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## **PUBLICATION OF OFFERING CIRCULAR**

### **Guoneng Environmental Protection Investment Group Co., Limited (國能環保投資集團有限公司)**

*(incorporated in Hong Kong with limited liability)*

**U.S.\$210,000,000 5.842 per cent. Guaranteed Green Bonds due 2025 (the “Bonds”)  
Unconditionally and Irrevocably Guaranteed by**



### **Jinan Energy Group Co., Ltd. (濟南能源集團有限公司)**

*(incorporated with limited liability in the People’s Republic of China)*

**(Stock Code: 4558)**

*Joint Global Coordinators, Joint Bookrunners and Joint Lead Managers*

China Securities International      Guotai Junan International      Zhongtai International      Shenwan Hongyuan (H.K.)      Orient Securities (Hong Kong)

*Joint Bookrunners and Joint Lead Managers*

BOCOM International      CCB International      CEB International      China Credit International Securities      China Galaxy International      China International Capital Corporation

CITIC Securities      CMB International      CMB Wing Lung Bank Limited      CMBC Capital      CNCB Capital      Hua Xia Bank Co., Limited Hong Kong Branch

Industrial Bank Co., Ltd. Hong Kong Branch      Luso Bank Ltd.      Pearl International Securities Limited      Shanghai Pudong Development Bank Hong Kong Branch      TF International      Zhesang International

*Sole Green Structuring Advisor*

**China Securities International**

This announcement is issued pursuant to Rule 37.39A of the Listing Rules. Reference is made to the notice of the listing of the Bonds on The Stock Exchange of Hong Kong Limited dated 28 March 2024. The Bonds as described in the offering circular dated 21 March 2024 (the “**Offering Circular**”) (appended herewith) are issued to professional investors (as defined in Chapter 37 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited) (“**Professional Investors**”) only.

Notice to Hong Kong Investors: Guoneng Environmental Protection Investment Group Co., Limited (國能環保投資集團有限公司) (the “**Issuer**”) and Jinan Energy Group Co., Ltd. (濟南能源集團有限公司) (the “**Guarantor**”) confirm that the Bonds are intended for purchase by Professional Investors only and have been listed on The Stock Exchange of Hong Kong Limited on that basis. Accordingly, the Issuer and the Guarantor confirm that the Bonds are not appropriate as an investment for retail investors in Hong Kong. Investors should carefully consider the risks involved.

The Offering Circular does not constitute a prospectus, notice, circular, brochure or advertisement offering to sell any securities to the public in any jurisdiction, nor is it an invitation to the public to make offers to subscribe for or purchase any securities, nor is it circulated to invite offers by the public to subscribe for or purchase any securities.

The Offering Circular must not be regarded as an inducement to subscribe for or purchase any securities of the Issuer and the Guarantor, and no such inducement is intended.

Hong Kong, 2 April 2024

*As at the date of this announcement, the directors of Guoneng Environmental Protection Investment Group Co., Limited (國能環保投資集團有限公司) are Zhang Qi (張琦) and Yan Long (閆龍).*

*As at the date of this announcement, the directors of Jinan Energy Group Co., Ltd. (濟南能源集團有限公司) are Mr. Pan Shiyong (潘世英), Mr. Liu Yanbo (劉衍波), Mr. Yang Yonggang (楊勇剛), Mr. Hou Duanyun (侯端雲), Mr. Liu Chengbo (柳承波), Mr. Liu Bingli (劉炳立), Mr. Li Xingquan (李興泉), Mr. Li Aijun (李愛軍), and Mr. Wang Weiqing (王維青).*

## IMPORTANT NOTICE

### NOT FOR DISTRIBUTION DIRECTLY OR INDIRECTLY IN OR INTO THE UNITED STATES

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**NOTHING IN THIS ELECTRONIC TRANSMISSION CONSTITUTES AN OFFER OF SECURITIES FOR SALE IN THE UNITED STATES OR ANY OTHER JURISDICTION WHERE IT IS UNLAWFUL TO DO SO.**

**THE BONDS AND THE GUARANTEE (EACH AS DESCRIBED IN THIS OFFERING CIRCULAR) HAVE NOT BEEN, AND WILL NOT BE, REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE “SECURITIES ACT”), OR THE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR OTHER JURISDICTION AND THE BONDS AND THE GUARANTEE MAY NOT BE OFFERED OR SOLD IN THE UNITED STATES, EXCEPT PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND APPLICABLE STATE OR LOCAL SECURITIES LAWS. THIS OFFERING IS MADE SOLELY IN OFFSHORE TRANSACTIONS PURSUANT TO REGULATION S UNDER THE SECURITIES ACT.**

**THIS OFFERING CIRCULAR MAY NOT BE FORWARDED OR DISTRIBUTED TO ANY OTHER PERSON AND MAY NOT BE REPRODUCED IN ANY MANNER WHATSOEVER AND, IN PARTICULAR, MAY NOT BE FORWARDED TO ANY ADDRESS IN THE UNITED STATES. ANY FORWARDING, DISTRIBUTION OR REPRODUCTION OF THIS OFFERING CIRCULAR IN WHOLE OR IN PART IS UNAUTHORISED. FAILURE TO COMPLY WITH THIS DIRECTIVE MAY RESULT IN A VIOLATION OF THE SECURITIES ACT OR THE APPLICABLE LAWS OF OTHER JURISDICTIONS.**

**Confirmation of Your Representation:** You have accessed the attached document on the basis that you have confirmed to the Issuer, the Guarantor and the Joint Lead Managers (each as defined in the Offering Circular) that: (1) you and any customers you represent are not in the United States, (2) the e-mail address that you gave us and to which this e-mail has been delivered is not located in the United States, its territories or possessions, (3) you consent to delivery of this Offering Circular and any amendments or supplements by electronic transmission, and (4) to the extent you purchase the Bonds, you will be doing so in an offshore transaction as defined in regulations under the Securities Act in compliance with Regulation S thereunder.

This Offering Circular has been made available to you in electronic form. You are reminded that documents transmitted via this medium may be altered or changed during the process of transmission and consequently none of the Issuer, the Guarantor, the Joint Lead Managers, the Trustee (as defined in this Offering Circular) or the Agents (as defined in this Offering Circular) or any of their affiliates, directors, officers, employees, representatives, agents, advisers or any person who controls any of them accepts any liability or responsibility whatsoever in respect of any such alteration or change to this Offering Circular distributed to you in electronic format or any difference between this Offering Circular distributed to you in electronic format and the hard copy version.

**Restrictions:** This Offering Circular is being furnished in connection with an offering in offshore transactions outside the United States in compliance with Regulation S under the Securities Act solely for the purpose of enabling a prospective investor to consider the purchase of the Bonds.

Nothing in this electronic transmission constitutes, and may not be used in connection with, an offer or an invitation by or on behalf of any of the Issuer, the Guarantor or the Joint Lead Managers to subscribe or purchase any of the Bonds, in any place where offers or solicitations are not permitted by law and access has been limited so that it shall not constitute in the United States or elsewhere directed selling efforts (within the meaning of Regulation S under the Securities Act). If a jurisdiction requires that the offering be made by a licenced broker or dealer and any Joint Lead Manager or any affiliate of a Joint Lead Manager is a licenced broker or dealer in that jurisdiction, the offering shall be deemed to be made by that Joint Lead Manager or such affiliate on behalf of the Issuer and the Guarantor in such jurisdiction. Any Bonds to be issued in respect thereof will not be registered under the Securities Act and may not be offered or sold in the United States unless registered under the Securities Act or pursuant to an exemption from such registration. Access has been limited so that it shall not constitute a general solicitation in the United States or elsewhere. If you have gained access to this transmission contrary to the foregoing restrictions, you will be unable to purchase any of the Bonds.

You are reminded that you have accessed this Offering Circular on the basis that you are a person into whose possession this Offering Circular may be lawfully delivered in accordance with the laws of the jurisdiction in which you are located.

**Actions that you may not take:** If you receive this Offering Circular by e-mail, you should not reply by e-mail to this electronic transmission, and you may not purchase any Bonds by doing so. Any reply e-mail communications, including those you generate by using the “Reply” function on your e-mail software, will be ignored or rejected.

**You are responsible for protecting against viruses and other destructive items.** Your use of this e-mail is at your own risk and it is your responsibility to take precautions to ensure that it is free from viruses and other items of a destructive nature.

## OFFERING CIRCULAR

# Guoneng Environmental Protection Investment Group Co., Limited (國能環保投資集團有限公司)

(incorporated in Hong Kong with limited liability)

U.S.\$210,000,000 5.842 per cent. Guaranteed Green Bonds due 2025  
Unconditionally and Irrevocably Guaranteed by



## Jinan Energy Group Co., Ltd. (濟南能源集團有限公司)

(incorporated in the People's Republic of China with limited liability)

Issue Price: 100.00 per cent.

The 5.842 per cent. guaranteed green bonds due 2025 in the aggregate principal amount of U.S.\$ 210,000,000 (the "Bonds") will be issued by Guoneng Environmental Protection Investment Group Co., Limited (國能環保投資集團有限公司) (the "Issuer") and will be unconditionally and irrevocably guaranteed (the "Guarantee") by Jinan Energy Group Co., Ltd. (濟南能源集團有限公司) (the "Company" or "Guarantor"), a company incorporated under the laws of the People's Republic of China (the "PRC").

The Bonds will constitute direct, unsubordinated, unconditional and (subject to Condition 4(a) of the terms and conditions of the Bonds (the "Terms and Conditions of the Bonds")) unsecured obligations of the Issuer and shall at all times rank *pari passu* and without any priority or preference among themselves. The payment obligations of the Issuer under the Bonds shall, save for such exceptions as may be provided by mandatory provisions of applicable laws and regulations, and subject to Condition 4(a) of the Terms and Conditions of the Bonds, at all times rank at least equally with all of the Issuer's other present and future unsecured and unsubordinated obligations.

The Bonds will bear interest from and including the Issue Date at the rate of 5.842 per cent. of their principal amount per annum and such interest will be payable in arrear on 28 September 2024, 28 March 2025 and 28 May 2025 (each an "Interest Payment Date") commencing on 28 September 2024.

All payments of principal, premium (if any) and interest by or on behalf of the Issuer or the Guarantor in respect of the Bonds or under the Guarantee shall be made free and clear of, without set off or counterclaim and without withholding or deduction for or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or within Hong Kong or the PRC or any political subdivision or any authority therein or thereof having power to tax, unless such withholding or deduction is required by law, to the extent described in "Terms and Conditions of the Bonds — Taxation".

Pursuant to the Administrative Measures for the Review and Registration of Medium- and Long-term Foreign Debts of Enterprises (企業中長期外債審核登記管理辦法) (國家發展和改革委員會令第五十六號) (the "NDRC New Measures") issued by the National Development and Reform Commission of the PRC or its local counterparts ("NDRC") which came into effect on 10 February 2023 and any implementation rules or applicable policies in relation thereto as issued by NDRC from time to time, including but not limited to the NDRC Post-Issuance Filing, the Guarantor undertakes to file or cause to be filed with NDRC the requisite information and documents in respect of the Bonds within ten PRC Business Days after the Issue Date (the "NDRC Post-Issuance Filing") and comply with all applicable PRC laws and regulations in relation to the issue of the Bonds.

The Guarantor will enter into a deed of guarantee (the "Deed of Guarantee") with China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司) (the "Trustee") on or around the Issue Date. The Guarantor undertakes that it will (i) register or cause to be registered with SAFE the Deed of Guarantee in accordance with, and within the time period prescribed by, the Foreign Exchange Administration Rules on Cross-border Security (跨境擔保外匯管理規定) promulgated by SAFE on 12 May 2014 which came into effect on 1 June 2014 ("Cross-Border Security Registration"), (ii) use its best endeavours to complete the Cross-Border Security Registration and obtain a registration record from SAFE on or before the Registration Deadline (as defined in Terms and Conditions of the Bonds) and (iii) comply with all applicable PRC laws and regulations in relation to the Guarantee. The obligations of the Guarantor under the Guarantee shall, save for such exceptions as may be provided by mandatory provisions of applicable laws and regulations, and subject to Condition 4(a) of the Terms and Conditions of the Bonds, at all times rank at least equally with all its other present and future unsecured and unsubordinated obligations.

Unless previously redeemed, or purchased and cancelled, the Bonds will be redeemed at their principal amount on 28 May 2025. The Bonds may be redeemed at the option of the Issuer in whole, but not in part, at any time, on giving not less than 30 nor more than 60 days' notice to the Bondholders (which shall be irrevocable) and in writing to the Trustee and the Principal Paying Agent, at their principal amount together with any interest accrued to, but excluding, the date fixed for redemption, if the Issuer (or, if the Guarantee was called, the Guarantor) satisfies the Trustee immediately prior to the giving of such notice that the Issuer (or, if the Guarantee was called, the Guarantor) has or will become obliged to pay Additional Tax Amounts (as defined in Terms and Conditions of the Bonds) as a result of any change in, or amendment to, the laws or regulations of Hong Kong or the PRC or any political subdivision or any authority thereof or therein having power to tax, or any change in the application or official interpretation of such laws or regulations (including but not limited to any decision by a court of competent jurisdiction), which change or amendment becomes effective on or after 21 March 2024, and such obligation cannot be avoided by the Issuer (or the Guarantor, as the case may be) taking reasonable measures available to it. See "Terms and Conditions of the Bonds — Redemption and Purchase — Redemption for Tax Reasons". Following the occurrence of a Change of Control or a No Registration Event (each as defined in Terms and Conditions of the Bonds), the holder of any Bond will have the right, at such holder's option, to require the Issuer to redeem all, but not some only, of such holder's Bonds on the Put Settlement Date (as defined in Terms and Conditions of the Bonds) at 101 per cent. (in the case of a redemption for a Change of Control) or 100 per cent. (in the case of a redemption for a No Registration Event) of their principal amount, together in each case with accrued interest up to (but excluding) the Put Settlement Date. See "Terms and Conditions of the Bonds — Redemption and Purchase — Redemption for Relevant Events".

The Bonds will be issued in the specified denomination of U.S.\$200,000 and integral multiples of U.S.\$1,000 in excess thereof.

Neither the Jinan Provincial Government nor any other PRC governmental entity has any payment or other obligations under the Bonds or the Trust Deed and will not provide a guarantee of any kind for the Bonds. The Bondholders shall have no recourse to the Jinan Provincial Government or any other PRC governmental entity in respect of any obligation arising out of or in connection with the Bonds or the Trust Deed. The Bonds are solely to be repaid by the Issuer and/or the Guarantor and the obligations of the Issuer and the Guarantor under the Bonds or the Trust Deed shall solely be fulfilled by the Issuer and the Guarantor as independent legal persons. See "Risk Factors — The PRC government shall under no circumstances have any obligation arising out of or in connection with the Bonds, the Guarantee or the transaction documents in relation to the Bonds, which are solely to be fulfilled by the Issuer and/or the Guarantor".

Investing in the Bonds involves risks. See "Risk Factors" beginning on page 13 for a discussion of certain factors to be considered in connection with an investment in the Bonds.

The Bonds and the Guarantee have not been and will not be registered under the United States Securities Act of 1933, as amended (the "Securities Act") and may not be offered or sold within the United States, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act. The Bonds and the Guarantee are being offered in offshore transactions outside the United States in reliance on Regulation S under the Securities Act. For a description of these and certain further restrictions on offers and sales of the Bonds and the distribution of this Offering Circular, see "Subscription and Sale".

The Bonds are expected to be rated Baa1 by Moody's Investors Service, Inc. ("Moody's"). The Guarantor is rated Baa1 by Moody's. Such ratings are not a recommendation to buy, sell or hold securities and may be subject to suspension, reduction or withdrawal at any time by the assigning rating agency. A suspension, reduction or withdrawal of the rating assigned to the Guarantor or the Bonds may adversely affect the market price of the Bonds.

Application will be made to The Stock Exchange of Hong Kong Limited (the "Hong Kong Stock Exchange") for the listing of the Bonds by way of debt issues to professional investors (as defined in Chapter 37 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited) ("Professional Investors") only. This Offering Circular is for distribution to Professional Investors only.

Notice to Hong Kong investors: The Issuer and the Guarantor confirm that the Bonds are intended for purchase by Professional Investors only and will be listed on the Hong Kong Stock Exchange on that basis. Accordingly, the Issuer and the Guarantor confirm that the Bonds are not appropriate as an investment for retail investors in Hong Kong. Investors should carefully consider the risks involved.

The Hong Kong Stock Exchange has not reviewed the contents of this Offering Circular, other than to ensure that the prescribed form disclaimer and responsibility statements, and a statement limiting distribution of this Offering Circular to Professional Investors only have been reproduced in this Offering Circular. Listing of the Bonds on the Hong Kong Stock Exchange is not to be taken as an indication of the commercial merits or credit quality of the Bonds or the Issuer, the Guarantor or the Group (as defined herein) or quality of disclosure in this Offering Circular. Hong Kong Exchanges and Clearing Limited and the Hong Kong Stock Exchange take no responsibility for the contents of this Offering Circular, make no representation as to its accuracy or completeness and expressly disclaim any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this Offering Circular.

The Bonds will be represented by beneficial interests in a global certificate (the "Global Certificate") in registered form, which will be registered in the name of a nominee for, and shall be deposited on or about the Issue Date with, a common depositary for Euroclear Bank SA/NV ("Euroclear") and Clearstream Banking S.A. ("Clearstream"). Beneficial interests in the Global Certificate will be shown on, and transfer thereof will be effected only through, records maintained by Euroclear and Clearstream. Except as described in the Global Certificate, certificates for Bonds will not be issued in exchange for interests in the Global Certificate.

Joint Global Coordinators, Joint Bookrunners and Joint Lead Managers					
China Securities International	Guotai Junan International	Zhongtai International	Shenwan Hongyuan (H.K.)	Orient Securities (Hong Kong)	
Joint Bookrunners and Joint Lead Managers					
BOCOM International	CCB International	CEB International	China Credit International Securities	China Galaxy International	China International Capital Corporation
CITIC Securities	CMB International	CMB Wing Lung Bank Limited	CMBC Capital	CNCB Capital	Hua Xia Bank Co., Limited Hong Kong Branch
Industrial Bank Co., Ltd. Hong Kong Branch	Luso Bank Ltd.	Pearl International Securities Limited	Shanghai Pudong Development Bank Hong Kong Branch	TF International	Zheshang International
Sole Green Structuring Advisor China Securities International					

Offering Circular dated 21 March 2024

## NOTICE TO INVESTORS

THIS OFFERING CIRCULAR DOES NOT CONSTITUTE AN OFFER TO SELL, OR A SOLICITATION OF AN OFFER TO BUY, ANY SECURITIES IN ANY JURISDICTION TO ANY PERSON TO WHOM IT IS UNLAWFUL TO MAKE THE OFFER OR SOLICITATION IN SUCH JURISDICTION. NEITHER THE DELIVERY OF THIS OFFERING CIRCULAR NOR ANY SALE MADE HEREUNDER SHALL UNDER ANY CIRCUMSTANCES IMPLY THAT THERE HAS BEEN NO CHANGE IN THE AFFAIRS OF THE ISSUER, THE GUARANTOR OR ANY OF THE GUARANTOR'S OTHER SUBSIDIARIES (COLLECTIVELY, THE "GROUP") OR THAT THE INFORMATION SET FORTH IN THIS OFFERING CIRCULAR IS CORRECT AS OF ANY DATE SUBSEQUENT TO THE DATE HEREOF.

This Offering Circular includes particulars given in compliance with the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited for the purpose of giving information with regard to the Issuer, the Company and the Group. The Issuer and the Company accept full responsibility for the accuracy of the information contained in this Offering Circular and confirm, having made all reasonable enquiries, that to the best of their respective knowledge and belief there are no other facts the omission of which would make any statement herein misleading.

Each of the Issuer and the Guarantor confirms, having made all reasonable enquiries, that (i) this Offering Circular contains all information with respect to the Issuer, the Guarantor, the Group, the Guarantee and the Bonds which is material in the context of the issue and offering of the Bonds (including all information required by applicable laws and information which, according to the particular nature of the Issuer, the Guarantor, the Group, the Guarantee and the Bonds, is necessary to enable investors and their investment advisers to make an informed assessment of the assets and liabilities, financial position, profits and losses, and prospects of the Issuer, the Guarantor and the Group and the rights attaching to the Guarantee and the Bonds), (ii) the statements contained in this Offering Circular and any other materials approved by the Issuer or the Guarantor for use in connection with the offering of the Bonds relating to the Issuer, the Guarantor and the Group are in every material particular true and accurate and not misleading, (iii) the opinions and intentions with regard to the Issuer, the Guarantor and to the Group expressed in this Offering Circular are, honestly and reasonably held, have been reached after considering all relevant circumstances and are based on reasonable assumptions, (iv) there are no other facts in relation to the Issuer, the Guarantor, the Group, or the Guarantee or the Bonds the omission of which would, in the context of the issue and offering of the Bonds, make any statement, opinion or intention expressed in this Offering Circular misleading; (v) all reasonable enquiries have been made by the Issuer and the Guarantor to ascertain such facts and to verify the accuracy of all such information and statements in this Offering Circular; and (vi) the statistical, industry and market-related data included in the Offering Circular is based on or derived from sources which each of the Issuer and the Guarantor believes to be accurate and reliable in all material respects.

Each of the Issuer and the Guarantor has prepared this Offering Circular solely for use in connection with the proposed offering of the Bonds and giving of the Guarantee described in this Offering Circular. This Offering Circular does not constitute an offer of, or an invitation by or on behalf of China Securities (International) Corporate Finance Company Limited, Guotai Junan Securities (Hong Kong) Limited, Zhongtai International Securities Limited, Shenwan Hongyuan Securities (H.K.) Limited, Orient Securities (Hong Kong) Limited, BOCOM International Securities Limited, CCB International Capital Limited, CEB International Capital Corporation Limited, China Credit International Securities Co., Limited, China Galaxy International Securities (Hong Kong) Co., Limited, China International Capital Corporation Hong Kong Securities Limited, CLSA Limited, CMB International Capital Limited, CMB Wing Lung Bank Limited, CMBC Securities Company Limited, CNCB (Hong Kong) Capital Limited, Hua Xia Bank Co., Limited Hong Kong Branch, Industrial Bank Co., Ltd. Hong Kong Branch, Luso International Banking Limited, Pearl International Securities Limited, Shanghai Pudong Development Bank Co., Ltd., Hong Kong Branch, TFI Securities and Futures Limited and Zheshang International Financial Holdings Co., Limited (the "Joint Lead Managers"), the Issuer or the Guarantor to subscribe

for or purchase any of the Bonds. The distribution of this Offering Circular and the offering of the Bonds in certain jurisdictions may be restricted by law. Persons into whose possession this Offering Circular comes are required by the Issuer, the Guarantor, and Joint Lead Managers to inform themselves about and to observe any such restrictions. No action is being taken to permit a public offering of the Bonds and giving of the Guarantee or the distribution of this Offering Circular or any offering or publicity material relating to the Bonds in any jurisdiction where action would be required for such purposes. There are restrictions on the offer and sale of the Bonds and the Guarantor giving the Guarantee, and the circulation of documents relating thereto, in certain jurisdictions and to persons connected therewith. For a description of certain further restrictions on offers, sales and resales of the Bonds and distribution of this Offering Circular, see “*Subscription and Sale*”. By purchasing the Bonds, investors are deemed to have represented and agreed to all of those provisions contained in that section of this Offering Circular.

No person has been or is authorised to give any information or to make any representation concerning the Issuer, the Guarantor, the Group, or the Bonds or the Guarantee other than as contained herein and, if given or made, any such information or representation should not be relied upon as having been authorised by the Issuer, the Guarantor, the Joint Lead Managers, the Trustee or the Agents (as defined in Terms and Conditions of the Bonds) or their respective affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them. Neither the delivery of this Offering Circular nor any offering, sale or delivery made in connection with the issue of the Bonds shall, under any circumstances, constitute a representation that there has been no change or development reasonably likely to involve a change in the affairs of the Issuer, the Guarantor or the Group since the date hereof or create any implication that the information contained herein is correct as of any date subsequent to the date hereof. This Offering Circular does not constitute an offer of, or an invitation by or on behalf of the Issuer, the Guarantor, the Joint Lead Managers, the Trustee or the Agents or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them to subscribe for or purchase the Bonds and may not be used for the purpose of an offer to, or a solicitation by, anyone in any jurisdiction or in any circumstances in which such offer or solicitation is not authorised or is unlawful.

This Offering Circular is being furnished by the Issuer and the Guarantor in connection with the proposed offering of the Bonds and is exempt from registration under the Securities Act solely for the purpose of enabling a prospective investor to consider purchasing the Bonds. Investors must not use this Offering Circular for any other purpose, make copies of any part of this Offering Circular or give a copy of it to any other person, or disclose any information in this Offering Circular to any other person. The information contained in this Offering Circular has been provided by the Issuer and the Guarantor and other sources identified in this Offering Circular. Any reproduction or distribution of this Offering Circular, in whole or in part, and any disclosure of its contents or use of any information herein for any purpose other than the consideration of an investment in the Bonds offered by this Offering Circular is prohibited. By accepting delivery of this Offering Circular each investor is deemed to have agreed to these restrictions.

None of the Joint Lead Managers, the Trustee or the Agents (as defined in Terms and Conditions of the Bonds), or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them has independently verified the information contained in this Offering Circular. Nothing contained in this Offering Circular is, or shall be relied upon as, a promise, representation or warranty by the Joint Lead Managers, the Trustee or the Agents or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them.

Each person receiving this Offering Circular acknowledges that such person has not relied on the Joint Lead Managers, the Trustee or the Agents, or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them in connection with its investigation of the accuracy of such information or its investment decision, and such person must rely on its own examination of the Issuer, the Guarantor and the Group and the merits and risks involved in

investing in the Bonds. See “*Risk Factors*” for a discussion of certain factors to be considered in connection with an investment in the Bonds.

To the fullest extent permitted by law, none of the Joint Lead Managers, the Trustee or the Agents, or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them accepts any responsibility for the contents of this Offering Circular and assumes no responsibility for the content, accuracy, completeness or sufficiency of any such information or for any other statement, made or purported to be made by the Joint Lead Managers, the Trustee or an Agent, or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them or on their behalf in connection with the Issuer, the Guarantor, the Group, the issue and offering of the Bonds or the giving of the Guarantee.

Each of the Joint Lead Managers, the Trustee and the Agents and their respective affiliates, officers, employees, agents, representatives, directors and advisers or any person who controls any of them accordingly disclaims all and any liability, whether arising in tort or contract or otherwise, which it might otherwise have in respect of this Offering Circular or any such statement. None of the Joint Lead Managers, the Trustee or the Agents, or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them, undertakes to review the results of operations, financial condition or affairs of the Issuer, the Guarantor or the Group during the life of the arrangements contemplated by this Offering Circular or to advise any investor or potential investor in the Bonds of any information coming to the attention of the Joint Lead Managers, the Trustee or the Agents, or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them.

