Consulting Co., Ltd, have conducted an independent third party verification in accordance with the PBC Announcement [2015] No.39 ("Announcement No.39), the Green Bond Endorsed Project Catalogue (2015 Edition) (hereinafter referred to as "Catalogue"), "Climate Bonds Taxonomy" and other applicable laws and regulations and relevant procedures specified in the "Conformity assessment-Requirements for Bodies Providing Audit and Verification of Management Systems" (ISO/IEC 17021: 2011) and the "Guideline for Auditing Management Systems" (ISO 19011: 2011).

The scale of Financial Green Bond to be issued by ADBC will be no more than CNY10,000 million, and the Issuer commits to investing all the proceeds to the green projects as defined in the Catalogue. As of October 18, 2017, ADBC has a total of 61 green projects that conform to the standards of the Catalogue and plans to lend CNY10,078 million for this purpose. Among them, 43 projects are in line with Climate Bond Taxonomy with total loan volumes expected to reach CNY7668 million.

We have verified ADBC's green project assessment and screening, use and management of proceeds, information disclosure and reporting mechanism and other matters in connection with the Green Financial Bond, and as of October 18, 2017, no inconformity with relevant policies, regulations and criteria are found.

As is estimated, the green projects to be financed by the Green Financial Bond may generate the following environmental benefits per year: 328,100 tce of fossil energy being substituted, 659,800t, 3,929.57t and 1,558.07t being reduced in carbon dioxide emission, sulfur dioxide emission and nitrogen oxide emission respectively, 741,700t garbage and 176,665,500t waste water being treated, 32,800t chemical oxygen demand and 3,300t ammonia nitrogen being reduced, and 24,293,400t of water being saved. In addition, 226.12km of river will be harnessed, with 494.95m³ of channel dredged and 61,800-mu sea area converted from aquaculture.

Above environmental benefits are calculated completely based on supporting documents provided by the Issuer, and may vary in the future as a result of changes of technical criteria, external environment or other conditions.



# Part 1 Introduction

# 1. Scope of Verification

2017 Green Financial Bond to be issued by ADBC

# 2. Purpose of Verification

To examine compliance of Green Financial Bond to be issued by ADBC against applicable laws and regulations

#### 3. Content of Verification

- (1) The compliance and robustness of green project screening and selection procedures;
- (2) The completeness and compliance of use and management system of proceeds in connection with the Green Financial Bond;
- (3) The compliance of information disclosure mechanism and system; and
- (4) Environmental benefit target for proposed green projects.

#### 4. Basis of Verification

- (1) Law of the People's Republic of China on People's Bank of China (amended in 2003) (Order No.12 of the President of the People's Republic of China);
- (2) Measures for the Administration of the Issuance of Financial Bonds in the National Inter-bank Bond Market (PBC Order [2005] No.1);
- (3) PBC Announcement [2015] No.39;
- (4)Green Bond Endorsed Project Catalogue (2015 Edition) (Green Finance Committee of China Society for Finance and Banking, December 22, 2015);
- (5) Climate Bonds Taxonomy (The Climate Bonds Initiative);
- (6) Green Credit Guidelines (CBRC [2012] No.4, China Banking Regulatory Commission, February 24, 2012);
- (7) Energy Efficiency Credit Guidelines (CBRC [2015] No.2, China Banking Regulatory Commission, January 13, 2015);
- (8) Conformity assessment-Requirements for Bodies Providing Audit and Verification of Management Systems (ISO/IEC 17021: 2011);
- (9) Guideline for Auditing Management Systems (ISO 19011: 2011);
- (10)Relevant ADBC documents, including documents in connection with application for green financial bond issuance and relevant management systems etc.



#### 5. Verification methods

Document review, desk research, field interview, cross-validation, and environmental benefit estimation.

# **Part 2 Basic Information**

#### 1. About the Issuer

Registered name: Agricultural Development Bank of China

Any debt default or principal or interest payment delay in the latest 3 years: none

**Record of green financial bond issuance**: Green Financial Bond, 22<sup>nd</sup> Issue, 2016 (abbrev: 16 ADBC Green 22, issued on Dec 21, 2016); Green Financial Bond, additional 22<sup>nd</sup> Issue, 2016 (abbrev: 16 ADBC Green 22 (a) issued on Feb 27, 2017)

**Profile**: ADBC, directly led by the State Council, is the only agricultural policy bank in China. Inaugurated in 1994, ADBC has a mandate to serve the development of agriculture and rural economy by raising funds in accordance with relevant national regulations and policies and backed by state credit, engaging in operations of agricultural policy finance and allocating government grants for agriculture. At current stage, ADBC focuses on five sectors: national food security, agricultural modernization, integrated urban and rural development, national and regional development strategy, and poverty alleviation.

Scope of business: granting of loans for national reserve of grain, cotton, fuel, pork, sugar, filature, chemical fertilizer and other special articles as decided by the State Council, with funds arranged by the PBC and fiscally subsidized interest, and for local reserve of chemical fertilizer, sugar and meat; loans for grain, cotton and oil purchase, distribution and sales; loans for contracted grain purchase; granting of loans to enterprises engaged in preliminary cotton processing; allocation of government grants for agriculture, maintenance and payment out of the separate account for the grain risk fund established by the government at different levels; issuance of financial bonds; taking of deposits of enterprises and public institutions within the scope business; funds settlement for enterprises and public institutions within the scope of business; overseas funds raising; international settlement and associated foreign currency deposits and remittances, interbank lending and brokerage in connection with customers' import and export within the scope of business; granting of grain purchase loans to large grain processing enterprises; loans to key grain, cotton and oil enterprises; loans to other grain enterprises; loans for grain, oil and seed; loans to cotton enterprises for purchase in advance, deep processing, seed breeding, purchase and processing, export, import of cotton for national macro control and reserve as prescribed by the state; loans to cotton enterprises for technical equipment transformation; payment and collection on behalf of customers; RMB trading in the National Interbank Funding Market; postal savings facility agreement; loans for small agricultural businesses, rural infrastructure construction, integrated agricultural development and agricultural production materials; other businesses approved by the State Council and the CBRC; insurance brokerage (only for branches and offices with



an insurance brokerage license, and the term shall be that stated in the license) (operations shall not commence for an item subject to prior approval until approval from competent authorities is obtained.)

#### 2. Bond to be Issued

Name: 2017 ADBC Green Financial Bond

Term: 2-year, 3-year or 5-year

Total amount: no more than CNY10,000 million.

# Part 3 The Issuer's Governance Structure

#### 1. Governance Structure

In April 2015, the State Council officially printed and issued the Approval of the Overall Implementation Plan for the Reform of Agricultural Development Bank of China (State Council [2014] No.154), requiring that ADBC, through reform, shall focus on policy finance and establish sound governance structure and decision making process and turn itself into an agricultural policy bank capable of sustainable development. In 2017, ADBC has actively proceeded with the building of a modern corporate system, accelerated the establishment of the Board of Directors and the amendment of the Articles of Association, established and improved the corporate governance structure. Based on its functional positioning and operational process, ADBC has set up 27 bodies at head office and further defined the responsibility, improved the process and strengthened the management of these bodies.

# .2. Management Responsibility and Capacity Building

# (1) Responsibility

Based on valuable experience from the initial issue of green financial bond, ADBC refined the *Management Measures for the Use of Green Financial Bond Proceeds*(trial implementation) and promulgated the *Management Measures for Raising and Use of Green Financial Bond Proceeds* (hereinafter referred to as "ADBC Management Measures for Green Bond Proceeds"), clarifying management responsibilities in connection with green financial bonds:

Frontline credit review and operations departments for (hereafter referred to as "frontline departments"): manage the reserve of green projects, propose green credit placement, propose the retaining of a third party Verification provider and cooperate with project assessment and Verification by a third party Verification provider, maintain a record of green credit operation in connection with green financial bond proceeds, and propose the retaining of an audit firm for green audit and facilitate this audit firm to conduct green audit.

**Treasury Department**: formulate the plan for green financial bond issuance, apply for, file with and organize bond issuance, sum up and disclose green bond use of proceeds; establish a record of green financial bond proceeds to document the receipt, interest & principal payment in connection with the proceeds from bond issuance.



**Strategic Planning Department**: make overall arrangement for the green credit plan across ADBC.

**Credit Management Department**: formulate the integrated management system for green credit and coordinate the after-loan management work.

Legal, Internal Control & Compliance Department: select the law firm and oversee the appointment of law firm.