This Offering Circular may not be used for the purpose of an offer or solicitation by anyone in any jurisdiction in which such offer or solicitation is not authorised or to any person to whom it is unlawful to make such an offer or solicitation. This Offering Circular does not constitute an offer or an invitation to subscribe for or to purchase any Bonds, is not intended to provide the basis of any credit or other evaluation, and should not be considered as a recommendation by the Issuer, the Guarantor, the Joint Lead Managers, the Trustee, the Agents, or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them that any recipient of this Offering Circular should subscribe for or purchase any Bonds. Each recipient of this Offering Circular shall be taken to have made its own investigation and appraisal of the condition (financial or otherwise) of the Issuer and the Guarantor with its own tax, legal and business advisers as it deems necessary.

**IN CONNECTION WITH THE ISSUE OF THE BONDS, ANY OF THE JOINT LEAD MANAGERS ACTING AS STABILISATION MANAGER (S) (OR PERSONS ACTING ON BEHALF OF STABILISATION MANAGER (S)) MAY OVER-ALLOT BONDS OR EFFECT TRANSACTIONS WITH A VIEW TO SUPPORTING THE MARKET PRICE OF THE BONDS AT A LEVEL HIGHER THAN THAT WHICH MIGHT OTHERWISE PREVAIL. HOWEVER, STABILISATION MAY NOT NECESSARILY OCCUR. ANY STABILISATION ACTION MAY BEGIN ON OR AFTER THE DATE ON WHICH ADEQUATE PUBLIC DISCLOSURE OF THE TERMS OF THE OFFER OF THE BONDS IS MADE AND, IF BEGUN, MAY CEASE AT ANY TIME, BUT IT MUST END NO LATER THAN THE EARLIER OF 30 DAYS AFTER THE ISSUE DATE OF THE BONDS AND 60 DAYS AFTER THE DATE OF THE ALLOTMENT OF THE BONDS. ANY STABILISATION ACTION OR OVER-ALLOTMENT MUST BE CONDUCTED BY THE RELEVANT STABILISATION MANAGER (S) (OR PERSON (S) ACTING ON BEHALF OF ANY STABILISATION MANAGER (S)) IN ACCORDANCE WITH ALL APPLICABLE LAWS AND RULES.**

Listing of the Bonds on the Hong Kong Stock Exchange is not to be taken as an indication of the merits of the Issuer, the Guarantor, the Group or the Bonds. In making an investment decision, investors must rely on their own examination of the Issuer and the Group and the terms of the offering of the Bonds,

including the merits and risks involved. See “*Risk Factors*” for a discussion of certain factors to be considered in connection with an investment in the Bonds.

In connection with the offering of the Bonds, the Joint Lead Managers and/or their respective affiliates, or affiliates of the Issuer, the Guarantor may act as investors and place orders, receive allocations and trade the Bonds for their own account and such orders, allocations or trading of the Bonds may be material. These entities may hold or sell such Bonds or purchase further Bonds for their own account in the secondary market or deal in any other securities of the Issuer, the Guarantor, and therefore, they may offer or sell the Bonds or other securities otherwise than in connection with the offering of the Bonds. Accordingly, references herein to the offering of the Bonds should be read as including any offering of the Bonds to the Joint Lead Managers and/or their respective affiliates, or affiliates of the Issuer, the Guarantor, as investors for their own account. Such entities are not expected to disclose such transactions or the extent of any such investment, otherwise than in accordance with any applicable legal or regulatory requirements. If such transactions occur, the trading price and liquidity of the Bonds may be impacted.

Prospective investors should not construe anything in this Offering Circular as legal, business or tax advice. Each prospective investor should determine for itself the relevance of the information contained in this Offering Circular and consult its own legal, business and tax advisers as needed to make its investment decision and determine whether it is legally able to purchase the Bonds under applicable laws or regulations.

**Singapore SFA Product Classification** — In connection with Section 309B(1)(c) of the Securities and Futures Act 2001 of Singapore (2020 Revised Edition) (the “**SFA**”) and the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore (the “**CMP Regulations 2018**”), the Issuer has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), the classification of the Bonds as prescribed capital markets products (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

#### **Notice to capital market intermediaries and prospective investors pursuant to paragraph 21 of the Hong Kong SFC Code of Conduct – Important Notice to Prospective Investors**

Prospective investors should be aware that certain intermediaries in the context of this offering of the Bonds, including certain Joint Lead Managers, are “capital market intermediaries” (the “**CMIs**”) subject to Paragraph 21 of the Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission (the “**Code**”). This notice to prospective investors is a summary of certain obligations the Code imposes on such CMIs, which require the attention and cooperation of prospective investors.

Certain CMIs may also be acting as “overall coordinators” (the “**OCs**”) for this offering and are subject to additional requirements under the Code.

Prospective investors who are the directors, employees or major shareholders of the Issuer, the Guarantor, a CMI or its group companies would be considered under the Code as having an association (an “**Association**”) with the Issuer, the Guarantor, the CMI or the relevant group company. Prospective investors associated with the Issuer, the Guarantor or any CMI (including its group companies) should specifically disclose this when placing an order for the Bonds and should disclose, at the same time, if such orders may negatively impact the price discovery process in relation to this offering. Prospective investors who do not disclose their Associations are hereby deemed not to be so associated. Where prospective investors disclose their Associations but do not disclose that such order may negatively impact the price discovery process in relation to this offering, such order is hereby deemed not to negatively impact the price discovery process in relation to this offering.

Prospective investors should ensure, and by placing an order prospective investors are deemed to confirm, that orders placed are bona fide, are not inflated and do not constitute duplicated orders (i.e. two or more corresponding or identical orders placed via two or more CMIs). If a prospective investor is an asset management arm affiliated with any Joint Lead Manager, such prospective investor should indicate when placing an order if it is for a fund or portfolio where the Joint Lead Manager or its group company has more than 50% interest, in which case it will be classified as a “proprietary order” and subject to appropriate handling by CMIs in accordance with the Code and should disclose, at the same time, if such “proprietary order” may negatively impact the price discovery process in relation to this offering. Prospective investors who do not indicate this information when placing an order are hereby deemed to confirm that their order is not a “proprietary order”. If a prospective investor is otherwise affiliated with any Joint Lead Manager, such that its order may be considered to be a “proprietary order” (pursuant to the Code), such prospective investor should indicate to the relevant Joint Lead Manager when placing such order. Prospective investors who do not indicate this information when placing an order are hereby deemed to confirm that their order is not a “proprietary order”. Where prospective investors disclose such information but do not disclose that such “proprietary order” may negatively impact the price discovery process in relation to this offering, such “proprietary order” is hereby deemed not to negatively impact the price discovery process in relation to this offering.

Prospective investors should be aware that certain information may be disclosed by CMIs (including private banks) which is personal and/or confidential in nature to the prospective investor. By placing an order, prospective investors are deemed to have understood and consented to the collection, disclosure, use and transfer of such information by the Joint Lead Managers and/or any other third parties as may be required by the Code, including to the Issuer, any OCs, relevant regulators and/or any other third parties as may be required by the Code, it being understood and agreed that such information shall only be used for the purpose of complying with the Code, during the bookbuilding process for this offering. Failure to provide such information may result in that order being rejected.

## **INDUSTRY AND MARKET DATA**

Market data and certain information and statistics included in this Offering Circular have been obtained from both public and private sources, including market research, publicly available information and industry publications. Although each of the Issuer and the Guarantor believes the information to be reliable, it has not been independently verified by the Issuer, the Guarantor, the Joint Lead Managers, the Trustee or the Agents or their respective affiliates, directors, officers, employees, agents, advisers or representatives and none of the Issuer, the Guarantor, the Joint Lead Managers, the Trustee or the Agents or any of their affiliates, officers, employees, agents, representatives, directors or advisers or any person who controls any of them makes any representation as to the accuracy or completeness of such information. In addition, third party information providers may have obtained information from market participants and such information may not have been independently verified. In making an investment decision, each investor must rely on its own examination of the Issuer, the Guarantor, the Group and the terms of the offering and the Bonds, including the merits and risks involved. Where information has been sourced from a third party, the Issuer, the Guarantor, and the Group, confirm that this information has been accurately reproduced and that, as far as the Issuer, the Guarantor, are aware and are able to ascertain from information published by third parties, no facts have been omitted which would render the reproduced information to be inaccurate or misleading.

## PRESENTATION OF FINANCIAL INFORMATION

This Offering Circular contains consolidated financial information of the Guarantor as at and for the years ended 31 December 2020, 2021 and 2022 has been extracted from the Guarantor’s audited consolidated financial statements for the year ended 31 December 2021 and the Guarantor’s audited consolidated financial statements for the year ended 31 December 2022 (the “**Guarantor’s Audited Financial Statements**”). The Guarantor’s Audited Financial Statements was prepared and presented in accordance with the Accounting Standards for Business Enterprises in China (“**PRC GAAP**”) and reviewed and audited, as the case may be, by Pan-China Certified Public Accountants LLP Shandong Branch (“**Pan-China CPA**”) in accordance with the Chinese Auditing Standards issued by the MOF.

## CERTAIN TERMS AND CONVENTIONS

This Offering Circular has been prepared using a number of conventions, which investors should consider when reading the information contained herein. Unless indicated otherwise, in this Offering Circular all references to (i) the “**Issuer**” are to Guoneng Environmental Protection Investment Group Co., Limited (國能環保投資集團有限公司), (ii) “**we**”, “**our**”, “**us**”, the “**Company**” or the “**Guarantor**” are to Jinan Energy Group Co., Ltd. (濟南能源集團有限公司) and (iii) the “**Group**” are to the Guarantor and its subsidiaries taken as a whole.

Unless otherwise specified or the context otherwise requires, references to “**Hong Kong**” are to the Hong Kong Special Administrative Region of the PRC, to “**Macau**” are to the Macau Special Administrative Region of the PRC, to the “**PRC**” or “**China**” are to the People’s Republic of China, for the purpose of this Offering Circular only, excluding Hong Kong, Macau and Taiwan, to the “**U.S.**” or “**United States**” are to the United States of America, to “**Renminbi**” or “**RMB**” are to the lawful currency of the PRC, and to “**U.S.\$**” or “**U.S. dollars**” are to the lawful currency of the United States of America.

Unless otherwise stated in this Offering Circular, all translations from Renminbi into U.S. dollars were made at the rate of RMB6.8972 to US\$1.00, the noon buying rate in effect on 30 December 2022 set forth in the H.10 statistical release of the Federal Reserve Board. All such translations in this Offering Circular are provided solely for investors’ convenience and no representation is made that the amounts referred to herein have been, could have been or could be converted into U.S. dollars, Renminbi or HKD, or vice versa, at any particular rate or at all. For further information relating to the exchange rates, see “*Exchange Rate Information*”.

Any discrepancies in the tables included herein between the listed amounts and the totals thereof are due to rounding.

The English names of the PRC nationals, entities, departments, facilities, laws, regulations, certificates, titles and the like are translations of their Chinese names and are included for identification purpose only. In the event of any inconsistency, the Chinese name prevails.

In this Offering Circular, unless otherwise indicated or the context otherwise requires, references to:

- “**EPC**” refers to engineering, procurement and construction;
- “**GFA**” refers to gross floor area;
- “**Jinan Municipal Government**” or “**Jinan Government**” refers to the Jinan Municipal People’s Government;
- “**Jinan SASAC**” refers to the State-owned Assets Supervision and Administration Commission of Jinan Municipal Government.
- “**MOF**” refers to the Ministry of Finance of the PRC;
- “**NDRC**” refers to the National Development and Reform Commission of the PRC or its competent local counterparts;
- “**PBOC**” refers to the People’s Bank of China, the central bank of the PRC; vii
- “**PRC government**” refers to the central government of the PRC and its political subdivisions, including provincial, municipal and other regional or local government entities, and instrumentalities thereof, or where the context requires, any of them;

- “**SAT**” refers to the State Administration of Taxation of the PRC;
- “**sq.m.**” refers to square meters; and
- “**VAT**” refers to value-added tax.

## FORWARD-LOOKING STATEMENTS

This Offering Circular includes “forward-looking statements”. Some of these statements can be identified by forward-looking terms, such as “anticipate”, “target”, “believe”, “can”, “would”, “could”, “estimate”, “expect”, “aim”, “intend”, “may”, “plan”, “will”, “would” or similar words. However, these words are not the exclusive means of identifying forward-looking statements. All statements regarding expected financial condition, results of operations, business plans and prospects are forward-looking statements. These forward-looking statements include, but are not limited to, statements as to the business strategy, revenue, profitability, planned projects and other matters as they relate to the Issuer, the Guarantor, and/or the Group discussed in this Offering Circular regarding matters that are not historical facts. These forward-looking statements contained in this Offering Circular (whether made by the Issuer, the Guarantor or by any third party) involve known and unknown risks, including those disclosed under the section entitled “Risk Factors”, uncertainties and other factors that may cause the actual results, performance or achievements of the Issuer, the Guarantor or the Group to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. These forward-looking statements speak only as of the date of this Offering Circular.

The factors that could cause the actual results, performances and achievements of the Issuer, the Guarantor, or the Group or any member of the Group to be materially different include, among others:

- the Group’s ability to successfully implement business plans and strategies;
- the Group’s capital expenditure plans and ability to carry out those plans;
- ability of the Group to control its operating and financing costs;
- the continued availability of capital and financing to the Group;
- prevailing interest rates and foreign exchange rates, taxes and duties;
- the actions and developments of the Group’s competitors;
- government regulated price for heat and gas supply;
- any changes in the laws, rules and regulations of the central and local governments in the PRC and the rules, regulations and policies of the relevant governmental authorities relating to all aspects of the Group’s business;
- macroeconomic measures taken by the PRC government to manage economic growth;
- natural disasters, industrial action, terrorist attacks and other events beyond the Group’s control;
- general economic, political and business conditions and competitive environment, including those related to the PRC and globally; and
- other factors, including those discussed in “*Risk Factors*” below.

Each of the Issuer and the Guarantor cautions investors not to place undue reliance on these forward-looking statements which reflect their managements’ view only as of the date of this Offering Circular. None of the Issuer or the Guarantor undertakes any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. In light of these risks, uncertainties and assumptions, the forward-looking events discussed in this Offering Circular might not occur.

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## SUMMARY

*The summary below is only intended to provide a limited overview of information described in more detail elsewhere in this Offering Circular. As it is a summary, it does not contain all of the information that may be important to investors and terms defined elsewhere in this Offering Circular shall have the same meanings when used in this Summary. Prospective investors should therefore read this Offering Circular in its entirety, including the section entitled “Risk Factors” and the financial statements and related notes thereto, before making an investment decision.*

### OVERVIEW

The Company is a large-scale wholly state-owned energy enterprise headquartered in Jinan, Shandong Province. The Company was established in 2020 through the consolidation and merger of four local heat and gas supply enterprises, as approved by the Jinan Municipal Government. The Group was formed with a strategic goal of building a national first-class energy service provider in order to attain a safe, green, intelligent and economic energy supply. Since its establishment, the Group has played a significant role in implementing the urban development plan of Jinan Municipal Government and has developed into a key force to optimise the energy supply and operation in Jinan. By virtue of its strategically important role in Jinan energy supply industry, the Group has received strong government support over the years, including capital and assets injection and also subsidies in various forms. As at the date of this Offering Circular, the Company has a registered capital of RMB10.0 billion and the Group has over 10,000 employees.

The Group mainly operates its energy supply business in Jinan, Shandong Province. The heat service area of Jinan has been steadily growing over the years. Considering the national average heat coverage rate in China is still lower than that of other developed countries, the Group believes there continues to be an increasing heat and energy demand and thus room for potential business. The Group’s development in the energy industry also benefits from the rapid urbanization and economic development in Jinan. For example, Jinan has achieved an annual GDP of approximately RMB1,202.8 billion in 2022.

The Group’s principal business segments include (i) heat supply, (ii) gas supply, (iii) engineering construction; and (iv) other businesses. Set forth below is a summary of its principal business segments.

- *Heat Supply.* Heat supply is one of the Group’s core businesses. As at 31 December 2022, the Group’s heat service account area covered approximately 351.4 million sq.m., with a total of approximately 2.1 million heat users. The Group obtains its heat sources mainly through two channels, namely (i) heat procurement from upstream power plants, and (ii) self-produced heat by using fuels such as pulverized coal and natural gas. As at 31 December 2022, the Group owned 38 large and medium-sized heat sources, 136 heating boilers with a total boiler capacity of 10,317 tons per hour, and a total heating supply capacity of 6,646 megawatt. The Group also had 230 small heat sources with a total heat supply capacity of 1,436.6 megawatt, which are capable of supplying heat for an area of 33.4 million sq.m.
- *Gas Supply.* The Group’s gas supply business is mainly undertaken by Shandong Jihua Gas Group Co., Ltd. (山東濟華燃氣集團有限公司) (“**Shandong Jihua Gas**”) and Jinan Towngas Group Co., Ltd. (濟南港華燃氣集團有限公司) (“**Jinan Towngas**”). Shandong Jihua Gas is a joint venture company and mainly engaged in natural gas supply and operation business. The Group obtained the exclusive right to operate and maintain municipal pipeline gas facilities to supply gas to users, within specified Jinan urban districts for 30 years from June 2010 to June 2040 by the Jinan Municipal Public Utilities Bureau (濟南市市政公用事業局). The Group mainly supplies gas to domestic and commercial end-users. As at 31 December 2022, the Group supplied gas to approximately 2.3 million domestic end-users, 1,446 public welfare sector end-users, 9,322 commercial end-users and 418 industrial end-users.

- *Engineering Construction.* Since the establishment of the Group, the construction engineering projects previously undertaken by project companies of Jinan Thermoelectricity Co., Ltd. (濟南熱電有限公司) (“**Jinan Thermoelectricity**”) and Jinan Thermal Group Co., Ltd (濟南熱力集團有限公司) (“**Jinan Thermal**”) have been allocated to Jinan Energy Engineering Group Co., Ltd. (濟南能源工程集團有限公司) (“**Jinan Energy Engineering**”). The engineering construction business of Jinan Energy Engineering mainly covers five segments, namely municipal engineering, highway engineering, housing construction engineering, design, survey and consulting, and energy construction. The Group primarily involves in project consulting and design, construction and project management, technology research and development, equipment integration and operation services. Jinan Energy Engineering has a number of first-class or top grade engineering qualifications, such as first-class EPC qualifications for municipal public facilities, construction engineering and highway engineering. Jinan Energy Engineering has completed a number of key engineering construction projects since its establishment. It undertakes construction projects mainly under three contracting models, namely general construction contracting, EPC, and design and construction.
- *Other Businesses.* In addition to its principal businesses as aforementioned, the Group is also engaged in other businesses, such as sale of gas appliances, maintenance services and technical services.

For the years ended 31 December 2020, 2021 and 2022, the Group’s revenue was RMB9,925.4 million, RMB10,686.1 million and RMB12,266.7 million, respectively. As at 31 December 2022, the Group had total assets of approximately RMB52.8 billion.

## **COMPETITIVE STRENGTHS**

The Group believes the following competitive strengths have contributed to its success and are important to its future development:

- Exclusive right for gas supply in most of Jinan urban districts granted by Jinan Municipal Government;
- Strategic role in Jinan’s heat supply industry;
- Strong support from the Jinan Government and well-positioned to benefit from Jinan’s economic development; and
- Diversified business portfolios with sustainable growth.

## **BUSINESS STRATEGIES**

The Group is determined to maintain its current competitive strengths and plan to implement the following business strategies in order to achieve its overall business objectives:

- To further cement its unique position in heat and gas supply industries in Jinan;
- To further optimise its business portfolio and create new sources of income; and
- To promote its market position and enhance its technological expertise in new energy segment.

## RECENT DEVELOPMENTS

On 22 April 2022, a subsidiary of the Group, Jinan Energy and Environmental Protection Technology Co., Ltd. (濟南能源環保科技有限公司) (“**Jinan EEPT**”) entered into a share transfer agreement with Shandong Synthesis Technology Investment Co., Ltd. (山東神思科技投資有限公司) (“**Shandong Synthesis**”), under which Shandong Synthesis agreed to transfer 11.40 per cent. of its equity interest in Synthesis Electronic Technology Co., Ltd. (神思電子技術股份有限公司) (“**Synthesis Electronic**”) to the Jinan EEPT. On the same date, Jinan EEPT entered into a voting rights entrustment agreement with Shandong Synthesis, where Shandong Synthesis agreed to entrust 5.20 per cent. of its voting rights in Synthesis Electronic to Jinan EEPT. Upon performance of the agreements, Jinan EEPT will hold 16.60 per cent. of voting rights in Synthesis Electronic, becoming the controlling shareholder of Synthesis Electronic.

In January 2022, the Company acquired 100 per cent. equity interest in Jinan Lighting without consideration to commence its lighting business, which includes the installation and design of lighting facilities in Jinan.

On 1 March 2022, the Company issued a total principal amount of RMB200 million of short-term financing papers titled “22 Jinan Energy CP001” (22濟南能源CP001) in the onshore market of the PRC. These short-term financing papers are listed on the China Foreign Exchange Trade System and have a tenor of 365 days with an interest rate of 2.60 per cent. per annum.

On 17 March 2022, the Company issued a total principal amount of RMB800 million of mid-term notes titled “22 Jinan Energy MTN001” (22濟南能源MTN001) in the onshore market of the PRC. These mid-term notes titled are listed on the Shanghai Clearing House and have a tenor of up to five years with an interest rate of 3.30 per cent. per annum.

On 19 April 2023, the Issuer issued a total principal amount of U.S.\$210 million of guaranteed green bonds due 2024 with a fixed annual interest rate of 6.0 per cent. These bonds were unconditionally and irrevocably guaranteed by the Guarantor.

### Interim Results as at and for the Nine Months Ended 30 September 2023

As at 30 September 2023, as compared to the financial information as at 31 December 2022, the Group’s short-term borrowings and notes payable increased primarily due to incurrence of borrowings and notes payable in the course of normal business activities. The Group’s bonds payable increased primarily due to an increase in bond issuance for its ordinary operating activities. The Group’s advances received, other payables and other current liabilities increased primarily due to adjustments made according to the accounting policies adopted by the Company. The Group’s long-term borrowings increased primarily due to an increase of borrowings which are used for construction projects. As a result of aforementioned reasons, the Group’s total liabilities increased as at 30 September 2023 compared to the financial information as at 31 December 2022. For the nine months ended 30 September 2023, the Group experienced increases in operating costs, selling expenses, R&D expenses, financial expenses and management expenses as compared to the same period in the preceding year, primarily due to the increase of the Group’s scale of business and were incurred in its normal operations activities. Furthermore, the Group experienced a decrease in non-operating revenue in the nine months ended 30 September 2023 compared with the same period in the previous year, primarily due to a decrease in non-operating subsidies. Such financial information has not been subject to an audit or review by independent auditors and should not be relied upon by investors to provide the same quality of information associated with information that has been subject to an audit or review.

Potential investors must exercise caution when using such data to evaluate the Group’s financial condition and results of operations. The financial information as at and for the nine months ended 30 September 2023 should not be taken as an indication of the Group’s expected financial condition or results of operations as at and for the full financial year ending 31 December 2023. See “*Risk Factors — Risks Relating to the Group’s Business — Prospective investors should be cautious and not place any reliance on the financial information other than that disclosed in this Offering Circular.*”

## THE OFFERING

*The following summary contains some basic information about the Bonds. Some of the terms described below are subject to important limitations and exceptions. Words and expressions defined in Terms and Conditions of the Bonds shall have the same meanings in this summary. For a more complete description of the terms and conditions of the Bonds, see Terms and Conditions of the Bonds.*

<b>Issuer</b> .....	Guoneng Environmental Protection Investment Group Co., Limited (國能環保投資集團有限公司).
<b>Guarantor</b> .....	Jinan Energy Group Co., Ltd. (濟南能源集團有限公司).
<b>Bonds</b> .....	U.S.\$210,000,000 5.842 per cent. Guaranteed Green Bonds due 2025.
<b>Guarantee</b> .....	<p>The Guarantor will unconditionally and irrevocably guarantee the due and punctual payment of all sums expressed to be payable by the Issuer under the Bonds and the Trust Deed. Its obligations in that respect will be contained in the Deed of Guarantee.</p> <p>The Guarantor undertakes that it will (i) register or cause to be registered with SAFE the Deed of Guarantee in accordance with, and within the time period prescribed by, the Foreign Exchange Administration Rules on Cross-border Security (跨境擔保外匯管理規定) promulgated by SAFE on 12 May 2014 which came into effect on 1 June 2014 (“<b>Cross-Border Security Registration</b>”), (ii) use its best endeavours to complete the Cross-Border Security Registration and obtain a registration record from SAFE on or before the Registration Deadline and (iii) comply with all applicable PRC laws and regulations in relation to the Guarantee.</p>
<b>Issue Price</b> .....	100.00 per cent.
<b>Form, Specified Denomination and Title</b> .....	The Bonds will be issued in registered form in the specified denomination of U.S.\$200,000 and integral multiples of U.S.\$1,000 in excess thereof.
<b>Interest</b> .....	The Bonds bear interest on their outstanding principal amount from and including the Issue Date at the rate of 5.842 per cent. per annum, payable in arrear on 28 September 2024, 28 March 2025 and 28 May 2025 (each an “ <b>Interest Payment Date</b> ”) commencing on 28 September 2024.
<b>Issue Date</b> .....	28 March 2024.
<b>Maturity Date</b> .....	28 May 2025.
<b>Use of Proceeds</b> .....	See “ <i>Use of Proceeds</i> ”.
<b>Green Finance Framework</b> .....	The Bonds will be issued under the Green Finance Framework (as defined below). See “ <i>Green Finance Framework</i> ”.

<b>Status of the Bonds</b> . . . . .	The Bonds constitute direct, unsubordinated, unconditional and (subject to Condition 4 (a) of the Terms and Conditions of the Bonds) unsecured obligations of the Issuer and shall at all times rank <i>pari passu</i> and without any priority or preference among themselves. The payment obligations of the Issuer under the Bonds shall, save for such exceptions as may be provided by mandatory provisions of applicable laws and regulations, and subject to Condition 4 (a) of the Terms and Conditions of the Bonds, at all times rank at least equally with all of the Issuer’s other present and future unsecured and unsubordinated obligations.
<b>Status of the Guarantee</b> . . . . .	The obligations of the Guarantor under the Deed of Guarantee shall, save for such exceptions as may be provided by applicable laws and regulations, and subject to Condition 4 (a) of the Terms and Conditions of the Bonds, at all times rank at least equally with all its other present and future unsecured and unsubordinated obligations.
<b>Negative Pledge</b> . . . . .	The Bonds will contain a negative pledge provision as further described in Condition 4 (a) of the Terms and Conditions of the Bonds.
<b>Events of Default</b> . . . . .	Upon the occurrence of certain events as described in Condition 9 of the Terms and Conditions of the Bonds, the Trustee at its sole and absolute discretion may, and if so requested in writing by holders of at least 25 per cent. of the aggregate principal amount of the Bonds then outstanding or if so directed by an Extraordinary Resolution (as defined in the Trust Deed) shall (provided in any such case that the Trustee shall have first been indemnified and/or secured and/or pre-funded to its satisfaction), give written notice to the Issuer and the Guarantor that the Bonds are, and they shall immediately become, due and payable at their principal amount together (if applicable) with any accrued and unpaid interest.
<b>Taxation</b> . . . . .	All payments of principal, premium (if any) and interest by or on behalf of the Issuer or the Guarantor in respect of the Bonds or the Guarantee shall be made free and clear of, without set off or counterclaim and without withholding or deduction for or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or within Hong Kong or the PRC or any political subdivision or any authority therein or thereof having power to tax, unless such withholding or deduction is required by law. In that event, the Issuer or the Guarantor, as the case may be, shall (except in certain circumstances set out in Condition 8 of the Terms and Conditions of the Bonds) increase the amounts paid by it to the extent required, so that the net amount received by Bondholders equals the amounts which would otherwise have been received by them had no such withholding or deduction been required. See “ <i>Terms and Conditions of the Bonds – Taxation</i> ”.

<b>Final Redemption</b> . . . . .	Unless previously redeemed, or purchased and cancelled, the Bonds will be redeemed at their principal amount on 28 May 2025.
<b>Redemption for Tax Reasons</b> . . .	The Bonds may be redeemed at the option of the Issuer in whole, but not in part, at any time, on giving not less than 30 nor more than 60 days' notice to the Bondholders and in writing to the Trustee and the Principal Paying Agent, at their principal amount together with any interest accrued to, but excluding, the date fixed for redemption, if the Issuer (or, if the Guarantee was called, the Guarantor) satisfies the Trustee immediately prior to the giving of such notice that the Issuer (or, if the Guarantee was called, the Guarantor) has or will become obliged to pay Additional Tax Amounts as a result of any change in, or amendment to, the laws or regulations of Hong Kong or the PRC or any political subdivision or any authority thereof or therein having power to tax, or any change in the application or official interpretation of such laws or regulations (including but not limited to any decision by a court of competent jurisdiction), which change or amendment becomes effective on or after 21 March 2024, and such obligation cannot be avoided by the Issuer (or the Guarantor, as the case may be) taking reasonable measures available to it, as further described in " <i>Terms and Conditions of the Bonds — Redemption and Purchase — Redemption for Tax Reasons</i> ".
<b>Redemption for Relevant Events</b> .	Following the occurrence of a Change of Control or a No Registration Event (each a " <b>Relevant Event</b> "), the holder of any Bond will have the right, at such holder's option, to require the Issuer to redeem all but not some only, of such holder's Bonds on the Put Settlement Date at 101 per cent. (in the case of a redemption for a Change of Control) or 100 per cent. (in the case of a redemption for a No Registration Event) of their principal amount, together in each case with accrued interest up to (but excluding) the Put Settlement Date. See " <i>Terms and Conditions of the Bonds — Redemption and Purchase — Redemption for Relevant Events</i> ".
<b>Further Issues</b> . . . . .	The Issuer may from time to time without the consent of the Bondholders create and issue further securities having the same terms and conditions as the Bonds in all respects (or in all respects except for the issue date, the first payment of interest on them and the timing for complying with the Cross-Border Security Registration and any subsequent notifications thereof to the Trustee and the Bondholders) and so that the same shall be consolidated and form a single series with the outstanding Bonds.

<b>Clearing Systems</b> . . . . .	The Bonds will be represented by beneficial interests in a Global Certificate in registered form, which will be registered in the name of a nominee for, and shall be deposited on or about the Issue Date with, a common depository for Euroclear and Clearstream. Beneficial interests in the Global Certificate will be shown on, and transfers thereof will be effected only through, records maintained by Euroclear and Clearstream. Except in the limited circumstances as described in the Global Certificate, certificates for Bonds will not be issued in exchange for interests in the Global Certificate.
<b>Governing Law</b> . . . . .	English law.
<b>Trustee</b> . . . . .	China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司).
<b>Principal Paying Agent, Registrar and Transfer Agent</b> . . . . .	China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司).
<b>Listing</b> . . . . .	Application will be made to the Hong Kong Stock Exchange for the listing of, and permission to deal in, the Bonds by way of debt issues to Professional Investors only.
<b>ISIN</b> . . . . .	XS2775632313.
<b>Common Code</b> . . . . .	277563231.
<b>Legal Entity Identifier</b> . . . . .	25490085RKLZA9LXZT88.
<b>Ratings</b> . . . . .	The Bonds are expected to be rated Baa1 by Moody's. The Guarantor is rated Baa1 by Moody's. Such ratings are not a recommendation to buy, sell or hold securities and may be subject to suspension, reduction or withdrawal at any time by the assigning rating agency. A suspension, reduction or withdrawal of the rating assigned to the Guarantor or the Bonds may adversely affect the market price of the Bonds.
<b>Notices and Payment</b> . . . . .	So long as the Global Certificate is held on behalf of Euroclear and Clearstream, any notice to the holders of the Bonds shall be validly given by the delivery of the relevant notice to Euroclear and Clearstream, for communication by the relevant clearing system to entitled accountholders in substitution for notification as required by the Terms and Conditions and shall be deemed to have been given on the date of delivery to such clearing system.

## **SUMMARY CONSOLIDATED FINANCIAL INFORMATION AND OTHER FINANCIAL DATA**

*The following tables set forth the summary consolidated financial information of the Group as of and for the periods indicated. The summary audited consolidated financial information as of and for the years ended 2020, 2021 and 2022 set forth below are derived from the Guarantor's Audited Financial Statements, which have been audited by Pan-China CPA, and included elsewhere in this Offering Circular. The Guarantor's Audited Financial Statements have been prepared and presented in accordance with the PRC GAAP. PRC GAAP differs in certain material respects from the IFRS. For a discussion of certain differences between PRC GAAP and IFRS, please see "Summary of Certain Differences between PRC GAAP AND IFRS".*

*None of the Joint Lead Managers, the Trustee or the Agents or any of their respective affiliates, advisers, directors, officers, employees, agents or representatives has independently verified any of the information contained therein nor can give assurance that such information is accurate, truthful or complete.*

*Potential investors should read the following data together with the more detailed information contained in the Group's financial statements, including the notes thereto. The following data is qualified in its entirety by reference to all of that information. Historical results are not necessarily indicative of results that may be achieved in any future period.*

## Summary Consolidated Balance Sheet Data

	As at 31 December			
	2020 <sup>(1)</sup>	2021	2022	
	(RMB) (audited)	(RMB) (audited)	(RMB) (audited)	(U.S.\$) (unaudited)
	(in millions)			
<b>Current assets</b>				
Cash and bank balances . . . . .	6,214.6	7,452.1	7,509.6	1,088.8
Notes receivable . . . . .	58.8	43.5	32.4	4.7
Accounts receivable . . . . .	849.6	1,401.0	2,502.2	362.8
Receivables financing . . . . .	–	99.5	22.6	3.3
Advances paid . . . . .	1,002.1	1,584.3	1,756.2	254.6
Other receivables . . . . .	2,687.9	4,081.5	5,673.7	822.6
Inventories . . . . .	1,784.6	2,216.6	3,224.8	467.5
Contract assets . . . . .	–	219.6	584.4	84.7
Non-current assets due within one year . . . . .	–	4.5	–	–
Other current assets . . . . .	603.7	661.9	252.4	36.6
<b>Total current assets</b> . . . . .	<b>13,201.3</b>	<b>17,764.7</b>	<b>21,558.3</b>	<b>3,125.7</b>
<b>Non-current assets</b>				
Available-for-sale financial assets . . . . .	20.0	–	–	–
Debt investments . . . . .	–	706.5	729.1	105.7
Other debt investments . . . . .	–	–	–	–
Long-term receivable . . . . .	–	10.2	–	–
Long-term equity investments . . . . .	252.2	196.0	574.7	83.3
Other equity instrument investments . . . . .	–	19.5	25.0	3.6
Other non-current financial assets . . . . .	–	235.1	228.5	33.1
Investment property . . . . .	41.3	40.2	39.0	5.7
Fixed assets . . . . .	14,485.9	17,322.0	19,827.8	2,874.8
Construction in progress . . . . .	5,881.4	6,407.7	6,814.4	988.0
Right-of-use assets . . . . .	–	81.6	142.1	20.6
Intangible assets . . . . .	659.2	931.1	1,019.2	147.8
Goodwill . . . . .	23.8	88.3	376.1	54.5
Long-term prepayments . . . . .	357.0	893.5	1,302.4	188.8
Deferred tax assets . . . . .	22.2	20.5	31.0	4.5
Other non-current assets . . . . .	453.4	172.4	165.4	24.0
<b>Total non-current assets</b> . . . . .	<b>22,196.4</b>	<b>27,124.6</b>	<b>31,274.7</b>	<b>4,534.4</b>
<b>Total assets</b> . . . . .	<b>35,397.7</b>	<b>44,889.2</b>	<b>52,833.0</b>	<b>7,660.1</b>
<b>Current liabilities</b>				
Short-term loans . . . . .	392.6	1,472.0	1,412.8	204.8
Notes payable . . . . .	1,035.7	2,509.2	2,990.8	433.6
Accounts payable . . . . .	4,766.5	6,291.7	8,167.7	1,184.2
Advance from customers . . . . .	6,301.3	3.3	6.2	0.9
Contract liabilities . . . . .	–	7,184.0	7,382.2	1,070.3
Employee pay payable . . . . .	273.1	386.9	559.2	81.1
Taxes and expense payable . . . . .	52.0	75.4	96.6	14.0
Other payables . . . . .	4,143.6	3,821.4	3,283.7	476.1
Non-current liabilities due within one year . . . . .	115.9	317.8	676.2	98.0
Other current liabilities . . . . .	–	282.6	1,105.5	160.3
<b>Total current liabilities</b> . . . . .	<b>17,080.6</b>	<b>22,344.3</b>	<b>25,680.7</b>	<b>3,723.4</b>

	As at 31 December			
	2020 <sup>(1)</sup>	2021	2022	
	(RMB) (audited)	(RMB) (audited)	(RMB) (audited)	(U.S.\$) (unaudited)
		(in millions)		
<b>Non-current liabilities</b>				
Long-term loans . . . . .	3,868.9	3,386.7	4,288.4	621.8
Bonds payable . . . . .	–	–	800.0	116.0
Lease liabilities . . . . .	–	70.7	87.5	12.7
Long-term payables . . . . .	3,539.6	4,939.2	5,570.5	807.6
Accrued liabilities . . . . .	–	–	4.6	0.7
Deferred income . . . . .	543.7	826.8	1,034.5	150.0
Deferred tax liabilities . . . . .	–	11.6	14.4	2.1
<b>Total non-current liabilities</b> . . . . .	<b>7,952.2</b>	<b>9,235.0</b>	<b>11,799.8</b>	<b>1,710.8</b>
<b>Total liabilities</b> . . . . .	<b>25,032.8</b>	<b>31,579.4</b>	<b>37,480.6</b>	<b>5,434.2</b>
<b>Equity</b>				
Total equity attributable to the parent company . . . . .	8,987.6	11,302.9	12,766.5	1,851.0
Non-controlling interest . . . . .	1,377.4	2,007.0	2,585.9	374.9
<b>Total equity</b> . . . . .	<b>10,365.0</b>	<b>13,309.9</b>	<b>15,352.4</b>	<b>2,225.9</b>
<b>Total liabilities &amp; equity</b> . . . . .	<b>35,397.7</b>	<b>44,889.2</b>	<b>52,833.0</b>	<b>7,660.1</b>

*Note:*

- (1) According to the Notice on the Establishment of Jinan Energy Group Co., Ltd. by consolidating Jinan Heating Group Co., Ltd. and Jinan Thermal Power Co., Ltd. issued by the State-owned Assets Supervision and Administration Commission of Jinan Municipal People’s Government (No.136 [2020]), Jinan Heating Group Co., Ltd., Jinan Thermal Power Co., Ltd. and Jinan Energy Construction and Development Group Co., Ltd. were consolidated into the Group in July 2020. As such, the Guarantor’s historical financial information as at and for the year ended 31 December 2020 contained in the Guarantor’s audited consolidated financial statements for the year ended 31 December 2021 was prepared on a simulated basis based on the assumption of the completion of such consolidation at the beginning of 2020. See “*Risk Factors — Risks Relating to the Group’s Business — The Guarantor’s historical financial information at as and for the years ended 31 December 2020 contained in the Guarantor’s audited consolidated financial statements for the year ended 31 December 2021 was prepared on a simulated basis*” and “*Notes to Financial Statements — II. Preparation basis of the financial statements*” of the Guarantor’s audited consolidated financial statements for the year ended 31 December 2021 for further details.

## Summary Consolidated Income Statement Data

	For the year ended 31 December			
	2020 <sup>(1)</sup>	2021	2022	
	(RMB) (audited)	(RMB) (audited)	(RMB) (audited)	(U.S.\$) (unaudited)
	(in millions)			
<b>Total operating revenue</b> . . . . .	<b>9,925.4</b>	<b>10,686.1</b>	<b>12,266.7</b>	<b>1,778.5</b>
Operating revenues . . . . .	9,925.4	10,686.1	12,266.7	1,778.5
<b>Total operating cost</b> . . . . .	<b>(10,260.0)</b>	<b>(12,299.1)</b>	<b>(14,419.1)</b>	<b>(2,090.6)</b>
Operating costs . . . . .	(9,128.0)	(10,967.9)	(12,386.3)	(1,795.8)
Taxes and surcharges . . . . .	(33.9)	(36.2)	(53.8)	(7.8)
Selling expenses . . . . .	(268.9)	(309.7)	(416.0)	(60.3)
Administrative expenses . . . . .	(759.2)	(870.5)	(1,199.9)	(174.0)
R&D expenses . . . . .	(2.2)	(25.9)	(74.9)	(10.9)
Financial expenses . . . . .	(67.9)	(89.0)	(288.3)	(41.8)
Other income . . . . .	259.4	1,471.6	1,640.3	237.8
Investment income . . . . .	7.8	19.1	86.7	12.6
Gains on changes in fair value . . . . .	–	44.6	8.4	1.2
Credit impairment loss . . . . .	–	(134.4)	(36.2)	(5.3)
Assets impairment loss . . . . .	(15.3)	1.8	(75.7)	(11.0)
Gains on asset disposal . . . . .	0.6	(1.6)	1.0	0.1
<b>Operating profit</b> . . . . .	<b>(82.2)</b>	<b>(211.9)</b>	<b>(528.0)</b>	<b>(76.5)</b>
Non-operating income . . . . .	54.5	32.4	27.4	4.0
Non-operating expenditures . . . . .	(17.2)	(21.7)	(8.2)	(1.2)
<b>Profit before tax</b> . . . . .	<b>(44.9)</b>	<b>(201.2)</b>	<b>(508.8)</b>	<b>(73.8)</b>
Income tax . . . . .	(85.5)	(129.7)	(99.4)	(14.4)
<b>Net profit</b> . . . . .	<b>(130.5)</b>	<b>(331.0)</b>	<b>(608.2)</b>	<b>(88.2)</b>
Net profit attributable to owners of parent company . . . . .	(188.8)	(314.2)	(411.5)	(59.7)
Net profit attributable to non-controlling shareholders . . . . .	58.3	(16.7)	(196.7)	(28.5)

*Note:*

- (1) According to the Notice on the Establishment of Jinan Energy Group Co., Ltd. by consolidating Jinan Heating Group Co., Ltd. and Jinan Thermal Power Co., Ltd. issued by the State-owned Assets Supervision and Administration Commission of Jinan Municipal People's Government (No.136 [2020]), Jinan Heating Group Co., Ltd., Jinan Thermal Power Co., Ltd. and Jinan Energy Construction and Development Group Co., Ltd. were consolidated into the Group in July 2020. As such, the Guarantor's historical financial information as at and for the year ended 31 December 2020 contained in the Guarantor's audited consolidated financial statements for the year ended 31 December 2021 was prepared on a simulated basis based on the assumption of the completion of such consolidation at the beginning of 2020. See "Risk Factors — Risks Relating to the Group's Business — The Guarantor's historical financial information at as and for the years ended 31 December 2020 contained in the Guarantor's audited consolidated financial statements for the year ended 31 December 2021 was prepared on a simulated basis" and "Notes to Financial Statements — II. Preparation basis of the financial statements" of the Guarantor's audited consolidated financial statements for the year ended 31 December 2021 for further details.

## Summary Consolidated Cash Flow Statement Data

	For the year ended 31 December			
	2020 <sup>(1)</sup>	2021	2022	
	(RMB)	(RMB)	(RMB)	(U.S.\$)
	(audited)	(audited)	(audited)	(unaudited)
	(in millions)			
Net cash flows from operating activities . . . . .	563.1	560.0	(841.3)	(122.0)
Net cash flows from investing activities . . . . .	(3,566.9)	(4,095.8)	(3,384.3)	(490.7)
Net cash flows from financing activities . . . . .	2,257.7	4,184.6	4,618.4	669.6
Effect of foreign exchange rate changes on cash & cash equivalents . . . . .	—	0	10.1	1.5
<b>Net increase in cash and cash equivalents . . . . .</b>	<b>(746.2)</b>	<b>648.8</b>	<b>402.9</b>	<b>58.4</b>
Beginning balance of cash and cash equivalents . . . . .	6,571.9	5,836.9	6,485.7	940.3
<b>Closing balance of cash and cash equivalents . . . . .</b>	<b>5,825.7</b>	<b>6,485.7</b>	<b>6,888.6</b>	<b>998.8</b>

*Note:*

- (1) According to the Notice on the Establishment of Jinan Energy Group Co., Ltd. by consolidating Jinan Heating Group Co., Ltd. and Jinan Thermal Power Co., Ltd. issued by the State-owned Assets Supervision and Administration Commission of Jinan Municipal People's Government (No.136 [2020]), Jinan Heating Group Co., Ltd., Jinan Thermal Power Co., Ltd. and Jinan Energy Construction and Development Group Co., Ltd. were consolidated into the Group in July 2020. As such, the Guarantor's historical financial information as at and for the year ended 31 December 2020 contained in the Guarantor's audited consolidated financial statements for the year ended 31 December 2021 was prepared on a simulated basis based on the assumption of the completion of such consolidation at the beginning of 2020. See also "*Risk Factors — Risks Relating to the Group's Business — The Guarantor's historical financial information at as and for the years ended 31 December 2020 contained in the Guarantor's audited consolidated financial statements for the year ended 31 December 2021 was prepared on a simulated basis*" and "*Notes to Financial Statements — II. Preparation basis of the financial statements*" of the Guarantor's audited consolidated financial statements for the year ended 31 December 2021 for further details.

## RISK FACTORS

*An investment in the Bonds is subject to a number of risks. Investors should carefully consider all of the information in this Offering Circular and, in particular, the risks described below, before deciding to invest in the Bonds. The following describes some of the significant risks relating to the Group, its business, the market in which the Group operates and the value of Bonds. Some risks may be unknown to the Issuer and other risks, currently believed to be immaterial, could in fact be material. Any of these could materially and adversely affect the business, financial condition, results of operations or prospects of the Issuer and the Group or the value of the Bonds. The Issuer believes that the risk factors described below represent the principal risks inherent in investing in the Bonds, but the ability of the Issuer to pay interest, principal or other amounts on or in connection with any Bonds may be affected by some factors that may not be considered as significant risks by the Issuer on information currently available to it or which the Issuer is currently unable to anticipate. All of these factors are contingencies which may or may not occur and the Issuer is not in a position to express a view on the likelihood of any such contingency occurring. The Issuer does not represent that the statements below regarding the risk factors of holding any Bonds are exhaustive. This Offering Circular also contains forward-looking statements that involve risks and uncertainties. The actual results of the Group could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks described below and elsewhere in this Offering Circular.*

### **RISKS RELATING TO THE GROUP'S BUSINESS**

**The Group's business, financial condition, results of operations and prospects are heavily dependent on the level of economic development in Jinan and could be adversely affected by slowdowns in the growth of PRC and local economy.**

The Group primarily engages in heat supply, gas supply and engineering construction businesses in Jinan and all of the Group's revenue is derived from the PRC. The Group relies, to a significant degree, on the development and economy of the PRC, particularly of Jinan, to achieve business growth. According to the National Statistics Bureau of the PRC, the annual growth rate of China's GDP in 2018, 2019 and 2020 slowed down to 6.6 per cent., 6.1 per cent. and 2.3 per cent., respectively. The PRC's economy shows a sign of recovery in 2021. However, the annual growth rate of the PRC's GDP slowed down from 8.1 per cent in 2021 to 3.0 per cent in 2022 according to the National Statistics Bureau of the PRC. In 2023, the annual growth rate of the PRC's GDP increased to 5.2 per cent. In addition, in March 2016, Moody's and S&P changed China's credit rating outlook to "negative" from "stable", which highlighted the country's surging debt burden and questioned the government's ability to enact reforms. On 24 May 2017, Moody's downgraded China's long-term local currency and foreign currency issuer ratings to A1 from Aa3 and changed the outlook to stable from negative. On 21 September 2017, S&P's rating services downgraded China's credit rating by one notch from AA- to A+. These highlighted the country's surging debt burden and questioned the government's ability to enact reforms. In December 2023, Moody's downgraded its outlook on China's credit ratings to negative from stable. Further, in January 2024, Moody's downgraded its outlook on the Guarantor's credit rating to negative from stable. The future performance of the PRC's economy is not only affected by the economic and monetary policies of the PRC Government, but it is also exposed to material changes in global economic and political environments as well as the performance of certain major developed economies in the world, such as the United States, the United Kingdom and the European Union. For example, the United Kingdom's exit from the European Union took place on 31 January 2020, where the United Kingdom legally revoked its membership in the European Union. There is also substantial uncertainty relating to the impact of the United Kingdom's withdrawal from the European Union on the economic conditions of other part of the world, such as the PRC's, including but not limited to further decreases in global stock exchange indices, increased foreign exchange volatility (in particular a further weakening of the pound sterling and euro against other leading currencies) and a possible economic recession involving more countries and areas.

On 11 March 2020, the World Health Organisation declared COVID-19 as a global pandemic. Widespread reductions in consumption, industrial production and business activities arising from the COVID-19 pandemic will significantly disrupt the global economy. COVID-19 has led to significant volatility in the global markets across all asset classes, including stocks, bonds, oil and other commodities and this volatility may persist for some time. The global economy and global financial markets were facing impacts and uncertainties under continuous global outbreak of COVID-19 from 2020 to 2022. Economic conditions in the PRC are sensitive to global economic conditions. Due to the pandemic of COVID-19, it is unclear how future development of the PRC economy will be affected and whether any global economy downturn could lead to a slowdown in the PRC economic growth. The recent conflicts between Russia and Ukraine and the sanctions imposed by the governments in response, including the United States and the United Kingdom, may also continue to materially affect the global economic conditions. Uncertainties in the global and PRC economy and a reduction in liquidity in the global and PRC financial markets may negatively affect the Group's access to financing resources to support its business plans and expansion. Therefore, instability in the global economy and China's economic growth may materially and adversely affect the Group's business, financial condition and results of operations.

Jinan became one of the 23 cities in China with a GDP of over RMB1 trillion in 2020. In 2021, Jinan's GDP further increased to approximately RMB1,143.2 billion. However, Jinan's GDP slowed down to approximately RMB1,202.8 billion in 2022. In 2023, Jinan's GDP increased to approximately RMB1,275.7 billion. There can be no assurance that the level of economic development in Jinan will continue to be maintained at historical growth rates, if at all, and it is unclear how the economic development of Jinan will be affected by a slowdown in the growth of the PRC economy. Any slowdown in the economic development in Jinan may affect local government's support for the Group's business or the Jinan Municipal Government's investments in the heat and gas supply industries where the Group operates and therefore adversely affect its business, financial condition, profitability, results of operations and prospects.

**Jinan Municipal Government and Jinan SASAC exert significant influence on the Group, and the Group may not make decisions, take actions or operate businesses that are in the Group's best interest or that aim to maximise the Group's profits.**

The Guarantor is directly and wholly owned by Jinan SASAC, and therefore Jinan SASAC and the Jinan Municipal Government are in a position to exert significant influence on the Group's development plans, strategies and key business decisions. In addition, Jinan SASAC and the Jinan Municipal Government also has significant influence over the management of the Group by virtue of their authority to appoint directors and senior management of the Guarantor and to review the Guarantor's performance.

Given the Group's state-owned background and its strategic role in Jinan, the Jinan Municipal Government may use its ability to influence the Group's business and strategy in a manner beneficial to Jinan or the public as a whole but which may not necessarily be in the Group's best commercial interests. For example, the government implements policy regulation on heat supply prices, and the Group itself does not have full pricing discretion. The Jinan Municipal Government may also change its policies, budget, development plans, projections, forecasts and opinions and any such change could have a material effect on the Group's business, financial conditions, results of operations and prospects.

**PRC regulations on the administration of local government debt may have a material adverse effect on the Group's financing and business models.**

The PRC government has in recent years issued multiple regulations intended to restrict the ability of local governments to use state-owned enterprises to incur debt that should be directly incurred by government bodies. These regulations include the Opinion of the State Council on Enhancing the Administration of Fiscal Debts of Local Governments (Guo Fa [2014] No. 43) (國務院關於加強地方政府性債務管理的意見(國發[2014]43號)) ("Circular 43") released on 21 September 2014, the Circular

on Further Regulating the Debt Financing Behaviours of Local Government (Cai Yu [2017] No. 50) (關於進一步規範地方政府舉債融資行為的通知(財預[2017]50號)) (“**Circular 50**”) jointly issued by the MOF, the NDRC, the Ministry of Justice of the PRC, the PBOC, the China Banking Regulatory Commission (reorganised into the China Banking and Insurance Regulatory Commission) and the China Securities Regulatory Commission on 26 April 2017, the Circular on Firmly Curbing Local Governments’ Illegal Financing Activities in the Name of Government Procurement of Services (Cai Yu [2017] No. 87) (關於堅決制止地方以政府購買服務名義違法違規融資的通知(財預[2017]87號)) (“**Circular 87**”) issued by the MOF on 28 May 2017, the Notice on the Financing Activities Conducted by Financial Institutions for Local Governments and State-owned Enterprises (Cai Jin [2018] No. 23) (關於規範金融企業對地方政府和國有企業投融資行為有關問題的通知(財金[2018]23號)) (“**Circular 23**”) issued by the MOF on 28 March 2018, the Circular of the National Development and Reform Commission and the Ministry of Finance on Improvement of Market Regulatory Regime and Strict Prevention of Foreign Debt Risks and Local Government Indebtedness Risks (Fa Gai Wai Zi [2018] No. 706) (國家發展改革委財政部關於完善市場約束機制嚴格防範外債風險和地方債務風險的通知(發改外資[2018]706號)) (“**Circular 706**”) jointly issued by the NDRC and the MOF on 11 May 2018, the Guiding Opinion on Strengthening the Asset and Liability Constraints of State-Owned Enterprises (中共中央辦公廳、國務院辦公廳關於加強國有企業資產負債約束的指導意見) (the “**Joint Opinion**”) jointly issued by the General Office of the Central Committee of the Communist Party of China and the State Council on 13 September 2018 and the Circular on Filing Requirements with respect to Application for Foreign Debt Issuance by Local State-owned Enterprises (Fa Gai Ban Wai Zi [2019] No. 666) (國家發展改革委辦公廳關於對地方國有企業發行外債申請備案登記有關要求的通知(發改辦外資[2019]666號)) (“**Circular 666**”) issued by the General Office of NDRC on 6 June 2019 (Circular 43, Circular 50, Circular 87, Circular 23, Circular 706, the Joint Opinion and Circular 666, together, the “**Debt Control Circulars**”).