**Financial Accounting Department**: provide audited annual financial reports and retain a third party Verification body and an external audit firm.

**Operations Management Department**: maintain a separate account for green financial bond, and take charge of accounting and proceeds settlement in connection with green financial bond operations.

Corporate Culture Department: with assistance from Treasury Department, organize and coordinate the publicity of ADBC's green financial bond issuance and the effect of green credit placement.

Branches at different levels: conduct preliminary screening and provide documents in connection with green projects; conduct due diligence investigation, review and approval within respective authority and after-loan management for green projects; and maintain a record of green project management and proceeds using

#### (2) Capacity building

ADBC has consistently improved institutional, organizational and personnel mechanisms and processes in connection with green financial bond.

With regard to institutional building, ADBC has officially issued the Measures for Green Bond Proceeds Management to further regulate its screening criteria, selection procedures, use of proceeds management, post-investment management and information disclosure in connection with green projects, and has put in place a sound management system for green financial bond proceeds and green projects. Moreover, in 2017, ADBC promulgated the Green Credit Guidelines by combining the ADBC Credit Policy Guidelines (revision 2014) and the ADBC Management Measures for Green Credit (for trial implementation). The ADBC Green Credit Guidelines, as a programmatic document, has defined environmental and social risks and green projects, required the incorporation of customers and projects' environment and social risk management into the whole-process credit management, and prescribed the responsibility of relevant departments, related policies and systems, procedures, internal control and information disclosure, etc. Besides, the ADBC Green Credit Guidelines, based on green credit operation procedures, has incorporated credit project management requirements in connection with green financial bond and realized an organic integration of green credit and green bond in terms of operation procedures.

Organizationally, ADBC has defined the responsibility of, coordination and cooperation among relevant functional departments as necessary for the management of green projects and financial bond proceeds.



With regard to capacity building, ADBC attaches great importance to environmental and social performance, to green finance publicity and education and to talent cultivation and green finance training, and has a quite mature team for credit review and check.

It is verified that ADBC has put in place a complete set of corporate governance mechanisms and adequate provisions and a mature team for green project financing, risk control and marketing and has successfully issued CNY10,000 million of green financial bonds, and is qualified for issuing the Green Financial Bond.

# Part 4 Green Project Screening and Selection

# 1. Green Project Screening

Green project screening is governed by the ADBC Green Credit Guidelines and the ADBC Management Measures for Green Bond Proceeds to ensure proceeds will be used for financing green project. The following criteria (but not limited to) will be used to screen green projects: green projects' truthfulness and compliance, conformity with national industrial policies, industrial development plans and regional economic development plans, approval obtained from competent authorities in case that government review and approval is required, conformity with financing and construction conditions, and conformity with green project criteria stated in the Green Bond Endorsed Project Catalogue published by the PBC

Based on this, ADBC has maintained a list of green projects for the Green Financial Bond, containing a total of 61 green projects and with total amount expected to reach CNY10,078 million. Green projects in the list cover five categories, including energy saving, pollution prevention & control, resource conservation & recycling, clean energy, and ecological protection & climate change adaptation.

# 2. Green Project Selection

Green project selection is governed by the *ADBC Management Measures for Green Bond Proceeds* and selection process can be divided into preliminary project selection and project review.

Preliminary project selection is the responsibility of frontline credit departments at various branches (for the Green Financial Bond referred to herein, they mean infrastructure operation department at various branches). These frontline credit departments will select projects pursuant to green project criteria prescribed in the Catalogue and submit the list of selected projects and relevant materials to frontline credit departments at the head office (which refers to Infrastructure Department at the head office).

Project review is the responsibility of frontline credit departments at the head office, which shall review the projects selected by various branches on a regular basis in accordance with the green project criteria, select and include them into the head office's project database as the reserve for ADBC green financial bond issuance.



It is verified that ADBC can screen projects in accordance with the Announcement No.39 and the Catalogue and subject them to effective management.

# Part 5 Use and Management of Proceeds

# 1. Proceeds Management System

ADBC will implement the requirements prescribed in the *ADBC Management Measures for Green Bond Proceeds* to ensure proceeds of Green Financial Bond to be used for proposed green projects and to satisfy relevant regulatory requirements.