Circular 50 reaffirmed the Circular 43 policy that local governments are not permitted to use any means other than bonds for debt financing and are prohibited from requesting or ordering enterprises to issue debt on their behalf. Circular 87 requires local governments and their departments not to take advantage of or fabricate contracts for government procurement of services in such a manner that conceals an underlying objective of raising funds for any construction project. Circular 23 and Circular 706 established policies for foreign debt issuance including the prohibition against public assets being included as enterprise assets and restrictions on making disclosure in offering circulars that imply government endorsement of the issuance or an association with the government’s credit. The Joint Opinion, consistent with Circular 43 and Circular 50, bans local governments from engaging in “disguised” borrowing by using state-owned enterprises to issue corporate debt on their behalf.

The Group believes that the PRC government will continue to implement the Debt Control Circulars to control local government debts. Accordingly, the Group should rely on the cash flow generated from its operations and external borrowings to finance its operations and to satisfy its liquidity needs for servicing its outstanding indebtedness. Pursuant to the terms of the Bonds and as required by the Debt Control Circulars, neither Jinan SASAC, the Jinan Municipal Government nor any other PRC governmental entity has any obligation to repay any amount under the Bonds and will not provide a guarantee of any kind for the Bonds. The Bonds are solely to be repaid by the Issuer and the Guarantor, and the obligations of the Issuer under the Bonds and the obligations of the Guarantor under the Guarantee shall solely be fulfilled by the Issuer and the Guarantor, as the case may be, as independent legal persons. The liabilities of Jinan SASAC and the Jinan Municipal Government are limited to its equity contribution in the Guarantor. If either the Issuer or Guarantor do not fulfil their obligations under the Bonds or the Guarantee (as the case may be), the Bondholders will only have recourse against the Issuer and the Guarantor, but not Jinan SASAC, the Jinan Municipal Government or any other PRC governmental entity.

The PRC government may continue to release new policies or amend existing regulations to control the increase in local governmental debts in the PRC. There is no assurance that the Group’s financing and business model and its indebtedness will not be materially affected by future changes in the regulatory regime concerning the local state-owned enterprises in response to such regulations.

In addition, the ownership or controlling relationship between the Group and Jinan SASAC, which is under the administration of Jinan Municipal Government, does not necessarily correlate to, or provide any assurance as to the financial conditions of the Issuer, the Guarantor or the Group. The repayment obligations under the Bonds remain the sole obligations of the Issuer and the Guarantor.

**A reduction or loss of government capital contribution and government grants may affect the Group's business and ability to fulfil its existing and future debt obligations adversely.**

The Jinan Municipal Government has made capital contribution and provided government grants and subsidies in various forms in support of the Group's operation in Jinan. For the years ended 31 December 2020, 2021 and 2022, the Group recognised government subsidies as other revenue and non-operating income in the amount of RMB264.7 million, RMB1,480.8 million and RMB1,641.1 million respectively. The amounts of and conditions attached to such capital contribution or grants are determined at the sole discretion of relevant government authorities. There can be no assurance that the amount of any such capital contribution and grants will not be reduced in the future, and even if it continues to be eligible, there can be no assurance that any conditions attached to such capital contribution or grants will be as favourable to the Group as they have historically been. If such capital contribution or government grants are withheld or insufficient and the Group is not able to arrange for alternative funding or obtain other financial resources on similar terms, its financial condition and results of operations may be adversely affected.

**Some of the Group's members may not possess valid land use rights or building ownership certificates to certain properties and some of the Group's properties are subject to usage for special purposes and restrictions on transfer.**

Some of the Group's members may not possess valid land use rights certificates or building ownership certificates to certain properties. Some of these members are in the process of applying for or will apply for the relevant certificate, permits or approvals for certain properties (including the construction in progress). There can be no assurance that such certificates and permits will be obtained in a timely manner, or at all, and any delay may result in a disruption to their business operations and may adversely affect their financial performance. Under PRC laws and regulations, approvals from and payment of land premium to the relevant land authorities are necessary for any transfer, sale and disposal of such allocated land or the buildings attached thereto. There can be no assurance that the relevant PRC government will continue to allow the Group to use the land and properties allocated to it to the same extent as currently used or at all which may have an adverse effect on the Group's business and operations. In addition, restrictions of transfer of such land and properties may also have a material adverse impact on the liquidity of the Group's assets and the Group's financial condition.

**The Group's business operations are subject to extensive regulation at various levels of government, and any failure to comply with applicable laws, rules and regulations, including obtaining any necessary qualifications, permits or approvals for its operations may adversely affect the Group.**

Certain business activities of the Group, such as engineering construction, heat supply and gas supply are extensively regulated in the PRC. The operation of these business activities requires a number of approvals, licenses and permits from different governmental authorities. For example, the Group is required to possess the gas operation license (燃氣經營許可證), construction enterprise qualification certificate (建築業企業資質證書) and heating operation license (供熱經營許可證) in order to engage in some of its business.

In addition, for each property development project and some of its infrastructure projects, the Group is required to obtain a project approval and an environmental assessment approval at the outset of the project, and as the projects progress, it needs to receive the construction land planning permit (建設用地規劃許可證), the land use right certificate (土地使用權證書), the environment impact evaluation

approval (環境影響評價批覆), the construction project planning permit (建設工程規劃許可證), the construction permit (建築工程施工許可證) and the real estate ownership certificate at different stages of development. It takes time to obtain all of these approvals and certificates. Governmental authorities in China have broad discretion in implementing and enforcing applicable laws and regulations and in determining the grant of approvals, licenses, permits and certificates necessary for conducting businesses. As at the date of this Offering Circular, the Group is in the process of obtaining the aforesaid approvals, licences, permits and certificates for some of its construction projects.

Failure to obtain the necessary approvals, licenses or permits in a timely manner could result in delay or suspension of business operations and a failure to obtain the necessary approvals, licenses or permits may subject the relevant entities to regulatory or administrative penalties.

Governmental authorities may adjust existing regulations or promulgate new regulations from time to time. The Group may encounter problems in obtaining or renewing the permits, licenses, certificates and government authorizations necessary to conduct its businesses and may be unable to comply with new laws, regulations or policies. In addition, to ensure the restrictions and conditions of relevant business permits, licenses and certificates are fulfilled, governmental authorities normally conduct regular or special inspections, investigations and inquiries. If any significant non-compliance is found by the governmental authorities, the Group's permits, licenses and certificates may be suspended or revoked, and it may receive fines or other penalties, which could have a material adverse effect on the Group's businesses, financial condition, results of operations and prospects.

**The shareholders of Jinan Jiyang Xincheng Heating Co. Ltd. (濟南市濟陽新城供熱有限公司) (“Jiyang Xincheng”), and Jinan Hesheng Thermal Power Co., Ltd. (濟南和盛熱力有限公司) (“Hesheng Thermal”), two subsidiaries of the Company, have not fully paid up the registered capital of Jiyang Xincheng and Hesheng Thermal in accordance with their respective articles of association.**

Jiyang Xincheng, a subsidiary of the Group, has a registered capital of RMB204 million. According to the articles of association of Jiyang Xincheng, its shareholders, Jinan Energy Investment Holding Group Co., Ltd. (濟南能源投資控股集團有限公司) and Jiyang North Heating Co. Ltd. (濟陽北方供熱有限責任公司), shall fully pay up Jiyang Xincheng's registered capital before 1 September 2021 and 1 September 2019, respectively. Hesheng Thermal, another subsidiary of the Group, has a registered capital of RMB400.0 million. According to the articles of association of Hesheng Thermal, its shareholders shall fully pay up Hesheng Thermal's registered capital before 31 December 2022. However, as at the date of this Offering Circular, Jiyang Xincheng and Hesheng Thermal have only received a paid-in capital of approximately RMB146.8 million and RMB290.9 million, respectively. This constitutes a breach of the Jiyang Xincheng's and Hesheng Thermal's Articles of Association, respectively. Pursuant to the Company Law of the People's Republic of China (中華人民共和國公司法) and Provisions of Supreme People's Court on Several Issues Relating to Application of Company Law of the People's Republic of China (III) (最高人民法院關於適用《中華人民共和國公司法》若干問題的規定(三)), shareholders who fail to make capital contribution in accordance with the articles of association shall, in addition to making the capital contribution in full, bear default liability towards other shareholders who have made their capital contributions in full in accordance with the articles of association. Moreover, where the shareholders fail to fulfill or fully fulfill their obligation of capital contribution, the company can reasonably restrict the rights of the relevant shareholder, such as the right to claim for profit distribution, the pre-emptive right for subscribing to new shares and the right to claim for distribution of remaining properties in accordance with the articles of association or the resolution of the shareholders' meeting. In addition, in the event that the shareholders of a limited liability company fail to fulfill the obligation of capital contribution and still fail to make payment within a reasonable period after being urged by the company, the company can remove the qualification of the shareholders by resolutions of the shareholders' meeting. However, the aforementioned failure will not have a material adverse effect on its ability to pay the principal and interest of the Bonds.

**Rapid growth in the amount of total indebtedness may restrict the Group's business activities and increase the Group's exposure to various operational risks.**

The Group relies on bank loans and proceeds from bond issuances to satisfy part of its capital requirements and the Group has had a significant amount of outstanding indebtedness. As at 31 December 2022, the Group's total indebtedness (comprising of short-term borrowings, non-current liabilities due within one year, long-term borrowings, bonds payable and long-term payables (interest-bearing part) was RMB8,288.6 million, representing 15.7 per cent. of the Group's total assets as at the same date). The high level of existing indebtedness and incurrence of further indebtedness could have adverse consequences to the Group's financial condition and results of operation, including:

- requiring the Group to divert its operating cash flow to service its indebtedness before it receives the government subsidies;
- increasing the Group's finance costs, thus affecting the overall profits of the Group;
- limiting the Group's financial flexibility in carrying on its business or responding to unexpected market changes;
- reducing the Group's competitiveness compared to its competitors that have less debt;
- limiting, together with the financial and other restrictive covenants of the Group's indebtedness, the Group's ability to borrow additional funds; and
- increasing the Group's vulnerability to adverse general economic and industry conditions.

As the Group's business scale continues to grow, its capital requirement and reliance on external financing may continue to increase. The Group's financial performance and operating results may be materially and adversely affected if its cash flows and capital resources are insufficient to fund its debt service obligations. Failure to repay the Group's debts could result in the imposition of penalties, including increases in rates of interest, or the costs that the Group pays on its legal actions against the Group by its creditors, or bankruptcy.

**Government regulated pricing on heat and gas supply may adversely affect the Group's profitability.**

Heat supply and gas supply are public utilities and the selling prices of which are set by the relevant government departments. In other words, the Group does not have full pricing discretion for its heat and gas supply services. Moreover, the Group's procurement cost of its raw materials, such as natural gas, coal and heat sources, is subject to fluctuations. In the event that there is a substantial increase in the price of its raw materials, the Group may not be able to pass down the cost to its end users due to the government regulated pricing of its heat and gas supply services. Furthermore, the Group's income from construction of the urban arterial pipeline network was included in the capital reserve but not recognised as its operating income, which also contributed to the Group's negative net profit.

**The Group is subject to various environmental, energy saving, safety and health regulations in the PRC and any failure to comply with such regulations may result in penalties, fines, governmental sanctions, proceedings or suspension or revocation of its licenses or permits.**

Due to the nature of its business, the Group is required to comply with extensive environmental, energy saving, safety and health regulations in the PRC. Given the volume and complexity of these regulations, compliance may be difficult or involve significant financial and other resources to establish efficient compliance and monitoring systems. For example, the main heat supply methods of the Group are

cogeneration and burning natural gas, while coal is also used as raw materials. The Group needs to cope with environmental protection matters in coal storage, combustion, waste residue and waste gas treatment. The PRC government has imposed increasingly stringent environmental protection and workplace health and safety requirements on various types of enterprises in recent years. In order to comply with these environmental protection and safety laws and regulations, the Group may need to spend substantial resources, which may increase its operating cost and adversely affect its profitability. There is no assurance that the Group will be able to comply with all applicable requirements or obtain all the required approvals and permits on a timely basis, if at all. In addition, the relevant PRC laws and regulations on the environment, energy saving, safety and health are constantly evolving, and there may be potential material environmental liabilities of which the Issuer is unaware. In the event that there are any non-compliance incidents, the Group might be exposed to administrative fines or other penalties, in which case its business financial condition and results of operations may be adversely affected.

**The Group may face uncertainties in construction and utilization of gas pipeline network construction due to its nature as municipal supporting facilities.**

Since gas pipeline network construction are municipal facilities construction projects, the construction of the Group's gas pipeline network shall be subject to the overall municipal planning. The investment and construction of gas pipeline facilities shall be carried out in accordance with the urban construction planning of the local government. If relevant government departments make adjustments to municipal planning or municipal construction projects, the construction timetable of the Group's gas pipeline network may be affected.

The growth of natural gas consumption is closely related to the transmission and distribution capacity of the urban natural gas pipeline network. When investing in the construction of urban natural gas pipeline network, the Group usually designs the transmission and distribution capacity of natural gas pipeline network in accordance with the planning of government departments and the long-term natural gas demand forecast in the future in relevant regions. This is to ensure that the transmission and distribution capacity of the natural gas pipeline network is able to meet market demand for a long time in the future. Therefore, the transmission and distribution capacity of the Group's pipeline network construction often exceeds the actual demand of its current business, and the failure of the utilization rate of the pipeline network to reach the designed capacity will have a negative impact on the Group's profitability in the short-term.

**The Group's businesses may be adversely affected by natural disasters, an outbreak, or threatened outbreak, of any severe contagious disease, including the recent COVID-19 pandemic, or other contingent events.**

The Group's business performance is subject to general economic and social conditions in the PRC, especially economic development in Jinan where the Group operates. Natural disasters, epidemics and other acts of God which are beyond the Group's control may adversely affect the economy, infrastructure and livelihood of the people in the PRC. Some regions in the PRC are under the threat of flood, earthquake, sandstorm, snowstorm, fire, drought, or epidemics such as Middle East Respiratory Syndrome (MERS), Severe Acute Respiratory Syndrome (SARS), H5N1 avian flu, human swine flu (also known as Influenza A (H1N1)) or, COVID-19.

Past occurrences of epidemics, depending on their scale, have caused different degrees of damage to the national and local economies in the PRC. Another public health crisis in the PRC triggered by a recurrence of SARS or an outbreak of any other epidemics, including, for example, the COVID-19 pandemic, may result in material disruptions to the Group's business operation, such as its engineering construction business. In addition, the outbreak of communicable diseases, such as the COVID-19 outbreak on a global scale, may affect investment sentiment and result in sporadic volatility in global capital markets or adversely affect the PRC and other economies. Such outbreak has resulted in

restrictions on travel and public transportation and prolonged closures of workplaces, which has a material adverse effect on the global economy. Any material changes in the financial markets, the PRC economy or regional economies as a result of these events or developments may materially and adversely affect the Group's business, financial condition and results of operations.

**Any industrial policy change may have an adverse impact on the Group.**

The business operation of the Group's heat supply segment is subject to the national heat supply industry policy. In recent years, the reform of household measurement system has become the core of China's heating system reform. The government has successively issued a series of documents to support the process of heating system reform. For example, in January 2011, the MOF and the Ministry of Housing and Urban-Rural Development issued the "Notice on further deepening the heating metering and energy-saving transformation of existing residential buildings in northern heating areas" (《關於進一步深入開展北方採暖地區既有居住建築供熱計量及節能改造工作的通知》(財建[2011]12號)), which defined the transformation goal during the National Twelfth Five-Year Plan period as further expanding the transformation scale and the heating metering and energy-saving transformation of old houses with transformation value in the north be basically completed by 2020. Those which had undergone the heating metering transformation must be charged according to the heat consumption per household at the same time. In December 2016, the 13th five year plan for renewable energy development (《可再生能源發展“十三五”規劃》) required that by 2020, all kinds of renewable energy heating and civil fuels will replace about 150 million tons of standard coal as fossil energy. In December 2020, the "Opinions on clearing and standardizing the charges of urban water supply, power supply, gas supply and heating industry and promoting the high-quality development of the industry" (《關於清理規範城鎮供水供電供氣供暖行業收費促進行業高品質發展的意見》) pointed out that to improve the heating price mechanism, the price of urban central heat supply should be included in the local pricing catalogue, and government pricing or government guidance pricing should be implemented. It points out the need to reasonably formulate and dynamically adjust the heat supply price, steadily promote the reform of metering and charging, and gradually implement the two-part heating pricing combining the basic heat price and the metering heat price in suitable areas, and charge the heat supply fee according to the heating area in other areas. Heat supply enterprises of cogeneration should reasonably share the cost between electricity and heat. With the continuous advancement of the reform of the heat supply system, the industrial policies may continue to evolve. Whether the Group can successfully adapt to these changes or meet the standards of the future new policies and specific measures may have a material impact on the operation and prospect of the Company.

**The Group faces risks associated with contracting with public bodies.**

As a designated entity beneficially controlled by Jinan Government to undertake heat supply, gas supply and engineering construction in Jinan, the Group collaborates with various governmental authorities and their controlled entities in conducting its businesses. Although the Group believes that it currently maintains close working relationships with those governmental authorities and entities, there is no assurance that such close working relationships will sustain in the future. Local governments and their controlled entities may (i) have economic or business interests or considerations that are inconsistent with the Group's, (ii) take actions contrary to the Group's requests, policies or objectives, (iii) be unable or unwilling to fulfil their contractual obligations in a timely manner, if at all, (iv) change existing policies and project plans without prior notice to or consent from the Group for reasons such as government budgeting, (v) encounter financial difficulties, or (vi) have disputes with the Group as to the contractual terms or other matters.

The ability of relevant public bodies to meet its payment obligations largely depends on Jinan Government's fiscal revenue, policies and regulations promulgated by the superior governments or authorities and many other factors which are generally beyond the Group's control. Failure by the government to fulfil its obligations or any adverse change to the policies or business plans may require

the Group to adjust its development plans and thus adversely affect its operating results. There is no assurance that the Group will be able to successfully resolve any material disagreement with Jinan Government or any of the contracting counterparties controlled by Jinan Municipal Government in a timely manner, or at all. Disputes with public bodies may last for considerably longer periods of time than for those with private sector counterparties, and payments from the public bodies may be delayed as a result. Any of these may materially and adversely affect the business relationships between the Group and Jinan Government and its controlled entities, which may in turn materially and adversely affect the Group's business, financial condition, results of operations and prospects.

**The Group's business operations are capital intensive and any failure to obtain sufficient capital resources on acceptable terms or in a timely manner may adversely affect its business and prospects.**

Certain business operations of the Group, such as engineering construction, are capital intensive and require substantial capital resources. The Group has historically satisfied its capital and funding requirement with (i) the cash flow generated from its operating activities, (ii) proceeds of bank loans and other borrowings, (iii) government subsidies, and (iv) issuing debt instruments in the onshore market of the PRC. The Group believes that it will continue to need substantial capital resources to support its business operations and expansion. However, there can be no assurance that such funding sources will continue to provide the Group with sufficient amounts of capital in a timely manner. The ability of the Group to generate sufficient operating cash flow is affected by a number of factors, such as the Group's ability to manage and implement its business activities, the pricing of heat and gas supply, changes in general market conditions, the regulatory environment and government policies. Any adverse changes in any of these factors, which may be out of the Group's control, may create capital shortfalls. Also, there can be no assurance that additional financing will be available to the Group or, if available, that it can be obtained on terms acceptable to the Group and within the covenants and limitations imposed by the Group's existing or future financing arrangements and the applicable regulations to which the Group may be subject. The Group's ability to arrange external financing and the cost of such financing are dependent on numerous factors, including general political, economic and capital market conditions, interest rates, credit availability from banks or other lenders, investor confidence in its business, success of its businesses, and provisions of tax, securities and other relevant laws that may be applicable. Any failure to obtain sufficient capital resources on acceptable terms or in a timely manner may adversely affect the Group's projects and its debt repayment ability, which may in turn adversely affect the Group's business, financial condition and prospects.

**The Group's revenue, net profit and results of operations may fluctuate significantly from period to period.**

For the years ended 31 December 2020, 2021 and 2022, the Group's revenue was RMB9,925.4 million, RMB10,686.1 million and RMB12,266.7 million, respectively. The Group's revenue and results of operations have fluctuated and may continue to fluctuate from period to period as a result of a number of factors, such as general economic conditions, local market conditions and demands, government policies, incentive measures in business areas where the Group operates, adjustment of the Group's principal business activities, government subsidies as well as its accounting policies for revenue recognition. As a result, the Group's revenue and results of operations fluctuate significantly from period to period. The Group's revenue and results of operations for any period may not be directly comparable with other periods and therefore may not be a reliable indicator of future performance.

In addition, for the years ended 31 December 2020, 2021 and 2022, the Group had net loss of RMB130.5 million, RMB331.0 million and RMB608.2 million, increasing year by year. Such net loss is due to the pricing of the heat, power and gas supplied by the Group being determined by the government. If the government could not adjust price for such heat, power and gas supplied by the Group in a timely manner, once the cost of raw materials for such business increases, the Group would face pressure for its ability to

generate profits. There can be no assurance that the Group will be able to generate positive net profits in the future. Such dependence on government's pricing mechanism to generate profits could have a material adverse effect on the Group's business, financial condition, results of operations and prospects.

**The Group may not successfully expand its business and implement its growth strategies.**

The Group may from time to time expand its business to new industries or market in which it has limited operating experience. Such expansion may require the Group to devote substantial resources to become familiar with, and monitor changes in, different operating environments so that it may succeed in such business. The Group's ability to successfully grow its new business and implement its expansion strategy depends on a variety of factors, including its ability to identify attractive projects, obtain required approvals from relevant regulatory authorities, obtain sufficient capital on acceptable terms in a timely manner and maintain working relationships with various governmental authorities and entities, some of which may be out of the Group's control. There is no assurance that the Group will be able to successfully grow its business, implement its expansion strategies, manage or integrate any newly- acquired operations with the Group's existing operations. Failure by the Group to develop new business or implement its expansion strategies could have a material adverse effect on its business, financial condition, results of operations and prospects.

**The Group engages in diversified businesses and is exposed to a combination of risks and uncertainties associated with the operations of the relevant businesses and in the relevant industries.**

The Group engages in diversified businesses and is exposed to a combination of risks and uncertainties associated with the operations of the relevant businesses and in the relevant industries. It is difficult to estimate the future performance of the Group's key business segments. Any material decline in the revenue, gross profit or gross profit margin of any of the Group's major business segments may have a material adverse impact on the Group's total revenue, gross profit or gross profit margin in the future.

**The Group's business operations are subject to various regulations in China, and any failure to comply with applicable laws, rules and regulations, including obtaining any necessary qualifications, permits or approvals for its operations may adversely affect the Group.**

Certain business activities of the Group, such as engineering construction, are extensively regulated in the PRC. The operation of these business activities requires a number of approvals, licenses and permits from different governmental authorities. For example, the Group needs various EPC qualifications and specific engineering work qualifications to undertake its engineering construction projects. Governmental authorities in China have broad discretion in implementing and enforcing applicable laws and regulations and in determining the grant of approvals, qualifications, licenses, permits and certificates necessary for conducting businesses. Failure to obtain the necessary approvals, licenses or permits in a timely manner could result in delay or suspension of business operations and a failure to obtain the necessary approvals, licenses or permits may subject the relevant entities to regulatory or administrative penalties.

Governmental authorities may also adjust existing regulations or promulgate new regulations from time to time. The Group may encounter problems in obtaining or renewing the permits, licenses, certificates and government authorisations necessary to conduct its businesses and may be unable to comply with new laws, regulations or policies. In addition, to ensure the restrictions and conditions of relevant business permits, licenses and certificates are fulfilled, governmental authorities normally conduct regular or special inspections, investigations and inquiries. If any significant non-compliance is found by the governmental authorities, the Group's permits, licenses and certificates may be suspended or revoked, and it may receive fines or other penalties, which could have a material adverse effect on the Group's businesses, financial condition, results of operations and prospects. In addition, eligibility criteria for

these licenses, certificates and permits may change from time to time and additional licenses, certificates and permits may be required and higher compliance standards may have to be observed. If new laws or regulations come into effect, or changes in the interpretation of any existing laws or regulations, the Group's compliance costs may increase, which could have a material adverse effect on its financial condition and results of operations.

**The Group's results of operations and financial expenses may be susceptible to the material fluctuations of interest rates.**

As at 31 December 2022, the Group's total indebtedness (comprising of short-term borrowings, non-current liabilities due within one year, long-term borrowings, bonds payable and long-term payables (interest-bearing part) was RMB8.3 billion, representing 15.7 per cent. of the Group's total assets as at the same date. Certain of the Group's debt instruments bears interest that accrues at interest rates linked to benchmark lending rates published by the PBOC. Any material fluctuation in the benchmark lending rate may have a material impact on the Group's interest expenses and payables under its bank loans and in turn affect its results of operations. The PRC government from time to time adjusted interest rates as implementation of the PRC government's economic and monetary policies. Since the outbreak of the global financial crisis in 2008, the PRC government has repeatedly lowered benchmark lending rates to encourage borrowing and stimulate the recovery of the country's economy. Beginning in 2008, the PBOC decreased the benchmark one-year lending rate five times, from 7.5 per cent. to 5.3 per cent. in December 2008, which remained unchanged until September 2010. Since then, the one-year lending rate was gradually increased to 6.6 per cent. on 7 July 2011 and onwards. In recent years, a perceivable slowdown in the growth of China's economy again caused the PRC government to adopt more liberal monetary policies with an aim to stimulate its economic development. Since 2012, the PBOC reduced the benchmark one-year lending rate a number of times to 4.4 per cent. as at 24 October 2015 and onwards. In response to recent economic conditions and the COVID-19 outbreak in the PRC, the PBOC lowered its benchmark 1-year loan prime rate (LPR) by 10 basis points to 4.1 per cent. on 20 February 2020. Although the Group's business and financial condition may benefit from the low prevailing interest rates in the market, there is no assurance that this low-interest environment will continue. Any increase in benchmark lending rates by the PBOC in the future will increase the Group's financing costs and adversely affect the Group's profitability, financial condition and results of operations.

**The Group may be subject to claims of infringement of third party intellectual property rights.**

In the process of implementing new technologies and processes, the Group may not be aware of third party intellectual property rights and, accordingly, may be unable to assess the scope and validity of such rights in relation to its products and operations. In addition, research and development of new heating and gas supply technology or construction processes is inherently uncertain in a rapidly evolving technology environment as there may be numerous patent applications pending, many of which are confidential when filed and relate to similar technologies. Accordingly, the Group may become subject to lawsuits for infringement on third party intellectual property rights. Intellectual property litigation could adversely affect the development or sale of the challenged technology and require the Group to pay substantial damages or royalties to licence proprietary rights from third parties. Such licences may not be available to the Group on acceptable terms, if at all. Any intellectual property litigation could cause the Group reputational damage and to incur significant expenses or divert its management's attention and efforts, any of which could have a material adverse effect on its business, financial condition or results of operations.

**The Group may be involved in disputes, legal and other proceedings arising out of its operations from time to time and may face liabilities as a result.**

The Group may from time to time be involved in disputes with governmental entities, local residents, contractors, suppliers, employees and other third-party service providers during its ordinary course of

business. Claims may be brought against members of the Group for a number of reasons, such as defective or incomplete work, personal injuries, property damages, breach of warranty or delay in completion and delivery projects. If the disputes or claims are not resolved or settled through negotiation or mediation, the Group may be involved in lengthy and costly litigation or arbitration proceedings, which may distract the Group's financial and managerial resources. In the event that the Group prevails in those legal proceedings, there is no assurance that the judgment or awards will be effectively enforced. If a judgment or award is rendered against the Group, the amounts could differ from the provisions made by the Group based on its estimates. Any material charges associated with claims brought against the Group and material write downs associated with the Group's claims could have a material adverse impact on its financial condition, results of operations and cash flow.

**The insurance coverage of the Group may not adequately protect it against all operational risks.**

The Group faces various operational risks in connection with its business, including but not limited to:

- service interruptions caused by operational errors, electricity outages, raw material shortages, equipment failure and other production risks;
- operating limitations imposed by environmental or other regulatory requirements;
- work-related personal injuries;
- on-site production accidents;
- credit risks relating to the performance of customers or other contractual third parties;
- disruption in the global capital markets and the economy in general;
- loss on investments;
- environmental or industrial accidents; and
- catastrophic events such as fires, earthquakes, explosions, floods or other natural disasters.

The Group maintains insurance policies that provide different types of risk coverage, which the Group believes to be consistent with applicable law and industry business practice in the PRC. However, claims under the insurance policies may not be honoured fully or on time, or the insurance coverage may not be sufficient to cover costs associated with accidents incurred in the Group's operations due to the above-mentioned operational risks. Certain types of losses (such as from wars, acts of terrorism or acts of God, business interruption, property risks and third-party (public) liability) are not insured in the PRC because they are either uninsurable or not economically insurable. To the extent that the Group suffers loss or damage that is not covered by insurance or that exceeds the limit of its insurance coverage, its business, financial condition, results of operations and cash flow may be materially and adversely affected.

**The Group may not be able to detect and prevent fraud or other misconduct committed by its employees.**

As at 31 December 2022, the Group had over 10,000 employees. The Group may be exposed to fraud or other misconduct committed by its employees, representatives, agents, customers or other third parties that could subject it to financial losses and sanctions imposed by governmental authorities, which in turn affects its reputation. These misconducts could include:

- hiding unauthorised or unsuccessful activities, resulting in unknown and unmanaged risks or losses;

- intentionally concealing material facts, or failing to perform necessary due diligence procedures designed to identify potential risks, which are material to the Group in deciding whether to make investments or dispose of assets;
- improperly using or disclosing confidential information;
- recommending services or transactions that are not suitable for the Group's customers; misappropriation of funds;
- conducting transactions that exceed authorised limits;
- engaging in misrepresentation or fraudulent, deceptive or otherwise improper activities when marketing the Group's services;
- engaging in unauthorised or excessive transactions to the detriment of the Group's customers;
- making or accepting the bribery activities; or
- otherwise not complying with applicable laws or the Group's internal policies and procedures.

The Group has implemented comprehensive internal control procedures that are designed to monitor its operations and ensure overall compliance. However, such internal control procedures may be unable to identify all incidents of noncompliance or suspicious transactions in a timely manner, if at all. Furthermore, it is not always possible to detect and prevent fraud and other misconduct, and the precautions the Group takes to prevent and detect such activities may not be effective. There is no assurance that fraud or other misconduct will not occur in the future. If such fraud or other misconduct does occur, it may cause negative publicity as a result.

**The Guarantor's historical financial information as at and for the years ended 31 December 2020 contained in the Guarantor's audited consolidated financial statements for the year ended 31 December 2021 was prepared on a simulated basis.**

According to the Notice on the Establishment of Jinan Energy Group Co., Ltd. by consolidating Jinan Heating Group Co., Ltd. and Jinan Thermal Power Co., Ltd. issued by the State-owned Assets Supervision and Administration Commission of Jinan Municipal People's Government (No.136 [2020]), Jinan Heating Group Co., Ltd., Jinan Thermal Power Co., Ltd. and Jinan Energy Construction and Development Group Co., Ltd. were consolidated into the Group in July 2020. As such, the Guarantor's historical financial information as at and for the year ended 31 December 2020 contained in the Guarantor's audited consolidated financial statements for the year ended 31 December 2021 was prepared on a simulated basis based on the assumption of the completion of such consolidation at the beginning of 2020. See also "*Notes to Financial Statements — II. Preparation basis of the financial statements*" of the Guarantor's audited consolidated financial statements for the year ended 31 December 2021 for further details. As confirmed by Pan-China CPA, the Guarantor did not have any audited financial statements prepared on a non-simulated basis for the financial year ended 31 December 2020. Different from audited financial statements prepared on a non-simulated basis, simulated financial statements focus and predict the expected future performance of a company. Simulated account may use hypothetical data or other assumptions about the future value of a company, such as revenue and expenses, and to forecast future financial performance and growth. Investors should be cautious and not place any reliance on the Guarantor's historical financial information as at and for the year ended 31 December 2020, including the financial information as at and for the year ended 31 December 2020 contained in the Guarantor's audited consolidated financial statements for the year ended 31 December 2021, as the said financial statements may be subject to assumptions, estimates or financial projections.

**Prospective investors should be cautious and not place any reliance on the financial information other than that disclosed in this Offering Circular.**

The Group may from time to time issue corporate bonds in the domestic capital markets in the PRC. According to applicable PRC securities regulations on debt capital markets, the Group needs to publish its interim and annual financial information to satisfy its continuing disclosure obligations relating to its corporate bonds. After the Bonds are issued, the Group is obligated by the terms of the Bonds, among others, to provide holders of the Bonds with its audited financial statements and certain unaudited periodical financial statements. The semi-annual financial information published by the Group in the PRC is normally derived from the Group's management accounts which have not been audited or reviewed by independent auditors. As such, this financial information published in the PRC should not be referred to or relied upon by potential purchasers to provide the same quality of information associated with any audited information. The Group is not responsible to holders of the Bonds for the unaudited and unreviewed financial information from time to time published in the PRC and therefore prospective investors should not place any reliance on any such financial information.

**The Company's accounts were audited in accordance with PRC GAAP which may be different from IFRS. The Company's auditors have limited international capital markets experience.**

The Group's financial statements were prepared in accordance with the PRC GAAP. Although PRC GAAP are substantively in line with International Financial Reporting Standards ("IFRS"), PRC GAAP are, to a certain extent, different from IFRS. See "*Summary of Certain Differences between PRC GAAP and IFRS*". There is no guarantee that the PRC GAAP will fully converge with IFRS or there will be no additional differences between the two accounting standards in the future. Prospective investors should consult their own professional advisers for an understanding of any differences that may exist between PRC GAAP and IFRS, and how those differences might affect the financial information included in this Offering Circular.

The Company's current independent auditor, Pan-China CPA, is a registered member of The Chinese Institute of Certified Public Accountants and although it has significant audit experience in the PRC, it has limited international capital markets experience. Prospective investors should consider these factors prior to making any investment decision.

## **RISKS RELATING TO DOING BUSINESS IN THE PRC**

**Changes in the economic, political and social conditions in the PRC and government policies adopted by the PRC government could affect the Group's business and prospects.**

Substantially all of the Group's assets are located in the PRC and most of the Group's revenue is sourced from the PRC. Accordingly, the Group's business, financial condition, results of operations and prospects are subject, to a significant degree, to economic, political and legal developments in the PRC.

The PRC economy differs from the economies of most developed countries in many respects, including with respect to government involvement, level of development, economic growth rate, control of foreign exchange and allocation of resources. The PRC economy has been transitioning from a planned economy to a more market-oriented economy.

The PRC government continues to play a significant role in regulating public utilities sector development, the allocation of resources, pricing and management, and there can be no assurance that the PRC government will continue to pursue the existing economic reforms. In addition, many of the economic reforms carried out by the PRC government are unprecedented or experimental and are expected to be refined and improved over time. Other political, economic and social factors may also lead to further adjustments of the reform measures. This refining and adjustment process may not necessarily have a positive effect on the Group's operations and business development.

The Group's operations and financial results could also be affected by changes in political, economic and social conditions or the relevant policies of the PRC government, such as changes in laws and regulations (or the interpretation thereof). In addition, if the PRC's economic growth slows down or if the PRC economy experiences a recession, the growth of development in Chinese economic and heat supply, gas supply and engineering construction demand may also slow down, and the Group's business prospects may be materially and adversely affected. The Group's operations and financial results, as well as its ability to satisfy its obligations under the Bonds, could also be materially and adversely affected by changes to or introduction of measures to control changes in the rate or method of taxation and the imposition of additional restrictions on currency conversion.

**Certain PRC regulations governing PRC companies are less developed than those applicable to companies incorporated in more developed countries.**

Most members of the Group are established in the PRC and are subject to PRC regulations governing PRC companies. These regulations contain certain provisions that are required to be included in the joint venture contracts, articles of association and all other major operational agreements of these PRC companies and are intended to regulate the internal affairs of these companies. These regulations in general, and the provisions for protection of shareholders' rights and access to information in particular, are less developed than those applicable to companies incorporated in Hong Kong, the United States, the United Kingdom and other developed countries or regions.

**The operations of the Group may be affected by inflation and deflation within the PRC.**

Economic growth in the PRC has historically been accompanied by periods of high inflation. Increasing inflation rates were caused by many factors beyond the Group's control, such as rising production and labour costs, high lending levels, changes in national and foreign governmental policies and regulations as well as movements in exchange rates and interest rates. It is impossible to accurately predict future inflationary trends. If inflation rates rise beyond the Group's expectations, the Group may be unable to increase the price of its services and products in amounts that are sufficient to cover its increasing operating costs. Further inflationary pressures within the PRC may have a material adverse effect on the Group's business, financial condition or results of operations.

Concerns have arisen over deflationary pressures in the PRC as a result of weak domestic demand and a slowing economy. Inflation rates within the PRC have been on a downward trend in recent years. A prolonged period of deflation may result in falling profits and shrinking employment and incomes by companies and individuals, any of which could adversely affect the Group's business, financial condition or results of operations.

**Uncertainty with respect to the PRC legal system could affect the Group.**

The Group's core business is conducted in the PRC and substantially all of its operations are located in the PRC, hence, its business operations are regulated primarily by PRC laws and regulations. The PRC legal system is a civil law system based on written statutes. Unlike the common law system, past court judgments in the PRC have limited precedential value and may be cited only for reference. The PRC written statutes often require detailed interpretations by courts and enforcement bodies for their application and enforcement. Since 1979, the PRC government has promulgated laws and regulations in relation to general economic matters, such as foreign investment, corporate organisation and governance, commerce, taxation, foreign exchange and trade, with a view to developing a comprehensive system of commercial law. In particular, legislation has significantly enhanced the protections afforded to various forms of foreign investment in the PRC. The legal system in the PRC is continuing to evolve. Even where adequate laws exist in the PRC, the enforcement of existing laws or contracts based on existing laws may be uncertain and sporadic, and it may be difficult to obtain swift and equitable enforcement or to obtain enforcement of a judgment by a court of another jurisdiction. In addition, a large number of written

statutes and other regulations promulgated may be relatively new with a limited volume of published decisions and a lack of established practice available for reference. Accordingly, there exist uncertainties about their interpretation, implementation and enforcement, and such uncertainties may have a negative impact on the Group's business. The administration of PRC laws and regulations may also be subject to a certain degree of discretion by the executive authorities. This has resulted in the outcome of dispute resolutions not being as consistent or predictable compared to more developed jurisdictions.

The PRC has not developed a fully integrated legal system and recently enacted laws and regulations may not sufficiently cover all aspects of economic activities in the PRC. The relative inexperience of the PRC's judiciary in many cases also creates additional uncertainty as to the outcome of any litigation. In addition, interpretation of statutes and regulations may be subject to government policies reflecting domestic political changes. The Group cannot predict the effect of future legal development in the PRC, including the promulgation of new laws and regulations, changes to existing laws or regulations or the interpretation or enforcement thereof, or the inconsistencies between local rules and regulations and national law.

As a result, there is substantial uncertainty as to the legal protection available to the Group and holders of the Bonds. In addition, the PRC legal system is based in part on government policies and internal rules (some of which are not published on a timely basis or at all) that may have retroactive effect. As a result, the Group may not be aware of its violation of these policies and rules until some time after the violation has occurred. This may also limit the remedies available to investors and to the Group in the event of any claims or disputes with third parties.

Any litigation in the PRC may be protracted and result in substantial costs and diversion of the Group's resources and management attention. Each of these factors may have a material adverse effect on the Group's business, results of operations and financial condition and the interest of holders of the Bonds.

**Investors may experience difficulties in effecting service of legal process and enforcing judgments against the Company and its directors or senior management.**

Most of the Company's subsidiaries are incorporated in the PRC and substantially all of the Group's assets are located in the PRC. In addition, all of the Company directors, supervisors and members of its senior management team reside within the PRC. As a result, it may not be possible to effect service of process outside the PRC upon most of the Company's directors, supervisors and members of its senior management team, including for matters arising under applicable securities laws. A judgment of a court of another jurisdiction may be reciprocally recognised or enforced if the jurisdiction has a treaty with China or if judgments of the PRC courts have been recognised before in that jurisdiction, subject to the satisfaction of other requirements. However, China does not have treaties providing for the reciprocal recognition and enforcement of judgments of courts with many countries, including Japan, the United States and the United Kingdom. Therefore, it may be difficult for investors to enforce any judgments obtained from foreign courts against the Group or any of its respective directors, supervisors or members of its senior management team in the PRC.

**Government control of currency conversion may adversely affect the value of investors' investments.**

The Bonds are denominated in U.S. dollars. Substantially all of the Group's revenue is denominated in Renminbi, which is also the reporting currency. Renminbi is not a freely convertible currency. However, a portion of the Group's cash may be required to be converted into other currencies in order to meet the Group's foreign currency needs, including cash payments on declared dividends, if any, on the Bonds. A portion of the Group's Renminbi revenue may need to be converted into other currencies to meet the Group's requirements for foreign currencies, including the Bonds. Foreign exchange transactions under the capital account, including principal payments with respect to foreign currency-denominated

obligations, are subject to the approval requirements of the State Administrative Measures of Foreign Debt Registration. In addition, the Group's functional currency is Renminbi. The value of the Renminbi against the U.S. dollar and other currencies may fluctuate and is affected by, among other things, changes in China's political and economic conditions. Fluctuations in the exchange rate of the Renminbi against the U.S. dollar and certain other foreign currencies may adversely affect the Group's business, results of operations and financial condition.

The value of the Renminbi against the U.S. dollar and other currencies fluctuates and is affected by, among other things, changes in China's political and economic conditions. On 21 July 2005, the PRC government introduced a managed floating exchange rate system to allow the value of the Renminbi to fluctuate within a regulated band based on market supply and demand and by reference to a basket of currencies. Since then, the PRC government has made, and may in the future make, further adjustments to the exchange rate system. The PBOC announces the closing price of a foreign currency traded against the Renminbi in the inter-bank foreign exchange market after the closing of the market on each working day, and makes it the central parity for the trading against the Renminbi on the following working day. The PBOC surprised markets in August 2015 by thrice devaluing the Renminbi, lowering its daily mid-point trading price significantly against the U.S. dollar. The currency devaluation of the Renminbi was intended to bring it more in line with the market by taking market signals into account. Renminbi depreciated significantly against the U.S. dollar following this August 2015 announcement by the PBOC. In January and February 2016, Renminbi experienced further fluctuations in value against the U.S. dollar. With an increased floating range of the Renminbi's value against foreign currencies and a more market-oriented mechanism for determining the mid-point exchange rates, the Renminbi may further appreciate or depreciate significantly in value against the U.S. dollar or other foreign currencies in the long-term. The U.S. raised interest rates multiple times in 2022 and intends to continue raising interest rates to rein in inflation. Any significant appreciation of the Renminbi against the U.S. dollar or other foreign currencies may result in the decrease in the value of the Group's foreign currency-denominated assets. Conversely, any significant depreciation of the Renminbi may adversely affect the value of its businesses and its proceeds from the offering of the Bonds. In addition, there are limited instruments available for the Group to reduce its foreign currency risk exposure at reasonable costs. All of these factors could materially and adversely affect the Group's businesses, financial conditions and results of operations.

**There can be no assurance of the accuracy or comparability of facts and statistics contained in this Offering Circular with respect to the PRC, its economy or the relevant industry.**

Facts, forecasts and other statistics in this Offering Circular relating to the PRC, its economy or the relevant industry in which the Group operates have been directly or indirectly derived from official government publications and certain other public industry sources and although the Group believes such facts and statistics are accurate and reliable, it cannot guarantee the quality or the reliability of such source materials. They have not been prepared or independently verified by the Issuer, the Group, the Joint Lead Managers, the Trustee, the Agents or any of their respective affiliates, directors, employees, agents, representatives, officers or advisers or any person who controls any of them, and, therefore, the Issuer, the Group, the Joint Lead Managers, the Trustee, the Agents or any of their respective affiliates, directors, employees, agents, representatives, officers or advisers or any person who controls any of them makes no representation as to the completeness, accuracy or fairness of such facts or other statistics, which may not be consistent with other information compiled within or outside the PRC. Due to possibly flawed or ineffective collection methods or discrepancies between published information and market practice and other problems, the statistics herein may be incomplete, inaccurate or unfair or may not be comparable to statistics produced for other economies or the same or similar industries in other countries and should not be unduly relied upon. Furthermore, there is no assurance that they are stated or compiled on the same basis or with the same degree of accuracy as may be the case elsewhere. In all cases, investors should give consideration as to how much weight or importance they should attach to or place on such facts or other statistics.

**The implementation of PRC employment regulations may increase labour costs in the PRC generally.**

The PRC Labour Contract Law (中華人民共和國勞動合同法) became effective on 1 January 2008 in the PRC and was amended on 28 December 2012. It imposes more stringent requirements on employers in relation to entry into fixed-term employment contracts and dismissal of employees. Pursuant to the PRC Labour Contract Law, the employer is required to make compensation payment to a fixed-term contract employee when the term of their employment contract expires, unless the employee does not agree to renew the contract even though the conditions offered by the employer for renewal are the same as or better than those stipulated in the current employment contract. In general, the amount of compensation payment is equal to the monthly wage of the employee multiplied by the number of full years that the employee has worked for the employer. A minimum wage requirement has also been incorporated into the PRC Labour Contract Law. In addition, unless otherwise prohibited by the PRC Labour Contract Law or objected to by the employees themselves, the employer is also required to enter into non-fixed-term employment contracts with employees who have previously entered into fixed-term employment contracts for two consecutive terms.

In addition, under the Regulations on Paid Annual Leave for Employees (職工帶薪年休假條例), which became effective on 1 January 2008, employees who have worked continuously for more than one year are entitled to paid annual leave ranging from 5 to 15 days, depending on the length of the employees' work time. Employees who consent to waive such vacation at the request of employers shall be compensated an amount equal to three times their normal daily salaries for each vacation day being waived. Under the National Leisure and Tourism Outline 2013–2020 (國民旅遊休閒綱要2013–2020) which became effective on 2 February 2013, all workers must receive paid annual leave by 2020. As a result of the PRC Labour Contract Law, the Regulations on Paid Annual Leave for Employees and the National Leisure and Tourism Outline 2013–2020, the Group's labour costs (inclusive of those incurred by contractors) may increase. Further, under the PRC Labour Contract Law, when an employer terminates its PRC employees' employment, the employer may be required to compensate them for such amount which is determined based on their length of service with the employer, and the employer may not be able to efficiently terminate non-fixed-term employment contracts under the PRC Labour Contract Law without cause. In the event the Group decides to significantly change or decrease its workforce, the PRC Labour Contract Law could adversely affect its ability to effect these changes in a cost-effective manner or in the manner that the Group desires, which could result in an adverse impact on the Group's business, financial condition and results of operations.

Further, in the event that there is a labour shortage or a significant increase to labour costs, the Group's business operation costs is likely to increase. In such circumstances, the profit margin may decrease and the financial results may be adversely affected. In addition, inflation in the PRC has increased in recent years. Inflation in the PRC increases the costs of raw materials required by the Group for conducting its business and the costs of labour as well. Rising labour costs may increase the Group's operating costs and partially erode the cost advantage of the Group's operations and therefore negatively impact the Group's profitability.

**RISKS RELATING TO THE BONDS AND THE GUARANTEE**

**The Bonds and the Guarantee are unsecured obligations.**

The Bonds and the Guarantee are unsecured obligations of the Issuer and the Guarantor, respectively. The repayment of the Bonds and payment under the Guarantee may be adversely affected if:

- the Issuer or the Guarantor enters into bankruptcy, liquidation, reorganisation or other winding-up proceedings;
- there is a default in payment under the Issuer's or the Guarantor's future secured indebtedness or other unsecured indebtedness; or

- there is an acceleration of any of the Issuer's or the Guarantor's indebtedness.

If any of these events were to occur, the Issuer's or the Guarantor's assets may not be sufficient to pay amounts due on the Bonds.

**The Issuer or the Guarantor may not be able to redeem the Bonds upon the due date for redemption thereof.**

Following the occurrence of a Relevant Event (as defined in the Terms and Conditions of the Bonds), the Issuer may, at the option of any Bondholder, be required to redeem all, but not some only, of such Bondholder's Bonds at 101 per cent. (in the case of a redemption for a Change of Control) or 100 per cent. (in the case of a redemption for a No Registration Event) of their principal amount, together in each case with accrued interest to but excluding the Put Settlement Date (as defined in the Terms and Conditions of the Bonds). Moreover, the Issuer will be required to redeem all of the Bonds at maturity. In case of failure by Issuer to fulfil its payment obligations under the Bonds, the Guarantor will also be required to pay on behalf of the Issuer under the Guarantee. If any of such events were to occur, the Issuer, or, as the case may be, the Guarantor, may not have sufficient cash on hand and may not be able to arrange financing in time, or on acceptable terms, or at all. The ability of the Issuer to redeem the Bonds, or the ability of the Guarantor to pay under the Guarantee may also be limited by the terms of other debt instruments. Failure to repay, purchase or redeem the Bonds by the Issuer or, as the case may be, failure to pay by the Guarantor under the Guarantee, may constitute an event of default under the Bonds, which may also constitute a default under the terms of the Issuer's or the Guarantor's other indebtedness.

**Any failure to complete the relevant filings under the NDRC New Measures within the prescribed timeframes following the completion of the delivery of the Bonds may have adverse consequences for the Issuer and/or the investors of the Bonds.**

NDRC issued the Circular on Promoting the Reform of the Administrative System on the Issuance by Enterprises of Foreign Debt Filings and Registrations (《國家發展改革委關於推進企業發行外債備案登記制管理改革的通知》) (Fa Gai Wai Zi [2015] No 2044) (the "NDRC Circular") on 14 September 2015, which ceased to be effective on 10 February 2023. According to the NDRC Circular, domestic enterprises and their overseas controlled entities shall procure the registration of any debt securities with a maturity of more than one year issued outside the PRC with NDRC prior to the issue of the securities. The Issuer has obtained the NDRC pre-issuance registration certificate on 29 December 2023.

On 5 January 2023, NDRC issued the NDRC New Measures, which came into effect on 10 February 2023. On 9 February 2023, NDRC published the frequently asked questions on the NDRC New Measures and its responses (the "FAQs"), which provided further clarifications on the practical implications of certain provisions in the NDRC New Measures. In accordance with the FAQs, the Issuer's NDRC pre-issuance registration certification dated 29 December 2023 remains in full force and effect as at the date of this Offering Circular, and the Issuer shall comply with the provisions relating to foreign debt risk management and interim and ex-post supervision under the NDRC New Measures.

If the Issuer fails to report relevant information according to the NDRC New Measures, the examination and registration authorities shall, depending on the seriousness of the circumstances, impose disciplinary measures such as interviews and public warnings on the Issuer concerned and its principal responsible person, etc.

Potential investors of the Bonds are advised to exercise due caution when making their investment decisions. The Issuer undertakes to file or cause to be filed with NDRC the requisite information and documents in respect of the Bonds within the relevant prescribed timeframes after the Issue Date in accordance with the NDRC New Measures.

**If the Guarantor fails to complete the Cross-Border Security Registration in connection with the Guarantee within the time period prescribed by SAFE, there may be logistical hurdles for cross-border payment under the Guarantee.**

Pursuant to the Deed of Guarantee executed by the Guarantor, the Guarantor will unconditionally and irrevocably guarantee the due payment of all sums expressed to be payable by the Issuer under the Bonds and the Trust Deed. The Guarantor is required to submit the Deed of Guarantee with SAFE for registration in accordance with the Cross-Border Security Provisions. As provided by the Cross-Border Security Provisions, although the non-registration does not render the Guarantee ineffective or invalid under PRC law, SAFE may impose penalties on the Guarantor if registration is not carried out within 15 Registration Business Day. The Guarantor intends to complete the registration of the Guarantee as soon as practicable and in any event before the Registration Deadline (being the day falling 120 Registration Business Days after the Issue Date). In addition, if the Guarantor fails to complete the SAFE registration, there may be logistical hurdles at the time of remittance of funds (if any cross-border payment is to be made by the Guarantor under the Guarantee) as domestic banks may require evidence of SAFE registration in connection with the Deed of Guarantee. As a result, there is no assurance that the Guarantor can remit money to the Issuer to comply with its obligations under the Deed of Guarantee.

**The PRC government shall under no circumstances have any obligation arising out of or in connection with the Bonds, the Guarantee or the transaction documents in relation to the Bonds, which are solely to be fulfilled by the Issuer and/or the Guarantor.**

The PRC government as the controlling shareholder of the Guarantor only has limited liability in the form of equity contribution in the Guarantor. The PRC government is not an obligor and Bondholders shall have no recourse to the PRC government in respect of any obligation arising out of or in connection with the Bonds in lieu of the Issuer and the Guarantor. This position has been reinforced by the Circular of the Ministry of Finance on Matters Concerning Regulating the Investment and Financing Activities of Financial Institutions for Local Governments and State-owned Enterprises (財政部關於規範金融企業對地方政府和國有企業投融資行為有關問題的通知，財金[2018]23號) (the “**Circular 23**”) promulgated on 28 March 2018 and took effect on the same day, the Circular of the National Development and Reform Commission and the Ministry of Finance on Improving Market Regulatory Regime and Taking Strict Precautions Against Foreign Debt Risks and Local Government Indebtedness Risks (國家發展改革委、財政部關於完善市場約束機制嚴格防範外債風險和地方債務風險的通知) (the “**Circular 706**”) promulgated on 11 May 2018 and took effect on the same day, and the Notice of the General Office of the National Development and Reform Commission on Relevant Requirements for Record-filing and Registration of Issuance of Foreign Debts by Local State-owned Enterprises (國家發展改革委辦公廳關於對地方國有企業發行外債申請備案登記有關要求的通知) (“**Circular 666**”) promulgated on 6 June 2019. The PRC government has no payment or other obligation under the Bonds, the Guarantee or the transaction documents relating to the Bonds. Investments in the Bonds are on the credit risk of the Issuer and the guarantee of the Guarantor rather than that of the PRC government. The Bonds are solely to be repaid by the Issuer and/or, as the case may be, the Guarantor as an obligor and the obligations of the Issuer and/or, as the case may be, the Guarantor under the Bonds or the Guarantee shall solely be fulfilled by the Issuer and/or, as the case may be, the Guarantor as an independent legal person. Furthermore, The PRC government’s ownership or control over the Guarantor does not provide assurance on its financial condition. In the event that the Issuer and/or, as the case may be, the Guarantor does not fulfil its obligations under the Bonds, investors will only be able to claim as an unsecured creditor against the Issuer and the Guarantor and their respective assets, and not any other person, including the PRC government and any other local or municipal government. The Bondholders shall have no recourse to the PRC government or any other local or municipal government in respect of any obligation arising out of or in connection with the Bonds, the Guarantee and the transaction documents relating to the Bonds. As Circular 23, Circular 706 and Circular 666 are relatively new and given the limited volume of published decisions related to these circulars, the interpretation and enforcement of these laws and regulations involve uncertainties.