For the issuance of the Green Financial Bond, ADBC will set up and maintain an account of green financial bond proceeds, strengthen the management of proceeds receipt, payment and recovery in connection with green financial bond issuance and ensure that, during the term of the Bond, proceeds will be completely dedicated to green projects in line with criteria set in the Catalogue. ADBC will use the unallocated proceeds in strict accordance with relevant regulatory requirements, and ensure all proceeds shall be used for green project financing, and realize proceeds management in separate account and use for earmarked green projects.

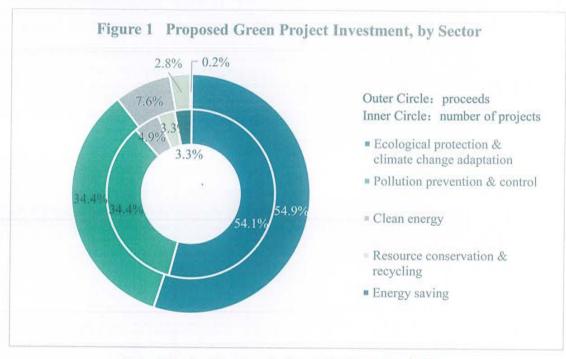
It is verified that no inconsistency with the Announcement No.39 is found in respect of ADBC's proceeds management.

#### 2. Use of Proceeds Plan

In the Letter of Commitment, ADBC has committed to use the proceeds to finance green projects in line with the Catalogue and will be legally responsible for the truthfulness, lawfulness and completeness of these projects.

ADBC plans to issue no more than CNY10,000 million (including 10,000M) of the Financial Green Bond and invest the proceeds in 61 projects that conform to the standards of the Catalogue, and the lending is expected to be up to CNY10,078 million.

Pursuant to definitions and criteria specified in the Catalogue, these proposed green projects fall under five categories, they are energy saving, pollution prevention & control, resource conservation & recycling, clean energy, and ecological protection & climate change adaptation. The majority number of projects is under ecological protection & climate change adaptation and pollution prevention & control, accounting for 88.5% of the total number with 89.3% proceeds financing projects under the above mentioned two categories, please see Schedule 1.



Schedule 1 Proposed Green Projects by Sector

	Green Project Categor	Number of	Amount	
Level I	Level II	Level III	projects	(CNY100M)
1.Energy saving	1.4 Urban & rural infrastructure construction with energy saving efficiency	1.4.1 Facility construction	2	0.25
2. Pollution prevention & control	2.1 Pollution prevention & control	2.1.1 Facility construction & operation	18	26.42
	2.2 Environmental restoration	2.2.1 Project implementation	3	8.27
3.Resource conservation & recycling	3.1 Water saving & unconventional water use	3.1.1 Facility construction & operation	2	2.80
5.Clean energy	5.2 Solar PV power generation	5.2.1 Facility construction & operation	1	0.70
	5.4 Distributed energy resource	5.4.1 Facility construction & operation	1	5.00



	Green Project Categor	Number of	Amount	
Level I	Level II	Level III	projects	(CNY100M)
	5.6 Hydropower generation	5.6.1 Facility construction & operation	1	2.00
6. Ecological protection & climate change adaptation	6.1 Natural ecological protection & protective development of tourism resource	6.1.1 Facility construction & operation	6	6.50
	6.4 Emergency prevention & control of disaster	6.4.1 Facility construction & operation	27	48.85
	TOTAL	61	100.78	

Among the above mentioned 61 green projects to be financed, 43 projects are in line with *Climate Bonds Taxonomy*. These green projects can be categorized under climate adaptation in *Climate Bonds Taxonomy* with a total of CNY7,868 million loans to be granted, accounting for 76% of total loan. 18 projects that cannot fit in *Climate Bonds Taxonomy* are sewage collection pipelines, garbage transfer station (treatment center), water environment restoration, and underground pipelines complex, large-scale hydropower generation. Loan to be granted for the 18 projects accounted 24% of total loan volumes.

Such discrepancy in green projects identification resulted from difference in green criteria between the *Climate Bonds Taxonomy* and the Catalogue. The *Climate Bonds Taxonomy* is positioned to support projects in climate adaptation and mitigation while the Catalogue supports not only low carbon projects, but also projects with contributions in pollution reduction, resources conservation and ecological protection. Therefore, such discrepancy emerge in sewage collection pipelines and garbage transfer station (treatment center), water environment restoration projects.