**If any of the Guarantor or its subsidiaries, including the Issuer, is unable to comply with the restrictions and covenants in its respective debt agreements, or the Bonds, there could be a default under the terms of these agreements, or the Bonds, which could cause repayment of the relevant debt to be accelerated.**

If the Issuer is unable to comply with the restrictions and covenants in the Bonds, or if any of the Guarantor or its subsidiaries, including the Issuer, is unable to comply with its current or future debt obligations and other agreements, or fails to honour its contractual obligations, there could be a default under the terms of such agreements. In the event of a default under such agreements, the creditors of the debt could terminate their commitments to lend to the Guarantor or its relevant subsidiary, including the Issuer, accelerate repayment of the debt, declare all amounts borrowed due and payable or terminate the agreements, and could also bring lawsuit against the Guarantor or its relevant subsidiary, as the case may be. The Group's business, results of operations and financial condition may be materially and adversely affected as a result.

Furthermore, some of the debt agreements entered into by members of the Group, and the Bonds, may contain (or may in the future contain) cross-acceleration or cross-default provisions. As a result, the default by the Guarantor or the relevant subsidiary, including the Issuer, under one debt agreement may cause the acceleration of repayment of debt, including the Bonds, or result in a default under its other debt agreements, including the Bonds. If any of these events occurs, there can be no assurance that the assets and cash flows of the Group would be sufficient to repay in full all of their indebtedness, or that they would be able to find alternative financing. Even if alternative financing could be obtained, there can be no assurance that it would be on terms that are favourable or acceptable to the Guarantor or its subsidiaries, including the Issuer.

**The Bonds and the Guarantee will be structurally subordinated to the existing and future indebtedness and other liabilities of the Issuer's and the Guarantor's existing and future subsidiaries, other than the Issuer, and effectively subordinated to the Issuer's and the Guarantor's secured debt to the extent of the value of the collateral securing such indebtedness.**

The Bonds and the Guarantee will be structurally subordinated to any debt and other liabilities and commitments, including trade payables and lease obligations, of the Issuer's and the Guarantor's existing and future subsidiaries, other than the Issuer, whether or not secured. The Bonds will not be guaranteed by any of the Issuer's or the Guarantor's subsidiaries, and the Issuer and the Guarantor may not have direct access to the assets of such subsidiaries unless these assets are transferred by dividend or otherwise to the Issuer or the Guarantor. The ability of such subsidiaries to pay dividends or otherwise transfer assets to the Issuer and the Guarantor is subject to various restrictions under applicable law. Each of the Issuer's and the Guarantor's subsidiaries is a separate legal entity that has no obligation to pay any amounts due under the Bonds or Guarantee or make any funds available therefor whether by dividends, loans or other payments. The Issuer's and the Guarantor's right to receive assets of any of the Issuer's and the Guarantor's subsidiaries, respectively, upon that subsidiary's liquidation or reorganisation will be effectively subordinated to the claim of that subsidiary's creditors (except to the extent that the Issuer or the Guarantor is a creditor of that subsidiary). Consequently, the Bonds and the Guarantee will be effectively subordinated to all liabilities, including trade payables and lease obligations, of any of the Issuer's and the Guarantor's subsidiaries, other than the Issuer, and any subsidiaries that the Guarantor may in the future acquire or establish.

The Bonds and the Guarantee are the Issuer's and the Guarantor's unsecured obligations, respectively, and will (i) at all times rank at least *pari passu* in right of payment with all the Issuer's and the Guarantor's other present and future unsecured indebtedness other than any such indebtedness preferred by law; (ii) be effectively subordinated to all of the Issuer's and the Guarantor's present and future secured indebtedness to the extent of the value of the collateral securing such obligations; and (iii) be senior to all of the Issuer's and the Guarantor's present and future subordinated obligations. As a result,

claims of secured lenders, whether senior or junior, with respect to assets securing their loans will be prior with respect to those assets. In the event of the Issuer's or the Guarantor's bankruptcy, insolvency, liquidation, reorganisation, dissolution or other winding up, or upon any acceleration of the Bonds, these assets will be available to pay obligations on the Bonds only after all other debt secured by these assets has been repaid in full. Any remaining assets will be available to the Bondholders rateably with all of the Issuer's or the Guarantor's other unsecured creditors, including trade creditors. If there are not sufficient assets remaining to pay all such creditors, then all or a portion of the Bonds then outstanding would remain unpaid.

**The Issuer has limited assets and will need to rely on cash flow from the Guarantor and other subsidiaries of the Guarantor (particularly onshore operating subsidiaries of the Guarantor) to service their respective obligations under the Bonds and the Guarantee.**

The Issuer is a wholly-owned subsidiary of the Guarantor and has limited operations of its own and will be dependent upon payments from the Guarantor and its subsidiaries to meet its obligations under the Bonds and the Guarantee.

Bondholders' recourse to the Issuer is limited as the Issuer has only limited assets. The Issuer's ability to make payments on the Bonds is dependent directly on payments (in the form of capital injections, intercompany loans or otherwise) to the Issuer by the Guarantor and certain of the Guarantor's subsidiaries, which will depend on a number of factors, some of which may be beyond the control of the Guarantor and/or the Issuer. If the Guarantor or any of the Guarantor's subsidiaries is unable to make timely payments to the Issuer, the Issuer will not have any other source of funds to meet its payment obligations under the Bonds.

If the Guarantor does not, or is unable for any reason, to make capital injections, intercompany loans or otherwise to the Issuer, the Issuer may be unable to comply with its payment obligations under the Bonds or the Guarantee.

**Gains on the transfer of the Bonds may be subject to income tax under PRC tax laws.**

The Issuer is incorporated under the laws of Hong Kong. Pursuant to the Enterprise Income Tax Law of the PRC (the "EIT Law") and its implementation regulations, enterprises that are established under the laws of foreign countries and regions but whose "de facto management bodies" are within the PRC are treated as PRC tax resident enterprises for the purposes of the EIT Law. If the relevant PRC tax authorities decide, in accordance with applicable tax rules and regulations, that the "de facto management body" of the Issuer is within the PRC, the Issuer may be held to be a PRC tax resident enterprise for the purposes of the EIT Law, and income or gains paid with respect to the Bonds may be considered to be derived from sources within the PRC.

Under the EIT Law and its implementation rules, any income or gains realised on the transfer of the Bonds by Bondholders who are deemed under the new EIT law as non-resident enterprises may be subject to PRC enterprise income tax if such income or gains are regarded as derived from sources within the PRC. Under the new EIT Law, a "non-resident enterprise" means an enterprise established under the laws of a jurisdiction other than the PRC and whose actual administrative organisation is not in the PRC, which has established offices or premises in the PRC, or which has not established any offices or premises in the PRC but has obtained income derived from sources within the PRC. In addition, there is uncertainty as to whether gains realised on the transfer of the Bonds by individual holders who are not PRC citizens or residents will be subject to PRC individual income tax. In the event the Issuer is deemed to be a PRC tax resident enterprise by the PRC tax authorities in the future or the Guarantor is required to discharge its obligations under the Guarantee, interest paid on the Bonds or the Guarantee may be considered to be a PRC source, in which case the Issuer or the Guarantor, as the case may be, would be required to withhold income tax at a rate of 10 per cent. from payments of interest in respect of the Bonds to any non-resident

enterprise holders. Any capital gain realised by a non-resident enterprise from the transfer of the Bonds may be regarded as being derived from sources within the PRC and accordingly may be subject to a PRC tax of up to 10 per cent. if the Issuer is treated as a PRC tax resident. Pursuant to the Individual Income Tax Law of the PRC and its implementation regulations, if the Issuer is considered to be a PRC tax resident enterprise, or in the event that the Guarantor is required to perform its obligations under the Guarantee, the Issuer or the Guarantor, as the case may be, may be obliged to withhold such individual income tax on payments of interests to non-resident individual Bondholders. Any capital gain realised by a non-resident individual holder from transfer of the Bonds may also be regarded as being derived from sources within the PRC and be subject to PRC tax of up to 20 per cent. if the Issuer is a PRC tax resident enterprise.

According to the Arrangement between the Mainland of China and the Hong Kong Special Administrative Region for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Income (the “**Arrangement**”) which was promulgated on 21 August 2006, Bondholders who are Hong Kong residents, including both enterprise holders and individual holders, will be exempted from PRC income tax on capital gains derived from a sale or exchange of the Bonds.

On 23 March 2016, the Ministry of Finance and the SAT issued the Circular of Full Implementation of Business Tax to VAT Reform Caishui [2016] No. 36 (“**Circular 36**”), which introduced a new VAT from 1 May 2016. VAT is applicable where the entities or individuals provide services within the PRC. VAT is unlikely to apply to any transfer of Bonds between entities or individuals located outside of the PRC and is therefore unlikely to apply to gains realised upon such transfers, but there is uncertainty as to the applicability of VAT if either the seller or buyer of Bonds is located inside the PRC. Circular 36 and laws and regulations pertaining to VAT are relatively new, and the interpretation and enforcement of such laws and regulations involve uncertainties.

If a Bondholder, being a non-resident enterprise or non-resident individual, is required to pay any PRC income tax on gains on the transfer of the Bonds, the value of the relevant Bondholder’s investment in the Bonds may be materially and adversely affected.

**The Bonds may be redeemed by the Issuer in the event of certain withholding taxes being applicable.**

The Issuer may redeem the Bonds at its option, in whole but not in part, at a redemption price equal to their principal amount, together with interest accrued up to but excluding the date fixed for redemption if, subject to certain conditions, as a result of a change in tax law, the Issuer has (or, if the Guarantee was called, the Guarantor) or will become obliged to pay Additional Tax Amounts (as defined in the Terms and Conditions of the Bonds), as further described in Condition 6 (b) of the Terms and Conditions of the Bonds.

If the Issuer redeems the Bonds prior to their maturity date, investors may not receive the same economic benefits they would have received had they held the Bonds to maturity, and they may not be able to reinvest the proceeds they receive in a redemption in similar securities. In addition, the Issuer’s ability to redeem the Bonds may reduce the market price of the Bonds.

**An active trading market for the Bonds may not develop.**

The Bonds are a new issue of securities for which there is currently no trading market. Although an application has been made to the Hong Kong Stock Exchange for the listing of the Bonds on such stock exchange, no assurance can be given that such application will be approved, or even if the Bonds become so listed, an active trading market for the Bonds will develop or be sustained. There can be no assurance as to the liquidity of the Bonds or that an active trading market will develop or as to liquidity or sustainability of any such market, the ability of holders to sell their Bonds or the price at which holders

will be able to sell their Bonds. If the Bonds are allocated to a limited group of investors, and a limited number of investors hold a significant proportion of the Bonds, liquidity will be restricted and the development of a liquid trading market for the Bonds will be affected. If a market does develop, it may not be liquid and the Bonds could trade at prices that may be higher or lower than the initial issue price depending on many factors, including prevailing interest rates, the Group's operations and the market for similar securities. The Joint Lead Managers are not obligated to make a market in the Bonds and any such market making, if commenced, may be discontinued at any time without notice at the sole discretion of the Joint Lead Managers. Therefore, investors may not be able to sell their Bonds easily or at prices that will provide them with a yield comparable to similar investments that have a developed secondary market. In addition, there may occur a general lack of liquidity in the secondary market for instruments similar to the Bonds. Such lack of liquidity may result in investors suffering losses on the Bonds in secondary resales even if there is no decline in the performance of the assets of the Group. It is not possible to predict which of these circumstances will change and whether, if and when they do change, there will be a more liquid market for the Bonds and instruments similar to the Bonds at that time.

**The liquidity and price of the Bonds following this offering may be volatile.**

If an active trading market for the Bonds were to develop, the price and trading volume of the Bonds may be highly volatile. Factors such as variations in the revenues, earnings and cash flows of the Group, proposals of new investments, strategic alliances and/or acquisitions, interest rates and fluctuations in prices for comparable companies, changes in the industry that the Group operates and competition and general economic conditions could cause the price of the Bonds to change. Any such developments may result in large and sudden changes in the volume and price at which the Bonds will trade. There can be no assurance that these developments will not occur in the future.

**The Issuer may issue additional Bonds in the future.**

The Issuer may, from time to time, and without prior consultation of the Bondholders create and issue further Bonds (see "*Terms and Conditions of the Bonds — Further Issues*") or otherwise raise additional capital through such means and in such manner as it may consider necessary. There can be no assurance that such future issuance or capital raising activity will not adversely affect the market price of the Bonds.

**The rating assigned to the Bonds and the Guarantor may be downgraded or withdrawn in the future.**

The Bonds are expected to be rated Baa1 by Moody's. The Guarantor is rated Baa1 by Moody's. The ratings represent only the opinion of the rating agency and its assessment of the ability of the Issuer and the Guarantor to perform their respective obligations under the Bonds, and credit risks in determining the likelihood that payments will be made when due under the Bonds. Ratings are not recommendations to buy, sell or hold the Bonds and may be subject to revision, qualification, suspension, reduction or withdrawal at any time. There can be no assurance that a rating will remain for any given period of time or that a rating will not be lowered or withdrawn entirely by the relevant rating agency if in its judgment circumstances in the future so warrant. Neither the Issuer nor the Guarantor is obliged to inform holders of the Bonds of any such revision, downgrade or withdrawal. Each rating should be evaluated independently of any other rating of the Bonds or other securities of the Issuer or the Guarantor (if any). A revision, qualification, suspension or withdrawal at any time of any rating assigned to the Bonds may adversely affect the market price of the Bonds.

**Changes in market interest rates may adversely affect the value of the Bonds.**

The Bondholders may suffer unforeseen losses due to fluctuations in interest rates. Generally, a rise in interest rates may cause a fall in the prices of the Bonds, resulting in a capital loss for the Bondholders. However, the Bondholders may reinvest the interest payments at higher prevailing interest rates. Conversely, when interest rates fall, the prices of the Bonds may rise. The Bondholders may enjoy a capital gain but interest payments received may be reinvested at lower prevailing interest rates.

The Bonds will carry a fixed interest rate. Consequently, investment in the Bonds involves the risk that subsequent changes in market interest rates may adversely affect the value of the Bonds. If Bondholders sell the Bonds they hold before the maturity of such Bonds, they may receive an offer less than their investment.

**Developments in the international financial markets and world economic conditions may adversely affect the market price of the Bonds.**

The market price of the Bonds may be adversely affected by declines in the international financial markets and world economic conditions. The market for the Bonds is, to varying degrees, influenced by economic and market conditions in other markets, especially those in Asia, the Middle East and Russia. Although economic conditions are different in each country, investors' reactions to developments in one country can affect the securities markets and the securities of issuers in other countries, including the PRC. Since the global financial crisis in 2008 and 2009, the international financial markets have experienced significant volatility. If similar developments occur in the international financial markets in the future, the market price of the Bonds could be adversely affected.

For example, the trade dispute between the PRC and the United States may have an adverse effect on the global and the PRC economies, resulting in continuing uncertainty for the overall prospects for the global and the PRC economies. In 2018, the United States announced a series of tariffs on imported goods from the PRC. The PRC imposed tariffs on a wide range of products from the United States in retaliation for the new U.S. tariffs. In December 2018, the PRC and the United States commenced negotiations to resolve their trade conflicts. In May 2019, the United States raised additional tariffs on certain goods imported from the PRC, to which the PRC government responded by announcing further tariffs on certain goods of U.S. origin. In January 2020, the PRC and the United States signed a phase one trade deal, which includes, amongst others, commitments by the PRC to increase purchases of goods and services from the United States. However, the Group cannot predict as to the implementation or effect of the phase one trade deal between the PRC and the United States. It remains uncertain whether or not the PRC and the United States would be able to reach any further trade agreement or otherwise resolve their remaining trade issues in the near future or at all. The adoption and expansion of trade restrictions, the occurrence and escalation of a trade war, or other governmental action related to tariffs or trade agreements or policies, has the potential to adversely impact the PRC economy, which in turn could adversely impact the market price of the Bonds.

Since 2022, the COVID-19 pandemic and the emergence of variants like Omicron, have spread to different regions and triggered further imposition of restrictive measures by the PRC governments, bringing additional uncertainty to recovery and development of PRC economy. Several cities in China had been under lockdown, and have had travel restrictions imposed upon to curb the spread of COVID-19. With discrepancy in COVID-19 vaccination rates between jurisdictions, the global economic recovery may be significantly hampered by similar travel restrictions or lockdowns in response to the pandemic and there is no assurance that the current containment measures will be effective in halting the COVID-19 pandemic. The ongoing pandemic and containment measures is expected to adversely and materially affect the manufacturing, exports and imports and consumption of goods and services globally and will significantly reduce global market liquidity and depress spending and economic activities.

As a result, the global economy is facing significant uncertainties, and the global financial markets are experiencing significant volatilities which may adversely affect the market price of the Bonds. Investors must exercise caution before making any investment decisions.

**Investors in the Bonds may be subject to foreign exchange risks.**

The Bonds are denominated and payable in U.S. dollars. An investor who measures investment returns by reference to a currency other than the U.S. dollar would be subject to foreign exchange risks by virtue of an investment in the Bonds, due to, among other things, economic, political and other factors over which neither the Issuer nor the Guarantor has any control. Depreciation of the U.S. dollar against such currency could cause a decrease in the effective yield of the Bonds below their stated coupon rates and could result in a loss when the return on the Bonds is translated into such currency. In addition, there may be tax consequences for investors as a result of any foreign currency gains resulting from any investment in the Bonds.

**The Bonds may not be a suitable investment for all investors.**

The Bonds are complex financial instruments and may be purchased as a way to reduce risk or enhance yield with a measured and appropriate addition of risk to the investor's overall portfolios. A potential investor should not invest in the Bonds unless it has the expertise (either alone or with the help of a financial adviser) to evaluate how the Bonds will perform under changing conditions, the resulting effects on the value of such Bonds and the impact this investment will have on the potential investor's overall investment portfolio.

Additionally, the investment activities of certain investors are subject to legal investment laws and regulations, or review or regulation by certain authorities. Each potential investor should consult its legal advisers to determine whether and to what extent (a) Bonds are legal investments for it, (b) Bonds can be used as collateral for various types of borrowing and (c) other restrictions apply to its purchase of any Bonds. Financial institutions should consult their legal advisers or the appropriate regulators to determine the appropriate treatment of Bonds under any applicable risk-based capital or similar rules.

Each potential investor in any Bonds must determine the suitability of that investment in light of its own circumstances. In particular, each potential investor should:

- have sufficient knowledge and experience to make a meaningful evaluation of the Bonds, the merits and risks of investing in the Bonds and the information contained or incorporated by reference in this Offering Circular;
- have access to, and knowledge of, appropriate analytical tools to evaluate, in the context of its particular financial situation, an investment in the Bonds and the impact such investment will have on its overall investment portfolio;
- have sufficient financial resources and liquidity to bear all of the risks of an investment in the Bonds, or where the currency for principal or interest payments is different from the potential investor's currency;
- understand thoroughly the terms of the Bonds and be familiar with the behaviour of any relevant indices and financial markets; and
- be able to evaluate (either alone or with the help of a financial adviser) possible scenarios for economic, interest rate and other factors that may affect its investment and its ability to bear the applicable risks.

Additionally, the investment activities of certain investors are subject to legal investment laws and regulations, or review or regulation by certain authorities.

**The insolvency laws of Hong Kong and the PRC and other local insolvency laws may differ from those of another jurisdiction with which the holders of the Bonds are familiar.**

As the Issuer and the Guarantor are incorporated under the laws of Hong Kong and the PRC, respectively, any insolvency proceeding relating to the Issuer or the Guarantor would likely involve Hong Kong or PRC insolvency laws, respectively, the procedural and substantive provisions of which may differ from comparable provisions of the local insolvency laws of jurisdictions with which the holders of the Bonds are familiar.

**It may be difficult to effect service of process or to enforce any judgments obtained from non-PRC courts against the Group or its management residing in the PRC.**

The Terms and Conditions of the Bonds and the transaction documents are governed by English law and the Issuer and the Guarantor have submitted to the exclusive jurisdiction of the Hong Kong courts. However, most companies in the Group are incorporated in the PRC and a substantial amount of the Group's assets and companies are located in the PRC. Further, most or all of the Group's management reside in the PRC, together with their personal assets. Therefore, investors may encounter difficulties in effecting service of process from outside PRC upon the Group or its management.

It may be difficult to effect service of process upon the Group or the director or senior management members residing in Mainland China in connection with proceedings in front of courts other than PRC courts, or to enforce against them any judgment obtained from courts other than PRC courts. China has not entered into treaties or agreements providing for the recognition and enforcement of judgments made by courts of most other jurisdictions. On 18 January 2019, the Supreme People's Court of the PRC and the Hong Kong government entered in to the Arrangement on Reciprocal Recognition and Enforcement of Judgments in Civil and Commercial Matters by the Courts of the Mainland and of the Hong Kong Special Administrative Region (關於內地與香港特別行政區法院相互認可和執行民商事案件判決的安排) (the "2019 Arrangement").

With some exceptions, the 2019 Arrangement applies to the reciprocal recognition and enforcement of legally effective judgments in civil and commercial cases between courts of Mainland China and Hong Kong, and also applies to the reciprocal recognition and enforcement of legally effective judgments in relation to civil damages awarded in criminal cases. The 2019 Arrangement sets forth certain procedural requirements for the application of recognition and enforcement by courts in Mainland China of legally effective judgments rendered by Hong Kong courts and vice versa. It also provides for certain grounds for rejecting an application for recognition and enforcement. The 2019 Arrangement will be implemented in Mainland China by a judicial interpretation to be issued by the Supreme People's Court, and in Hong Kong by local legislation. The Hong Kong Legislative Council has passed the Mainland Judgments in Civil and Commercial Matters (Reciprocal Enforcement) Ordinance on 26 October 2022, and the Chief Judge of the High Court has made the Mainland Judgments in Civil and Commercial Matters (Reciprocal Enforcement) Rules to provide for the relevant practice and procedures. The 2019 Arrangement took effect on 29 January 2024, and applies to judgments made on or after such effective date. Although the 2019 Arrangement establishes a more comprehensive mechanism for reciprocal recognition and enforcement of judgments in civil and commercial matters between Hong Kong and Mainland China, the recognition and enforcement of a Hong Kong court judgment in Mainland China is subject to the satisfaction of the relevant procedural requirements and may be rejected if certain grounds are established. It could also be costly and time consuming to seek recognition and enforcement for a Hong Kong court judgment in Mainland China, which may adversely affect the Noteholders' ability to enforce their rights under the Bonds.

Furthermore, China does not have treaties or agreements providing for the reciprocal recognition and enforcement of judgments awarded by courts of the United States, the United Kingdom or most other European countries, or Japan. Hence, the recognition and enforcement in China of court judgments from any of these jurisdictions may be difficult.

**There may be less publicly available information about the Group than is available in certain other jurisdictions.**

The Guarantor may issue bonds in the PRC in the future. If it issues bonds in the PRC, it is required to publish annual and interim financial statements in Chinese so long as such bonds are outstanding. Other than such requirement, the Guarantor is a private company and is not required under the PRC laws and regulations to publish their financial statements or make periodical public announcements. Therefore there is limited publicly available information about the Guarantor. In addition, the financial information of the Guarantor included in this Offering Circular has been prepared in accordance with PRC GAAP which differs in certain respects from IFRS and generally accepted accounting principles in other jurisdictions, which might be material to the financial information contained in this Offering Circular.

**The Bonds will be represented by a Global Certificate and holders of a beneficial interest in the Global Certificate must rely on the procedures of the relevant Clearing System (s).**

The Bonds will be represented by a Global Certificate which will be deposited with a common depository for Euroclear and Clearstream (each a “**Clearing System**”). Except in the limited circumstances described in the Global Certificate, investors will not be entitled to receive definitive certificates representing the Bonds. The Clearing System (s) will maintain records of the beneficial interests in the Global Certificate. While the Bonds are represented by the Global Certificate, investors will be able to trade their beneficial interests only through the Clearing Systems.

While the Bonds are represented by the Global Certificate, the Issuer, or failing which, the Guarantor will discharge its payment obligations under the Bonds by making payments to the Clearing System for distribution to their account holders. A holder of a beneficial interest in the Global Certificate must rely on the procedures of the Clearing System (s) to receive payments under the Bonds. Neither the Issuer nor the Guarantor has any responsibility or liability for the records relating to, or payments made in respect of, beneficial interests in the Global Certificate.

Holders of beneficial interests in the Global Certificate will not have a direct right to vote in respect of the Bonds. Instead, such holders will be permitted to act only to the extent that they are enabled by the Clearing System (s) to appoint appropriate proxies. Similarly, holders of beneficial interests in the Global Certificate will not have a direct right under the Global Certificate to take enforcement action against the Issuer or the Guarantor in the event of a default under the Bonds but will have to rely upon their rights under the Trust Deed.

**The Trustee may request the Bondholders to provide an indemnity and/or security and/or pre-funding to its satisfaction.**

In certain circumstances, including, without limitation, the giving of notice to the Issuer and the Guarantor pursuant to Condition 9 of the Terms and Conditions of the Bonds and taking enforcement steps and/or actions and/or instituting proceedings pursuant to Condition 13 of the Terms and Conditions of the Bonds, the Trustee may, at its sole discretion, request the Bondholders to provide an indemnity and/or security and/or pre-funding to its satisfaction before it takes any steps and/or actions and/or institutes any proceedings on behalf of the Bondholders. The Trustee shall not be obliged to take such steps and/or actions and/or to institute any such proceedings if not first indemnified and/or secured and/or prefunded to its satisfaction.

Negotiating and agreeing to an indemnity and/or security and/or prefunding can be a lengthy process and may impact on when such steps and/or actions can be taken and/or when such proceedings can be instituted. The Trustee may not be able to take such steps and/or actions and/or institute such proceedings, notwithstanding the provision of an indemnity and/or security and/or prefunding to it, in breach of the terms of the Trust Deed or the Terms and Conditions of the Bonds and in such

circumstances, or where there is uncertainty or dispute as to the applicable laws or regulations, to the extent permitted by the agreements and the applicable law, it will be for the holders of the Bonds to take such steps and/or actions and/or to institute such proceedings directly.

**Modifications and waivers may be made in respect of the Terms and Conditions of the Bonds, the Trust Deed, the Agency Agreement, the Deed of Guarantee by the Trustee or less than all of the holders of the Bonds, and decisions may be made on behalf of all holders of the Bonds that may be adverse to the interests of individual holders of the Bonds.**

The Terms and Conditions of the Bonds contain provisions for calling meetings of holders of the Bonds to consider matters affecting their interests generally. These provisions permit defined majorities to bind all holders of the Bonds including holders who did not attend and vote at the meeting and holders who voted in a manner contrary to the majority. Furthermore, there is a risk that the decision of the majority of holders of the Bonds may be adverse to the interests of the individual Bondholders.

The Terms and Conditions of the Bonds also provide that the Trustee may (but shall not be obliged to) agree, without the consent of the Bondholders, to any modification (except as mentioned in the Trust Deed) of, or to the waiver or authorisation of any breach or proposed breach of, or any failure to comply with, any of the Terms and Conditions of the Bonds or any of the provisions of the Trust Deed, the Agency Agreement, the Deed of Guarantee and/or the Bonds which in its opinion is not materially prejudicial to the interest of the Bondholders, or may agree, without any such consent as aforesaid, to any modification which, in its opinion, is of a formal, minor or technical nature or to correct a manifest error or to comply with any mandatory provision of applicable law. Any such modification, waiver or authorisation shall be binding on the Bondholders and, unless the Trustee agrees otherwise, such modification, waiver or authorisation shall be notified to the Bondholders by the Issuer as soon as practicable thereafter in accordance with the Terms and Conditions of the Bonds.

**The Group will follow the applicable corporate disclosure standards for debt securities listed on the Hong Kong Stock Exchange, which standards may be different from those applicable to companies in certain other countries.**

The Group will be subject to reporting obligations in respect of the Bonds to be listed on the Hong Kong Stock Exchange. The disclosure standards imposed by the Hong Kong Stock Exchange may be different than those imposed by securities exchanges in other countries or regions. As a result, the level of information that is available may not correspond to what investors in the Bonds are accustomed to.

**Bonds which have a denomination that is not an integral multiple of the minimum specified denomination may be illiquid and difficult to trade.**

The denominations of the Bonds are U.S.\$200,000 and integral multiples of U.S.\$1,000 in excess thereof. Therefore, it is possible that the Bonds may be traded in amounts in excess of U.S.\$200,000 that are not integral multiples of U.S.\$1,000. In such a case, a Bondholder who, as a result of trading such amounts, holds a principal amount of less than U.S.\$200,000 will not receive a definitive certificate in respect of such holding of Bonds (should definitive certificates be printed) and would need to purchase a principal amount of Bonds such that it holds an amount equal to one or more denominations. If definitive certificates are issued, Bondholders should be aware that Bonds with aggregate principal amounts that are not an integral multiple of U.S.\$1,000 may be illiquid and difficult to trade.

**The Bonds being issued as green bonds may not be a suitable investment for all investors seeking exposure to green assets.**

In connection with the issue of the Bonds, the Issuer has requested CECEP Environmental Consulting Group Ltd. to deliver the second party opinion (the “**Second Party Opinion**”) confirming that the green

finance framework of the Group (the “**Green Finance Framework**” or the “**Framework**”) is aligned with the Group’s green and sustainability strategy and performance, and aligned with the four core components of Green Bond Principles 2021.

The Second Party Opinion is not incorporated into, nor does it form part of, the Offering Circular. The Second Party Opinion (including the section headed the “*Green Finance Framework*” in this Offering Circular) is not a recommendation to buy, sell or hold securities and is only current as of the date of issue and are subject to certain disclaimers set out therein. Furthermore, the Second Party Opinion is for information purposes only and none of the Issuer or the Joint Lead Managers accepts any form of liability for the substance of the Second Party Opinion and/or any liability for loss arising from the use of the Second Party Opinion and/or the information provided in it.

Whilst the Issuer has agreed to certain obligations relating to reporting and use of proceeds as described in “*Green Finance Framework*” and “*Use of Proceeds*”, it would not be an Event of Default under the Terms and Conditions if (i) the Issuer was to fail to comply with such obligations or were to fail to use the proceeds of the issue of the Bonds, in the manner specified in this Offering Circular and/or (ii) the Second Party Opinion issued in connection with such Bonds was to be withdrawn. Any failure to use the net proceeds of the issue of the Bonds in connection with green projects, and/or any failure to meet, or to continue to meet, the investment requirements of certain investors with environmental concerns with respect to such Bonds, may affect the value and/or trading price of the Bonds, and/or may have consequences for certain investors with portfolio mandates to invest in green projects. In the event that the Bonds are included in any dedicated “green”, “environmental” or other equivalently-labelled index, no representation or assurance is given by the Issuer or any other person that such listing or admission, or inclusion in such index, satisfies any present or future investor expectations or requirements as regards to any investment criteria or guidelines with which such investor or its investments are required to comply, whether by any present or future applicable law or regulations or by its own constitutive documents or other governing rules or investment portfolio mandates.

None of the Issuer, the Joint Lead Managers, the Trustee or the Agents or any of their respective affiliates, directors, officers, employees, agents, representatives or advisers or any person who controls any of them makes any representation as to the suitability for any purpose of the Second Party Opinion or whether the Bonds will fulfil the relevant environmental criteria. Each potential purchaser of the Bonds should have regard to the relevant projects and eligibility criteria described under the section headed “*Green Finance Framework*” and determine for itself the relevance of the information contained in this Offering Circular regarding the use of proceeds, and its purchase of any Bonds should be based upon such investigation as it deems necessary. The Second Party Opinion was published in March 2024.

## EXCHANGE RATE INFORMATION

### PRC

The PBOC, the central bank of the PRC, sets and publishes daily a base exchange rate with reference primarily to the supply and demand of Renminbi against a basket of currencies in the market during the prior day. The PBOC also takes into account other factors, such as the general conditions existing in the international foreign exchange markets. Since 1994, the conversion of Renminbi into foreign currencies, including Hong Kong dollars and U.S. dollars, has been based on rates set by the PBOC, which are set daily based on the previous day's inter-bank foreign exchange market rates and current exchange rates in the world financial markets. From 1994 to 20 July 2005, the official exchange rate for the conversion of Renminbi to U.S. dollars was generally stable. On 21 July 2005, the PRC government changed its decade-old policy of pegging the value of the Renminbi to that of the U.S. dollar only, to allow the value of the Renminbi to fluctuate within a regulated band based on market supply and demand and by reference to a basket of currencies. changed its decade-old policy of pegging the value of the Renminbi to that of the U.S. dollar only.

The PRC government has made further adjustments to the exchange rate system. The PBOC authorised the China Foreign Exchange Trading Centre, effective since 4 January 2006, to announce the central parity exchange rate of certain foreign currencies against the Renminbi at 9:15 a.m. on each business day. This rate is set as the central parity for the trading against the Renminbi in the inter-bank foreign exchange spot market and the over the counter exchange rate for that business day. On 18 May 2007, the PBOC enlarged, effective on 21 May 2007, the floating band for the trading prices in the inter-bank spot exchange market of Renminbi against the U.S. dollar from 0.3 per cent. to 0.5 per cent. around the central parity rate. This allows the Renminbi to fluctuate against the U.S. dollar by up to 0.5 per cent. above or below the central parity rate published by the PBOC. On 19 June 2010, the PBOC announced that in view of the recent economic situation and financial market developments in China and abroad, and the balance of payments situation in China, it has decided to proceed further with reform of the Renminbi exchange rate regime and to enhance the Renminbi exchange rate flexibility. According to the announcement, the exchange rate floating bands will remain the same as previously announced but the PBOC will place more emphasis on reflecting the market supply and demand with reference to a basket of currencies. On 12 April 2012, the PBOC announced that on 16 April 2012, the floating band for the trading prices in the inter-bank spot exchange market of Renminbi against the U.S. dollar would be enlarged from 0.5 per cent. to 1.0 per cent. around the central parity rate, allowing the Renminbi to fluctuate against the U.S. dollar by up to 1.0 per cent. above or below the central parity rate published by the PBOC. The PBOC announced on 15 March 2014 that since 17 March 2014, the floating band for the trading prices in the inter-bank foreign exchange spot market of Renminbi against the U.S. dollar was further expanded from 1 per cent. to 2 per cent. On each business day, the spread between the Renminbi and U.S. dollar buying and selling prices offered by the designated foreign exchange banks to their clients shall be within 3.0 per cent. of the published central parity of the U.S. dollar on that day, instead of 2.0 per cent. On 11 August 2015, the PBOC adjusted the mechanism for market makers to form the central parity rate by requiring them to consider the closing exchange rate of the last trading date, the supply and demand of foreign exchange and the rate change at primary international currencies. For three conservative days commencing 11 August 2015, the PBOC devalued the Renminbi against the U.S. dollar, leading to declines in the value of the Renminbi versus the U.S. dollar of up to 2.8 per cent. in currency markets and representing the largest single-day drop in the value of the Renminbi since 1994. On 11 December 2015, CFETS, a sub-institutional organisation of the PBOC, published the CFETS Renminbi exchange rate index for the first time which weighs the Renminbi based on 13 currencies, to guide the market in order to measure the Renminbi exchange rate from a new perspective. During 2016, along with the progressive interest rate increased by the U.S. Federal Reserve, the Renminbi accumulatively depreciated by 7.2% against the U.S. dollar.

Although PRC governmental policies were introduced in 1996 to reduce restrictions on the convertibility of the Renminbi into foreign currency for current account items, conversion of the Renminbi into foreign currency for capital items, such as foreign direct investment, loans or security, requires the approval of SAFE and other relevant authorities.

The table below sets forth for the periods indicated, certain information concerning the exchange rates between Renminbi and U.S. dollars. The exchange rates reflect the exchange rates as set forth in the H.10 statistical release of the Board of Governors of the Federal Reserve System of the United States.

Period	Noon Buying Rate			
	Period End	Average <sup>(1)</sup>	High	Low
	(Renminbi per U.S.\$1.00)			
2018 .....	6.8755	6.6292	6.9737	6.2649
2019 .....	6.9618	6.9014	7.1786	6.6822
2020 .....	6.5250	6.8878	7.1681	6.5208
2021 .....	6.3726	6.4508	6.5716	6.3435
2022 .....	6.8972	6.7518	7.3048	6.3084
2023 .....	7.0999	7.0896	7.3430	6.7010
2024				
January .....	7.1673	7.1707	7.1961	7.1426
February .....	7.1977	7.1935	7.1982	7.1799
March (through 15 March) .....	7.1953	7.1914	7.1987	7.1804

*Note:*

(1) Determined by averaging the rates on the last business day of each month during the relevant year, except for monthly average rates, which are determined by averaging the daily rates during the respective months.

## TERMS AND CONDITIONS OF THE BONDS

*The following are the terms and conditions of the Bonds (as defined below) substantially in the form in which they (subject to modification and other than the text in italics) will be endorsed on the definitive Certificates and referred to in the global certificate.*

The U.S.\$210,000,000 5.842 per cent. guaranteed green bonds due 2025 (the “**Bonds**”, which expression, unless the context requires otherwise, includes any further securities issued pursuant to Condition 15 and to be consolidated and forming a single series therewith) was authorised by a resolution of the board of directors of Guoneng Environmental Protection Investment Group Co., Limited (國能環保投資集團有限公司) (the “**Issuer**”) passed on 22 January 2024 and the guarantee of the Bonds was authorised by a resolution of the board of directors of Jinan Energy Group Co., Ltd. (濟南能源集團有限公司) (the “**Guarantor**”) passed on 26 September 2023 and the approval of Jinan SASAC dated 22 November 2023. The Bonds are constituted by a trust deed (as amended and/or supplemented from time to time, the “**Trust Deed**”) dated on or about 28 March 2024 (the “**Issue Date**”) made between the Issuer, the Guarantor and China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司) (the “**Trustee**”, which expression shall include its successor (s)) as trustee for the Holders (as defined below). The Bonds have the benefit of a deed of guarantee (as amended and/or supplemented from time to time, the “**Deed of Guarantee**”) dated on or about 28 March 2024 executed by the Guarantor and the Trustee relating to the Bonds. The statements in these terms and conditions (these “**Conditions**”) include summaries of, and are subject to, the detailed provisions of, and definitions in, the Trust Deed.

Copies of the Trust Deed and the agency agreement dated on or about 28 March 2024 (as amended and/or supplemented from time to time, the “**Agency Agreement**”) made between the Issuer, the Guarantor, the Trustee, China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司) as principal paying agent (the “**Principal Paying Agent**” which expression shall include any successor principal paying agent appointed from time to time in connection with the Bonds), as registrar (the “**Registrar**” which expression shall include any successor registrar appointed from time to time in connection with the Bonds), as transfer agent (the “**Transfer Agent**” which expression includes any successor transfer agent appointed from time to time in connection with the Bonds) and any other Agents appointed thereunder, are available for inspection during normal business hours (being between 9:00 a.m. and 3:00 p.m. from Monday to Friday (other than public holidays)) by the Holders at the specified office of the Principal Paying Agent (being as at the date of issue of the Bonds at 3/F, CCB Tower, 3 Connaught Road Central, Central, Hong Kong) following prior written request and proof of holding and identity to the satisfaction of the Principal Paying Agent. References herein to “**Paying Agents**” includes the Principal Paying Agent, and “**Agents**” means the Principal Paying Agent, the Registrar, the Transfer Agent and any other agent or agents appointed from time to time under the Agency Agreement with respect to the Bonds. The Holders are entitled to the benefit of, are bound by, and are deemed to have notice of, all the provisions of the Trust Deed and those provisions of the Agency Agreement applicable to them.

All capitalised terms that are not defined in these Conditions will have the meanings given to them in the Trust Deed.

### 1. FORM, SPECIFIED DENOMINATION AND TITLE

The Bonds are issued in the specified denomination of U.S.\$200,000 and integral multiples of U.S.\$1,000 in excess thereof. The Bonds are represented by registered certificates (“**Certificates**”) and, save as provided in Condition 3 (b), each Certificate shall represent the entire holding of Bonds by the same Holder.

Title to the Bonds shall pass by transfer and registration in the Register as described in Condition 3. The Holder of any Bond shall (except as ordered by a court of competent jurisdiction or as otherwise required by law) be treated as its absolute owner for all purposes whether or not it is overdue and regardless of any notice of ownership, trust or an interest in it, any writing on the Certificate (other than the endorsed form of transfer) representing it or the theft or loss of such Certificate and no person shall be liable for so treating the Holder.

In these Conditions, “**Bondholder**” or “**Holder**” means the person in whose name a Bond is registered in the Register (or in the case of a joint holding, the first name thereof).

*Upon issue, the Bonds will be represented by a global certificate (the “**Global Certificate**”) registered in the name of a nominee of, and deposited with a common depositary for Euroclear Bank SA/NV and Clearstream Banking, S.A. These Conditions are modified by certain provisions contained in the Global Certificate. See “Summary of Provisions Relating to the Bonds in Global Form”.*

*Except in the limited circumstances described in the Global Certificate, owners of interests in Bonds represented by the Global Certificate will not be entitled to receive definitive Certificates in respect of their individual holdings of Bonds. The Bonds are not issuable in bearer form.*

## 2. **GUARANTEE AND STATUS**

- (a) **Guarantee:** The Guarantor has unconditionally and irrevocably guaranteed the due and punctual payment of all sums expressed to be payable by the Issuer under the Trust Deed and the Bonds. Its obligations in that respect (the “**Guarantee**”) are contained in the Deed of Guarantee. The obligations of the Guarantor under the Guarantee shall, save for such exceptions as may be provided by applicable laws and regulations and subject to Condition 4 (a), at all times rank at least equally with all its other present and future unsecured and unsubordinated obligations.
- (b) **Status:** The Bonds constitute direct, unsubordinated, unconditional and (subject to Condition 4 (a)) unsecured obligations of the Issuer and shall at all times rank *pari passu* and without any priority or preference among themselves. The payment obligations of the Issuer under the Bonds shall, save for such exceptions as may be provided by mandatory provisions of applicable laws and regulations, and subject to Condition 4 (a), at all times rank at least equally with all of the Issuer’s other present and future unsecured and unsubordinated obligations.

## 3. **TRANSFERS OF BONDS AND ISSUE OF CERTIFICATES**

### (a) **Register**

The Issuer will procure the Registrar to cause the register (the “**Register**”) to be maintained at the specified office of the Registrar and in accordance with the terms of the Agency Agreement, on which shall be entered the names and addresses of the Holders and the particulars of the Bonds held by them and of all transfers of the Bonds. Each Holder shall be entitled to receive only one Certificate in respect of its entire holding of Bonds.

### (b) **Transfer**

Subject to the Agency Agreement and Conditions 3 (e) and 3 (f) herein, a Bond may be transferred (in a specified denomination specified in Condition 1) by depositing the Certificate issued in respect of that Bond, with the form of transfer on the back of the

Certificate duly completed and signed, at the specified office of either the Registrar or the Transfer Agent and with any other evidence as the Registrar or such Transfer Agent may require to prove the title of the transferor and the authority of the individuals who have executed such form of transfer.

In the case of a transfer of part only of a holding of Bonds represented by one Certificate (which shall be in a specified denomination), a new Certificate shall be issued to the transferee in respect of the part transferred and a further new Certificate in respect of the balance of the holding not transferred shall be issued to the transferor. In the case of a transfer of the Bonds to a person who is already a Holder, a new Certificate representing the enlarged holding shall only be issued against surrender of the Certificate representing the existing holding. No transfer of title to a Bond will be valid unless and until entered on the Register.

*Transfers of interests in the Bonds evidenced by the Global Certificate will be effected in accordance with the rules of the relevant clearing system.*

**(c) Delivery of New Certificates**

Each new Certificate to be issued upon transfer of Bonds pursuant to Condition 3 (b) shall be made available for delivery within seven business days of receipt by the Registrar or, as the case may be, the Transfer Agent of a duly completed form of transfer, surrender of the existing Certificate (s) and provision of any other evidence required by the Transfer Agent or the Registrar pursuant to Condition 3 (b). Delivery of the new Certificate (s) shall be made at the specified office of the Transfer Agent or of the Registrar (as the case may be) to whom delivery or surrender of such form of transfer and Certificate shall have been made or, at the option of the Holder making such delivery or surrender as aforesaid and as specified in the relevant form of transfer or otherwise in writing, be mailed by uninsured post at the risk of the Holder entitled to the new Certificate to such address as may be so specified, unless such Holder requests otherwise and pays in advance to the relevant Transfer Agent or the Registrar (as the case may be) the costs of such other method of delivery and/or such insurance as it may specify.

In this Condition 3 (c), “**business day**” means a day, other than a Saturday, Sunday or public holiday, on which commercial banks are generally open for business in the place of the specified office of the relevant Transfer Agent or the Registrar (as the case may be).

*Except in the limited circumstances described in the Global Certificate, owners of interests in the Bonds will not be entitled to receive physical delivery of definitive Certificates.*

**(d) Formalities Free of Charge**

Registration of a transfer of Bonds and issuance of new Certificates will be effected without charge by or on behalf of the Issuer or any Agent but upon (i) payment (or the giving of such indemnity and/or security and/or pre-funding as the Issuer or any Agent may require) in respect of any taxes, duties or other governmental charges which may be imposed in relation to such transfer; (ii) the Registrar or the relevant Transfer Agent being satisfied in its absolute discretion with the documents of title or identity of the person making the application and (iii) the relevant Agent being satisfied that the regulations concerning transfer of Bonds (as referred to in Condition 3 (f)) have been complied with.

**(e) Closed Periods**

No Holder may require the transfer of a Bond to be registered (i) during the period of 15 days ending on (and including) the due date for any payment of principal (or premium) in respect of that Bond; or (ii) during the period of seven days ending on (and including) any Record Date (as defined in Condition 7 (a) (ii)); or (iii) after notice of redemption has been given pursuant to Condition 6 (b); or (iv) after a Put Exercise Notice (as defined in Condition 6 (c)) has been delivered by such Holder in respect of such Bond pursuant to Condition 6 (c).

**(f) Regulations**

All transfers of Bonds and entries on the Register will be made subject to the detailed regulations concerning transfer and registration of Bonds scheduled to the Agency Agreement. The regulations may be changed by the Issuer, with the prior written approval of the Registrar and the Trustee or by the Registrar, with the prior written approval of the Trustee. A copy of the current regulations will be made available for inspection during normal business hours (being between 9:00 a.m. and 3:00 p.m. from Monday to Friday (other than public holidays)) by the Registrar to any Holder who requests one in writing and provides proof of holding and identity to the satisfaction of the Registrar.

**4. COVENANTS**

**(a) Negative Pledge**

So long as any Bond remains outstanding (as defined in the Trust Deed), the Issuer or the Guarantor will not, and will ensure that none of their respective Subsidiaries will create, or have outstanding, any mortgage, charge, lien, pledge or other security interest, upon the whole or any part of its present or future undertaking, assets or revenues (including any uncalled capital) to secure any Relevant Indebtedness or to secure any guarantee or indemnity in respect of any Relevant Indebtedness, without at the same time or prior thereto according to the Bonds (i) the same security as is created or subsisting to secure any such Relevant Indebtedness, guarantee or indemnity or (ii) such other security as shall be approved by an Extraordinary Resolution (as defined in the Trust Deed) of the Bondholders.

**(b) Undertakings relating to the Guarantee**

The Guarantor undertakes that it will (i) register or cause to be registered with SAFE the Deed of Guarantee in accordance with, and within the time period prescribed by, the Foreign Exchange Administration Rules on Cross-border Security (跨境擔保外匯管理規定) promulgated by SAFE on 12 May 2014 which came into effect on 1 June 2014 (“**Cross-Border Security Registration**”), (ii) use its best endeavours to complete the Cross-Border Security Registration and obtain a registration record from SAFE on or before the Registration Deadline and (iii) comply with all applicable PRC laws and regulations in relation to the Guarantee.

**(c) Notification to NDRC**

The Guarantor undertakes that it will file or cause to be filed with NDRC the requisite information and documents in respect of the Bonds within the relevant prescribed timeframes after the Issue Date in accordance with the Administrative Measures for the Review and Registration of Medium- and Long-term Foreign Debts of Enterprises (企業中長期外債審核登記管理辦法) (國家發展和改革委員會令第56號) issued by NDRC and

which came into effect on 10 February 2023 and any implementation rules or applicable policies in relation thereto as issued by NDRC from time to time, including but not limited to the NDRC Post-Issue Filing. The Guarantor undertakes to file or cause to be filed with the NDRC the requisite information and documents in respect of the issue of the Bonds within ten PRC Business Days after the Issue Date (the “**NDRC Post-Issuance Filing**”) and comply with all applicable PRC laws and regulations in relation to the issue of the Bonds.

**(d) Notification of Completion of the Cross-Border Security Registration and the NDRC Post-Issuance Filing**

The Guarantor shall on or before the Registration Deadline and within 15 Registration Business Days after the later of (i) receipt of the registration record from SAFE (or any other document evidencing the completion of the Cross-Border Security Registration issued by SAFE), and (ii) submission of the NDRC Post-Issue Filing, provide the Trustee with (i) a certificate in English signed by an Authorised Signatory confirming the completion of the Cross-Border Security Registration and the NDRC Post-Issuance Filing; and (ii) copies of the relevant documents evidencing the completion of the Cross-Border Security Registration and the NDRC Post-Issuance Filing, each certified in English as being a true and complete copy of the original by an Authorised Signatory (the items specified in (i) and (ii) together, the “**Registration Documents**”).

In addition, the Issuer shall within ten Registration Business Days after the Registration Documents are delivered to the Trustee, give notice to the Bondholders (in accordance with Condition 16) substantially in the form set out in Schedule 5 of the Trust Deed confirming the completion of the Cross-Border Security Registration and the NDRC Post-Issuance Filing.

The Trustee may conclusive rely on the Registration Documents and shall have no obligation or duty to monitor or ensure the Cross-Border Security Registration or the NDRC Post-Issuance Filing is completed as required by Condition 4 (b) or to assist with the Cross-Border Security Registration or the NDRC Post-Issuance Filing on or before the Registration Deadline or to verify the accuracy, validity and/or genuineness of any certificates, confirmations or other documents in relation to or in connection with the Cross-Border Security Registration, and/or the NDRC Post-Issuance Filing, and/or the Registration Documents or to translate or procure any translation thereof, and shall not be liable to Bondholders or any other person for not doing so.

**(e) Financial Information etc.**

So long as any Bond remains outstanding (as defined in the Trust Deed) each of the Issuer and the Guarantor will furnish the Trustee with:

- (i) a Compliance Certificate (on which the Trustee may rely conclusively as to such compliance) and a copy of the relevant Audited Financial Reports, in each case within 150 days of the end of each Relevant Period prepared in accordance with the Accounting Standards for Business Enterprises in China (“**PRC GAAP**”) (audited by a nationally or internationally recognised firm of independent accountants), and if such statements shall be in the Chinese language, together with an English translation of the same translated by (A) a nationally or internationally recognised firm of independent accountants or (B) a professional translation service provider and checked by a nationally or internationally recognised firm of independent accountants, together with a certificate in English signed by an Authorised Signatory certifying that such translation is complete and accurate;

- (ii) a copy of the Unaudited Financial Reports within 90 days of the end of each Relevant Period prepared on a basis consistent with the Audited Financial Reports and if such statements shall be in the Chinese language, together with an English translation of the same and translated by (A) a nationally or internationally recognised firm of independent accountants or (B) a professional translation service provider and checked by a nationally or internationally recognised firm of independent accountants, together with a certificate in English signed by an Authorised Signatory certifying that such translation is complete and accurate; and
- (iii) a Compliance Certificate (on which the Trustee may rely conclusively as to such compliance) within 14 days of any request therefor from the Trustee.

The Trustee shall not be required to review the Audited Financial Reports or the Unaudited Financial Reports or any other financial report furnished or delivered to it as contemplated in this Condition 4 (d) and, if the same shall not be in the English language, shall not be required to request or obtain or arrange for an English translation of the same, and the Trustee shall not be liable to any Bondholder or any other person for not doing so.