It is verified that no inconformity with the Announcement No.39 is found in respect of ADBC's use of proceeds plan and proposed green projects compliance with categories.

# Part 6 Information Disclosure Mechanism

ADBC has the following arrangement for information disclosure and reporting prior to issuance and during the term of the Green Financial Bond.

**Prior to issuance:** ADBC engages CECEP Consulting Co., Ltd to verify the Green Financial Bond and publishes the verification opinion.



**During the term:** ADBC will disclose bond information in strict accordance with the *Management Measures for the Issuance of Financial Bonds in the National Inter-bank Bond Market* and the Announcement No.39. During the term of the Bond, ADBC will disclose use of proceeds on a quarterly basis; and before April 30 every year, ADBC will disclose the annual report and special audit report of the preceding year on the use of proceeds and Q1 report on use of proceeds of the current year and report use of proceeds of the preceding year with the PBC.

Meanwhile, ADBC undertakes to disclose the assessment report issued by the CECEP Consulting on a yearly basis and to keep tracking and assessing the development and environmental impact of the green projects financed by Green Financial Bond.

It is verified that ADBC has information disclosure mechanism in place and engages a third party verification body to keep tracking and assessing the disclosure implementation, and no inconformity with the Announcement No.39 is found in respect of ADBC's information disclosure and reporting.

# Part 7 Environmental Benefit Assessment and Estimation

The 61 green projects financed by the Green Financial Bond to be issued have involved five categories in the Catalogue, including energy saving, pollution prevention & control, resource conservation & recycling, clean energy, and ecological protection and climate change adaptation. We have assessed and estimated these 61 projects' expected environmental benefits from quantitative as well as qualitative perspective by examining the credit granting application, investigation, feasibility study and other relevant documents of these green projects to verify compliance of each project and extracting technical indicators from these documents to assess expected environmental benefits.

Quantitatively, we have measured the quantifiable part of environmental benefits in accordance with the principle of the "Green Project Environmental Benefit Assessment System" (on the website of Green Finance Committee of China Society for Finance and Banking) and our own "Methodology of Green Project Environmental Benefit Measurement", while the unquantifiable part has been assessed in a qualitative manner in accordance with project and industry-specific characteristics and factors that may affect the environment.

Based on the inspection of relevant documents and an overall consideration of factors such as project category, amount of investment and location, we have chosen 2 representative projects out of these 61 for field investigation to make an objective and comprehensive assessment of the environmental benefits of the green projects proposed for the Green Financial Bond. We have analyzed the expected environmental benefits upon project implementation by interviewing relevant ADBC branches and project companies (the Borrower), consulting relevant approvals and document supporting the projects' truthfulness and compliance and verifying the actual content of project construction. For details of the 2 projects, please refer to Case Study.



# (1) Energy saving

There are 2 energy saving projects, all under the category of urban & rural infrastructure construction with energy saving efficiency, and the proceeds will be used to build underground urban utility tunnels.

Compared with conventional direct burial, these projects will effectively reduce the quantity of repeated road excavation and construction, and reduce materials and energy consumption and carbon emission in the course of construction, and moreover, they may have a significant environmental benefit by reducing the leakage and extend the service life of underground tunnels and pipes and saving resources.

# (2) Pollution prevention & control

There are 21 pollution prevention & control projects, all under the category of pollution prevention & control and environmental restoration, and the proceeds will be used to build sewage treatment plants and associated pipes and tunnels, urban (rural) domestic waste treatment plants and facilities for integrated black and foul water regulation.

These projects have a significant environmental benefit in respect of waste treatment, fossil energy substitution, reduction in COD and ammonia nitrogen, and water recycling. According to our estimate, every year, they may dispose 741,700t of waste. Substitute 88,700tce of fossil energy, handle 176,665,500t of waste water, reduce 32,800t of COX and 3,300t of ammonia nitrogen, and recycle 3,066,000t of water.

Besides, these projects also have a prominent environmental benefit by improving neighboring environment quality, effectively reducing waste emission to air, water and oil, strengthening urban sewage treatment capacity, improving water quality, ensuring the people's health and promoting green and ecological development.

# (3) Resource conservation and recycling

There are 2 resource conservation and recycling projects, all under the category of water saving & unconventional water use, and the proceeds will be used to build sponge city and agricultural water-saving irrigation works.

Sponge city construction has certain integrated environmental benefits since it can help alleviate waterlog, reduce runoff pollution, save water resource and restore urban water eco-environment.

Upon construction, agricultural water-saving irrigation works will have a significant water-saving effect, irrigated channels will have an improved capacity and can carry a greater amount of water, and irrigated areas will improve their water utilization efficiency. Meanwhile, compared with before-construction circumstances, the irrigation works are reinforced in terms of flood control and disaster relief and can facilitate sustainable water resource development in the irrigated areas.



# Case Study 1: Sponge City Construction in Jinshi City (Phase I)

In 2016, Jinshi City became one of the cities in Hunan Province chosen to pilot sponge city construction. To accelerate the process of construction, Jinshi City plans to build a sponge city across the city. The pilot area covers  $8.3 \, \mathrm{km^2}$ , including  $4.5 \, \mathrm{km^2}$  in the old north part and  $3.8 \, \mathrm{km^2}$  in the new south part, and there are expected to be a total of 42 projects and a total investment of up to CNY1,520 million.

This Project, i.e. Sponge City Construction in Jinshi City (Phase I), is located in industrial quarters and north part of the city, and mainly consist of works in connection with dredging, diversion and drainage, ecological revetment, low impact development of rain system and dike reinforcement.





Before and After Reconstruction of Oxidation Pond, DongHu

Phase I involves a total investment of CNY608.18 million. The funds will be raised from three sources: 1. Grants from upper level. Provincial finance will provide CNY120 million within 3 years, and this portion now has been completely in place; 2. Investment solicitation. Sign the strategic cooperation agreement with large SOEs on PPP basis to resolve part of funds for the Project; 3. Policy financing. In 2016, the Project applied to ADBC for a total of CNY470 million for sponge city construction.

This sponge city project will greatly increase greenbelt area, natural water area and storage volume; reduce the pressure of urban water supply as a result of significant increase in direct rainfall utilization and reduction in tap water consumption. Moreover, through measures such as reconstructing the moat and the Chuanchai River, building the green system and constructing ecological water conservation facilities, virtuous cycle of water eco-environment can arise as a result of significant reduction in urban non-point pollution, effective reduction of water pollution load, restoration and enhancement of self-purification of the water system and effective improvement of water environment quality.

This Project falls under Category 3 (resource conservation and recycling)/3.1 (water saving & unconventional water use/3.1.1 (supporting facility construction of sponge city in the Catalogue. Sponge city construction will make a city as resilient as sponge to adapt to environmental changes and respond to natural disasters by absorbing, retaining, permeating and purifying water during rainfall and "releasing" and using the stored water when necessary.



To sum up, Jinshi City, through "retention, permeation, storage and purification" measures in connection with sponge city construction, can realize fair environmental benefit by effectively alleviating waterlog, reducing runoff pollution, saving water resource and restoring urban water eco-environment.

# (4) Clean energy

There are 3 clean energy projects that fall under the categories of solar PV power generation, distributed energy resource and hydropower generation, and the proceeds will be used to develop and construct solar PV power generation facilities, regional natural gas stations and hydropower facilities. These projects have prominent energy saving and environmental protection performance by substituting fossil energy consumption, reducing atmospheric pollutant emission, easing environmental protection pressure and realizing the coordinated development of economy and environment. Upon implementation, they are expected to have the following environmental benefits per year: 239,300 tce of fossil energy being substituted, and 659,800t, 3,929.57t and 1,558.07t being reduced in carbon dioxide emission, sulfur dioxide emission and nitrogen oxide emission respectively.

# Case Study 2: Fixed Asset Loan to a Gas-fired Heat and Power Plant for Improving Rural Living Environment

This is a gas-steam CHPC (Combined Heat, Power and Cooling) project for an energy center in the north of Haidian District, Beijing, and designed to provide heating to the quarters of Daoxianghu, No.3 Development Zone and supply cooling to concentrated refrigeration stations.

This gas-steam CHPC project involves the following constructions: a set of Level-E gas-steam CHP generation units, with installed capacity at 249MW, and associated 15MW start-up boiler, and upon completion, the Project will have a maximal capacity of 266MW in terms of power generation and 203MW in terms of heat supply, and will supply heat to up to 4,000,000m<sup>2</sup> and generate 100MW in terms of cooling.





Project Site



Dynamic investment for this Project will be kept under CNY1,423 million, all to be raised by the constructor, including CNY1,138.4 million borrowed from ADBC.

This Project falls under5 (clean energy) /5.4 (distributed resource energy) / Category 5.4.1 (regional natural gas station construction) in the Catalogue.

Located at the load center in the quarters of Daoxianghu, No.3 Development Zone, the Project can generate and supply a variety of energy to this area and reduce energy transmission loss to the greatest extent. Besides, combined generation of heat, power and cooling is an important means of efficient natural gas utilization and makes for more efficient energy utilization, and combined, the utilization ratio for primary energy is more than 70%. In addition, the Project can reduce the intensity and quantity of NO<sub>x</sub> emission by introducing low-NO<sub>x</sub> combustion + SCR de-NO<sub>x</sub> processes.

Compared with separate heat and power generation, the same annual supply of 2.50 million GJ and 1,122.5 million kWh will save 50.5 million SCM of natural gas and 56,000tce.

# (5) Ecological protection & climate change adaptation

There are 33 projects of ecological protection & climate change adaptation that fall under two categories, i.e. natural ecological protection & protective development of tourism resource, and emergency prevention & control of disaster, and the proceeds will be used to reinforce, reconstruct and harness wetland, coastal ecology, flood prevention control facilities, dikes and dams as well as rivers (water systems). Specifically, upon construction of wetland, flood prevention & control facilities and dikes (dams) reinforcement, environmental benefits will arise, such as improvement in water quality, water conservation, biological diversity, ecological environment, regional climate and flood prevention & control capacity. The projects in connection with coastal ecological restoration and river (water system) harnessing can improve the dredging and eco-environment of the rivers and are expected to have the following environmental benefits: 226.12km of river to be harnessed, with 494.95m³ of channel dredged and 61,800-mu sea area converted from aquaculture.

The environmental benefits of the green projects financed by the Green Financial Bond to be issued by ADBC have been measured and assessed completely based on supporting documents provided by ADBC, and may vary in the future as a result of changes of technical criteria, external environment or other internal or external conditions.



# **Declaration**

We hereby make the following declaration with regard to the Independent Third Party Green Financial Bond Verification Report (hereafter "Report"):

- 1. We have conducted the investigation in good faith and issued the Report in accordance with the principle of objectivity, faithfulness and fairness.
- 2. The conclusions reached in the Report are based on information provided by the Issuer, and it is the Issuer that shall be responsible for the truthfulness, lawfulness and completeness of such information.
- 3. The conclusions in the Report are our professional opinion reached in accordance with reasonable technical specifications and verification procedures and without any willful adjustment as a result of improper instructions of the Issuer or other organizations or individuals.
- 4. The Report is only for information with regard to this particular issuance, and we will not be responsible for any consequence arising from the use of the opinion and information contained in the Report.

Team Leader:

赵佳佳 ZHAO Jiajia

(Seal)

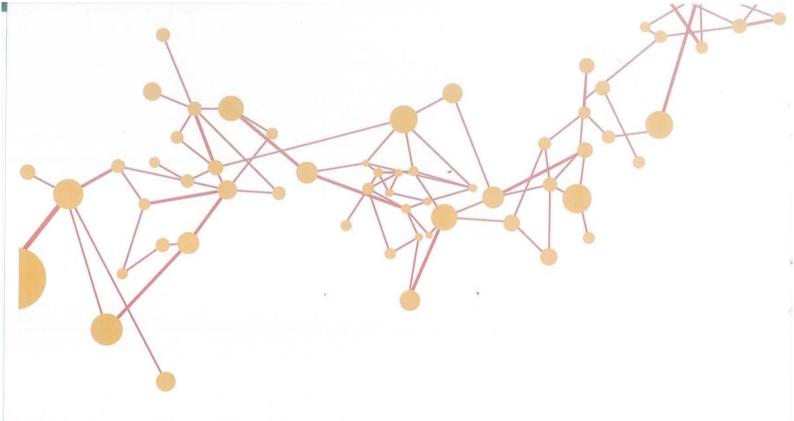
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CECEP Consulting Co., Ltd October 18, 2017





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