**(f) Definitions**

In these Conditions:

“**Audited Financial Reports**” means, for a Relevant Period, the annual audited consolidated balance sheet, income statement, statement of cash flows and statement of changes in owners’ equity of the Guarantor together with any statements, reports (including any directors’ and auditors’ reports) and notes attached to or intended to be read with any of them;

“**Authorised Signatory**” means any director of the Issuer (or the Guarantor, as the case may be) or other person duly authorised as specified in the list (s) of authorised signatories provided by the Issuer or the Guarantor to the Trustee and the Principal Paying Agent;

“**Compliance Certificate**” means a certificate in English of each of the Guarantor and the Issuer (as the case may be) signed by any one of their Authorised Signatories confirming that, having made all reasonable enquiries, to the best of the knowledge, information and belief of the Guarantor or the Issuer as at a date (the “**Certification Date**”) not more than five days before the date of the certificate:

- (i) no Event of Default (as defined in Condition 9) or Potential Event of Default had occurred since the Certification Date of the last such certificate or (if none) the date of the Trust Deed or, if such an event had occurred, giving details of it; and
- (ii) each of the Guarantor and the Issuer has complied with all its obligations under the Trust Deed and the Bonds or, if non-compliance had occurred, giving details of it;

“**Hong Kong**” means the Hong Kong Special Administrative Region of the People’s Republic of China;

“**NDRC**” means the National Development and Reform Commission of the PRC or its local counterparts;

“**person**” means any individual, corporation, partnership, limited liability company, joint venture, trust, unincorporated organisation or government or any agency or political subdivision thereof;

“**PRC**” means the People’s Republic of China, which shall for the purpose of these Conditions only, exclude Hong Kong, the Macau Special Administrative Region of the People’s Republic of China and Taiwan;

“**Registration Business Day**” means a day, other than a Saturday, Sunday or public holiday, on which commercial banks are open for business in Jinan;

“**Registration Deadline**” means the day falling 120 Registration Business Days after the Issue Date;

“**Relevant Indebtedness**” means any indebtedness incurred outside the PRC which is in the form of, or represented or evidenced by, bonds, notes, debentures, loan stock or other securities which for the time being are, or are intended to be or capable of being, quoted, listed or dealt in or traded on any stock exchange or over-the-counter or other securities market (which, for the avoidance of doubt, does not include bilateral loans, syndicated loans or club deal loans);

“**Relevant Period**” means (i) in relation to the Audited Financial Reports, each period of 12 months ending on the last day of the Guarantor’s financial year (being 31 December of that financial year); or (ii) in relation to the Unaudited Financial Reports, each period of six months ending on the last day of the Guarantor’s first half financial year (being 30 June of that financial year);

“**SAFE**” means the State Administration of Foreign Exchange of the PRC or its local branch;

“**Subsidiary**” of any person means (a) any company or other business entity of which that person owns or controls (either directly or through one or more other Subsidiaries) more than 50 per cent. of the issued share capital or other ownership interest having ordinary voting power to elect directors, managers or trustees of such company or other business entity, or (b) any company or other business entity which at any time has its accounts consolidated with those of that person or which, under the laws, regulations or generally accepted accounting principles of the jurisdiction of incorporation of such person from time to time, should have its accounts consolidated with those of that person; and

“**Unaudited Financial Reports**” means, for a Relevant Period, the semi-annual unaudited and unreviewed consolidated balance sheet, income statement and statement of cash flows of the Guarantor together with any statements, reports (including any directors’ and auditors’ review reports, if any) and notes attached to or intended to be read with any of them, if any.

## 5. INTEREST

The Bonds bear interest on their outstanding principal amount from and including 28 March 2024 (the “**Issue Date**”) at the rate of 5.842 per cent. per annum, payable in arrear on 28 September 2024, 28 March 2025 and 28 May 2025 (each an “**Interest Payment Date**”) commencing on 28 September 2024.

In these Conditions, the period beginning on and including the Issue Date and ending on but excluding the first Interest Payment Date and each successive period beginning on and including an Interest Payment Date and ending on but excluding the next succeeding Interest Payment Date is called an “**Interest Period**”.

Each Bond will cease to bear interest from the due date for redemption unless, upon surrender of the Certificate representing such Bond, payment of principal or premium (if any) is improperly withheld or refused. In such event it shall continue to bear interest at such rate (both before and after judgment) until whichever is the earlier of (a) the day on which all sums due in respect of such Bond up to that day are received by or on behalf of the relevant Holders, and (b) the day falling seven days after the Trustee or the Principal Paying Agent has notified Bondholders of receipt of all sums due in respect of all the Bonds up to that seventh day (except to the extent that there is failure in the subsequent payment to the relevant Holders under these Conditions).

Interest in respect of any Bond shall be calculated per U.S.\$1,000 in principal amount of the Bonds (the “**Calculation Amount**”). The amount of interest payable per Calculation Amount for each Interest Period (and for any period less than a complete Interest Period) shall be equal to the product of the rate of interest specified above, the Calculation Amount and the relevant day-count fraction determined on the basis of a 360-day year consisting of 12 months of 30 days each and, in the case of an incomplete month, the number of days elapsed, rounding the resulting figure to the nearest cent (half a cent being rounded upwards).

## 6. REDEMPTION AND PURCHASE

### (a) Final Redemption

Unless previously redeemed, or purchased and cancelled, the Bonds will be redeemed at their principal amount on 28 May 2025 (the “**Maturity Date**”). The Bonds may not be redeemed at the option of the Issuer other than in accordance with this Condition 6.

### (b) Redemption for Taxation Reasons

The Bonds may be redeemed at the option of the Issuer in whole, but not in part, at any time, on giving not less than 30 nor more than 60 days’ notice (a “**Tax Redemption Notice**”), which shall specify the date for redemption and the names and addresses of all Paying Agents, and the method by which payment shall be made, to the Bondholders in accordance with Condition 16 (which shall be irrevocable) and in writing to the Trustee and the Principal Paying Agent, at their principal amount (together with any interest accrued to, but excluding, the date fixed for redemption) if (i) the Issuer (or, if the Guarantee was called, the Guarantor) satisfies the Trustee immediately prior to the giving of such notice that the Issuer (or, if the Guarantee was called, the Guarantor) has or will become obliged to pay Additional Tax Amounts as provided or referred to in Condition 8 as a result of any change in, or amendment to, the laws or regulations of Hong Kong or the PRC or any political subdivision or any authority thereof or therein having power to tax, or any change in the application or official interpretation of such laws or regulations (including but not limited to any decision by a court of competent jurisdiction), which change or amendment becomes effective on or after 21 March 2024, and (ii) such obligation cannot be avoided by the Issuer (or the Guarantor, as the case may be) taking reasonable measures available to it, provided that no Tax Redemption Notice shall be given earlier than 90 days prior to the earliest date on which the Issuer (or the Guarantor, as the case may be) would be obliged to pay such Additional Tax Amounts were a payment in respect of the Bonds (or the Guarantee, as the case may be) then due.

Prior to the giving of any Tax Redemption Notice pursuant to this Condition 6 (b), the Issuer (or the Guarantor, as the case may be) shall deliver to the Trustee (A) a certificate in English signed by an Authorised Signatory stating that the obligation referred to in (i) above of this Condition 6 (b) cannot be avoided by the Issuer (or the Guarantor, as the case may be) taking reasonable measures available to it, and (B) an opinion, in form and substance satisfactory

to the Trustee, of independent tax or legal advisers of recognised standing to the effect that the Issuer (or the Guarantor, as the case may be) has or will become obliged to pay such Additional Tax Amounts as a result of such changes, amendments or statements. The Trustee shall be entitled (but shall not be obliged) to accept and rely upon such certificates and opinions (without further investigation or enquiry) as sufficient evidence of the satisfaction of the conditions precedent set out in (i) and (ii) above of this Condition 6 (b), in which event they shall be conclusive and binding on the Bondholders.

**(c) Redemption for Relevant Events**

Following the occurrence of a Relevant Event, the Holder of any Bond will have the right (the “**Relevant Event Put Right**”), at such Holder’s option, to require the Issuer to redeem all, but not some only, of such Holder’s Bonds on the Put Settlement Date (as defined below in this Condition 6 (c)) at 101 per cent. (in the case of a redemption for a Change of Control) or 100 per cent. (in the case of a redemption for a No Registration Event) of their principal amount, together in each case with accrued interest up to (but excluding) the Put Settlement Date. To exercise such right, the Holder of the relevant Bond must deposit at the specified office of the Principal Paying Agent or any other Paying Agent a duly completed and signed notice of redemption, in the form for the time being current, substantially in the form scheduled to the Agency Agreement, obtainable from the specified office of any Paying Agent (a “**Put Exercise Notice**”), together with the Certificate evidencing the Bonds to be redeemed, by not later than 30 days following a Relevant Event, or, if later, 30 days following the date upon which notice thereof is given to Bondholders by the Issuer in accordance with Condition 16.

The “**Put Settlement Date**” shall be the fourteenth (in the case of a redemption for a Change of Control) or the tenth day (in the case of a redemption for a No Registration Event) or, if such day is not a Payment Business Day (as defined in Condition 7 (f)), the next following Payment Business Day after the expiry of such period of 30 days as referred to above.

A Put Exercise Notice, once delivered, shall be irrevocable and the Issuer shall redeem the Bonds the subject of the Put Exercise Notices delivered as aforesaid on the Put Settlement Date.

Not later than 14 days (in the case of a Change of Control) or 10 days (in the case of a No Registration Event) following the day on which the Issuer or the Guarantor becomes aware of a Relevant Event, the Issuer shall, and the Guarantor shall procure the Issuer to, procure that notice regarding such Relevant Event shall be delivered to the Trustee and the Principal Paying Agent in writing and to the Holders (in accordance with Condition 16) stating:

- (i) the Put Settlement Date;
- (ii) the date of the Relevant Event and, briefly, the events causing, as applicable, the Change of Control or No Registration Event;
- (iii) the date by which the Put Exercise Notice must be given;
- (iv) the redemption amount and the method by which such amount will be paid;
- (v) the names and addresses of all Paying Agents;
- (vi) the procedures that Holders must follow and the requirements that Holders must satisfy in order to exercise the Relevant Event Put Right; and

(vii) that a Put Exercise Notice, once validly given, may not be withdrawn.

The Trustee and the Agents shall not be required to take any steps to ascertain whether a Relevant Event has occurred or any event which could lead to the occurrence of a Relevant Event has occurred and shall not be responsible or liable to Bondholders, the Issuer, the Guarantor or any other person for any loss or liability arising from any failure to do so. The Trustee shall not be required to investigate or verify the accuracy, content, completeness or genuineness of any document provided to it by the Guarantor or any other person as part of or in connection with or to enable satisfaction of the Registration Conditions, and may rely conclusively on any such document, and shall not be responsible or liable to Bondholders, the Issuer, the Guarantor or any other person for any loss or liability arising from so doing.

For the purpose of this Condition 6:

- (i) a “**Change of Control**” occurs when:
- A. PRC Government Persons cease to directly or indirectly hold or own 100 per cent. of the issued share capital of the Guarantor;
  - B. the Guarantor consolidates with or merges into or sells or transfers all or substantially all of its assets to any other Person (s), except where such Person (s) (in the case of asset sale or transfer) or the surviving entity (in the case of consolidation or merger) is/are directly or indirectly 100 per cent. held or owned by PRC Government Persons; or
  - C. the Issuer ceases to be a directly or indirectly wholly-owned Subsidiary of the Guarantor;
- (ii) “**Control**” means (where applicable), with respect to any person, (i) the ownership or control of more than 50 per cent. of the voting rights of the issued share capital of such person, whether held directly or indirectly, or (ii) the right to appoint and/or remove all or more than 50 per cent. of such person’s board of directors or other governing body, whether held directly or indirectly, and whether obtained by ownership of share capital, the possession of voting rights, contract or otherwise; the term “**Controlled**” has meanings correlative to the foregoing;
- (iii) “**Jinan SASAC**” means the State-owned Assets Supervision and Administration Commission of the Jinan Municipality Government (濟南市人民政府國有資產監督管理委員會);
- (iv) a “**No Registration Event**” occurs when the Registration Conditions are not satisfied on or before the Registration Deadline;
- (v) a “**Person**” includes any individual, company, corporation, firm, partnership, joint venture, undertaking, association, organisation, trust, state or agency of a state (in each case whether or not being a separate legal entity);
- (vi) “**PRC Government Persons**” means collectively, Jinan SASAC or the Jinan Municipal Government, Shandong Provincial Government, the Central Government of the PRC or any other Person Controlled by any of the PRC Government Persons;

(vii) “**Registration Conditions**” means the receipt by the Trustee of the Registration Documents relating to the Cross-Border Security Registration and the NDRC Post-Issuance Filing as set forth in Condition 4 (d); and

(viii) a “**Relevant Event**” will be deemed to occur if:

A. there is a No Registration Event; or

B. there is a Change of Control.

**(d) Purchase**

The Issuer, the Guarantor and their respective Subsidiaries may at any time purchase Bonds in the open market or otherwise at any price. The Bonds so purchased, while held by or on behalf of the Issuer, the Guarantor or any such Subsidiary, shall not entitle the Holder to vote at any meetings of the Holders and shall not be deemed to be outstanding for certain purposes, including without limitation for the purpose of calculating quorums at meetings of the Holders or for the purposes of Condition 9, Condition 12 (a) and Condition 13.

**(e) Notice of redemption**

All Bonds in respect of which any notice of redemption is given under this Condition 6 shall be redeemed on the date, in such place and in such manner as specified in such notice in accordance with this Condition 6 (e). If there is more than one notice of redemption given in respect of any Bond (which shall include any notice given by the Issuer pursuant to Condition 6 (b) and any Put Exercise Notice given by a Bondholder pursuant to Condition 6 (c)), the notice given first in time shall prevail and in the event of two notices being given on the same date, the first to be given shall prevail. Neither the Trustee nor any of the Agents shall be responsible for calculating or verifying any calculations of any amounts payable under any notice of redemption or Put Exercise Notice and shall not be liable to the Holders, the Issuer or any other person for not doing so.

**(f) Cancellation**

All Certificates representing Bonds redeemed or purchased by or on behalf of the Issuer, the Guarantor and their respective Subsidiaries shall be surrendered for cancellation to the Registrar and, upon surrender thereof, all such Bonds shall be cancelled as soon as reasonably practicable. Any Certificates so surrendered for cancellation may not be reissued or resold and the obligations of the Issuer and the Guarantor in respect of any such Bonds shall be discharged.

**(g) No duty to monitor**

The Trustee and the Agents shall not be obliged to take any steps to ascertain whether a Relevant Event, Potential Event of Default or Event of Default has occurred or to monitor or to investigate the occurrence of any Relevant Event, Potential Event of Default or Event of Default, and shall not be liable to the Bondholders, the Issuer or any other person for not doing so.

## 7. PAYMENTS

### (a) Method of Payment:

- (i) Payments of principal and premium (if any) shall be made (subject to surrender of the relevant Certificates at the specified office of the Principal Paying Agent, any other Paying Agent or the Registrar if no further payment falls to be made in respect of the Bonds represented by such Certificates) in the manner provided in Condition 7 (a) (ii) below.
- (ii) Interest on each Bond shall be paid on the due date to the person shown on the Register at the close of business on the fifth Payment Business Day before the due date for payment thereof (the “Record Date”). Payments of interest on each Bond shall be made in U.S. dollars by wire transfer to the registered account of the Holder of such Bonds.

For the purposes of this Condition 7 (a), a holder’s “registered account” means the U.S. dollar denominated account maintained by or on behalf of it with a bank, details of which appear on the Register at the close of business on the Record Date.

- (iii) If the amount of principal being paid upon surrender of the relevant Certificate is less than the outstanding principal amount of such Certificate, the Registrar will annotate the Register with the amount of principal so paid and will (if so requested in writing by the Issuer or a Bondholder) issue a new Certificate with a principal amount equal to the remaining unpaid outstanding principal amount. If the amount of premium (if any) or interest being paid is less than the amount then due, the Registrar will annotate the Register with the amount of premium (if any) or interest so paid.

*Notwithstanding the foregoing, so long as the Global Certificate is held on behalf of Euroclear, Clearstream or any other clearing system, each payment in respect of the Global Certificate will be made to the person shown as the Bondholder in the Register at the close of business of the relevant clearing system on the Clearing System Business Day before the due date for such payments, where “Clearing System Business Day” means a weekday (Monday to Friday, inclusive) except 25 December and 1 January.*

- (b) **Payments subject to Fiscal Laws:** Payments will be subject in all cases to (i) any fiscal or other laws and regulations applicable thereto in the place of payment, but without prejudice to the provisions of Condition 8 and (ii) any withholding or deduction required pursuant to an agreement described in Section 1471 (b) of the U.S. Internal Revenue Code of 1986, as amended (the “Code”) or otherwise imposed pursuant to Sections 1471 through 1474 of the Code, any regulations or agreements thereunder, any official interpretations thereof, or (without prejudice to the provisions of Condition 8) any law implementing an intergovernmental approach thereto. No commission or expenses shall be charged to the Bondholders in respect of such payments.
- (c) **Payment Initiation:** Payment instructions (for value on the due date or, if that is not a Payment Business Day, for value on the first following day which is a Payment Business Day) will be initiated on the due date for payment (or, if that date is not a Payment Business Day, on the first following day which is a Payment Business Day) or, in the case of payments of principal and premium (if any) where the relevant Certificate is required to be but has not been surrendered at the specified office of any Paying Agent or of the Registrar, on the first Payment Business Day on which the Principal Paying Agent is open for business and on or following which the relevant Certificate is surrendered.

- (d) **Appointment of Agents:** The Principal Paying Agent, the Registrar, and the Transfer Agent initially appointed by the Issuer and the Guarantor and their respective specified offices are listed below. The Principal Paying Agent, the Registrar and the Transfer Agent act solely as agents of the Issuer and the Guarantor and do not assume any obligation or relationship of agency or trust for or with any Bondholder. The Issuer and the Guarantor reserves the right at any time with the prior written approval of the Trustee to vary or terminate the appointment of the Principal Paying Agent, the Registrar, any Transfer Agent or any of the other Agents and to appoint additional or other Agents, provided that the Issuer and Guarantor shall at all times maintain (i) a Principal Paying Agent, (ii) a Registrar, (iii) a Transfer Agent and (iv) such other agents as may be required by any stock exchange on which the Bonds may be listed.

Notice of any such termination or appointment or any change of any specified office of an Agent shall promptly be given by the Issuer (failing whom, the Guarantor) to the Bondholders in accordance with Condition 16.

- (e) **Delay in Payment:** Bondholders will not be entitled to any interest or other payment for any delay after the due date in receiving the amount due on a Bond if the due date is not a Payment Business Day or if the Bondholder is late in surrendering or cannot surrender its Certificate (if required to do so).
- (f) **Non-Payment Business Days:** If any date for payment in respect of any Bond is not a Payment Business Day, the Holder shall not be entitled to payment until the next following Payment Business Day nor to any interest or other sum in respect of such postponed payment.

In this Condition 7, “**Payment Business Day**” means a day (other than a Saturday, Sunday or public holiday) on which banks and foreign exchange markets are generally open for business in New York City, Hong Kong and in the place in which the specified office of the Principal Paying Agent is located.

## 8. TAXATION

All payments of principal, premium (if any) and interest by or on behalf of the Issuer or the Guarantor in respect of the Bonds or the Guarantee shall be made free and clear of, without set off or counterclaim and without withholding or deduction for or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or within Hong Kong or the PRC or any political subdivision or any authority therein or thereof having power to tax, unless such withholding or deduction is required by law.

Where such withholding or deduction is made by the Issuer or, as the case may be, the Guarantor for or on account of any taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected withheld or assessed by or within the PRC at the rate up to and including the aggregate rate applicable on 21 March 2024 (the “**Applicable Rate**”), the Issuer or as the case may be, the Guarantor will increase the amounts paid by it to the extent required, so that the net amount received by Bondholders equals the amounts which would otherwise have been received by them had no such withholding or deduction been required.

If the Issuer or as the case may be, the Guarantor is required to make a deduction or withholding for or on account of any taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected withheld or assessed (i) by or within the PRC in excess of the Applicable Rate or (ii) by or within Hong Kong, then the Issuer (or as the case may be, the

Guarantor) shall pay such additional amounts (“**Additional Tax Amounts**”) as will result in receipt by the Bondholders of such amounts as would have been received by them had no such withholding or deduction been required, except that no Additional Tax Amounts shall be payable in respect of any Bond:

- (i) **Other connection:** to a Holder (or to a third party on behalf of a Holder) who is liable to such taxes, duties, assessments or governmental charges in respect of such Bond by reason of his having some connection with Hong Kong or the PRC other than the mere holding of the Bond or where the withholding or deduction could be avoided by the Holder making a declaration of non-residence or other similar claim for exemption to the appropriate authority; or
- (ii) **Surrender more than 30 days after the Relevant Date:** in respect of which the Certificate representing it is surrendered (where surrender is required) for payment more than 30 days after the Relevant Date except to the extent that the Holder of it would have been entitled to such Additional Tax Amounts on surrendering the Certificate representing such Bond for payment on the last day of such period of 30 days.

References in these Conditions to principal, premium and interest shall be deemed also to refer to any Additional Tax Amounts which may be payable under this Condition 8 or any undertaking or covenant given in addition thereto or in substitution therefor pursuant to the Trust Deed, the Deed of Guarantee and the Bonds.

In these Conditions, “**Relevant Date**” in respect of any Bond means the date on which payment in respect of it first becomes due or (if any amount of the money payable is improperly withheld or refused) the date on which payment in full of the amount outstanding is made or (if earlier) the date falling seven days after that on which notice is duly given to the Bondholders that, upon further surrender of the Certificate representing such Bond being made in accordance with these Conditions, such payment will be made, provided that payment is in fact made upon such surrender.

Neither the Trustee nor any Agent shall in any event be responsible for paying any tax, duty, assessments, governmental charges, withholding or other payment referred to in this Condition 8 or otherwise in connection with the Bonds or for determining whether such amounts are payable or the amount thereof, and shall not be responsible or liable for any failure by the Issuer, the Guarantor, or the Bondholders or any other person to pay such tax, duty, assessments, governmental charges, withholding or other payment in any jurisdiction or be responsible to provide any notice or information in relation to the Bonds in connection with payment of such tax, duty, charges, assessments, governmental charges, withholding or other payment imposed by or in any jurisdiction, including without limitation any notice or information that would permit, enable or facilitate the payment of any principal, premium (if any), interest or other amount under or in respect of the Bonds without deduction or withholding for or on account of any such tax, duty, assessments, governmental charge, withholding or other payment imposed by or in any jurisdiction.

## 9. EVENTS OF DEFAULT

If an Event of Default (as defined below) occurs, the Trustee at its sole and absolute discretion may, and if so requested in writing by Holders of at least 25 per cent. of the aggregate principal amount of the Bonds then outstanding or if so directed by an Extraordinary Resolution shall (provided in any such case that the Trustee shall have first been indemnified and/or secured and/or pre-funded to its satisfaction), give written notice to the Issuer and the Guarantor that the Bonds are, and they shall immediately become, due and payable at their principal amount together (if applicable) with any accrued and unpaid interest.

An “**Event of Default**” occurs if:

- (a) **Non-Payment:** the Issuer and the Guarantor each fail to pay (i) the principal or any premium (if any) of the Bonds when due or (ii) any interest on the Bonds when due and such failure to pay interest continues for a period of seven days; or
- (b) **Breach of Other Obligations:** the Issuer or the Guarantor does not perform or comply with any one or more of its other obligations under the Bonds, the Trust Deed or the Deed of Guarantee (other than those referred to in Condition 9 (a) or where such default gives rise to a redemption pursuant to Condition 6 (c)), which default (i) is incapable of remedy or, (ii) if capable of remedy, is not remedied within 30 days after the Trustee has given written notice thereof to the Issuer or the Guarantor; or
- (c) **Cross-Default:** (i) any other present or future indebtedness of the Issuer or the Guarantor or any of their respective Subsidiaries for or in respect of moneys borrowed or raised becomes (or becomes capable of being declared) due and payable prior to its stated maturity by reason of any actual or potential default, event of default or the like (howsoever described), or (ii) any such indebtedness is not paid when due or, as the case may be, within any originally applicable grace period, or (iii) the Issuer or the Guarantor or any of their respective Subsidiaries fails to pay when due any amount payable by it under any present or future guarantee for, or indemnity in respect of, any moneys borrowed or raised provided that the aggregate amount of the relevant indebtedness, guarantees and indemnities in respect of which one or more of the events mentioned above in this Condition 9 (c) have occurred equals or exceeds in the aggregate U.S.\$20,000,000 or its equivalent in any other currency (on the basis of the middle spot rate for the relevant currency against the U.S. dollar as quoted by any leading bank on the day on which this Condition 9 (c) operates); or
- (d) **Enforcement Proceedings:** a distress, attachment, execution or other legal process is levied, enforced or sued out on or against the whole or any material part of the property, assets or revenues of the Issuer or the Guarantor or any of the Principal Subsidiaries and is not discharged or stayed within 45 days; or
- (e) **Security Enforced:** any mortgage, charge, pledge, lien or other encumbrance, present or future, created or assumed by the Issuer or the Guarantor or any of the Principal Subsidiaries on the whole or any material part of its assets becomes enforceable and any step is taken to enforce it (including the taking of possession or the appointment of a receiver, manager or other similar person) and is not discharged or stayed within 45 days; or
- (f) **Insolvency:** the Issuer or the Guarantor or any of the Principal Subsidiaries is (or could be, deemed by law or a court of competent jurisdiction to be) insolvent or bankrupt or unable to pay its debts as and when such debts fall due, stops, suspends or threatens to stop or suspend payment of all or a material part of its debts, proposes or makes any agreement for the deferral, rescheduling or other readjustment of all or any material part of its debts, proposes or makes a general assignment or an arrangement or composition with or for the benefit of the relevant creditors in respect of any such debts or a moratorium is agreed or declared in respect of or affecting all or any material part of the debts of the Issuer or the Guarantor or any of the Principal Subsidiaries; or
- (g) **Winding-up:** (i) an order of any court of competent jurisdiction is made or an effective resolution is passed for the winding-up or dissolution of the Issuer or the Guarantor or any of the Principal Subsidiaries (except for any voluntary shareholders’ solvent winding-up of any Principal Subsidiary); or (ii) the Issuer, the Guarantor or a Principal Subsidiary ceases or threatens to cease to carry on all or substantially all of its business or operations, except

for the case in (i) and (ii) above, (A) for the purpose of and followed by a solvent winding-up, dissolution, reconstruction, amalgamation, reorganisation, merger or consolidation on terms approved by the Trustee acting on an Extraordinary Resolution of the Bondholders, or (B) in the case of a Principal Subsidiary, (x) whereby the undertaking and assets of such Principal Subsidiary are transferred to or otherwise vested in the Issuer or the Guarantor (as the case may be) or any of their respective Subsidiaries, or (y) are disposed of on an arm's length's basis where the proceeds or consideration for such disposition are transferred to or otherwise vested in the Issuer, the Guarantor or any of their respective Subsidiaries; or

- (h) **Nationalisation:** any step is taken by any person acting under the authority of any national, regional or local government to seize, compulsorily acquire, expropriate or nationalise all or a material part of the undertaking, assets and revenue of the Issuer or the Guarantor or any of the Guarantor's Principal Subsidiaries; or
- (i) **Authorisation and Consents:** any action, condition or thing (including the obtaining or effecting of any necessary consent, approval, authorisation, exemption, filing, licence, order, recording or registration) at any time required to be taken, fulfilled or done in order (i) to enable the Issuer and the Guarantor lawfully to enter into, exercise their respective rights and perform and comply with their respective obligations under the Bonds, the Trust Deed and the Deed of Guarantee, (ii) to ensure that those obligations are legally binding and enforceable and (iii) to make the Bonds, the Trust Deed and the Deed of Guarantee admissible in evidence in the courts of Hong Kong is not taken, fulfilled or done; or
- (j) **Illegality:** it is or will become unlawful for the Issuer or the Guarantor to perform or comply with any one or more of its obligations under any of the Bonds, the Trust Deed or the Deed of Guarantee; or
- (k) **Unenforceability of Guarantee:** the Guarantee becomes unenforceable or invalid or shall for any reason cease to be in full force and effect or is claimed to be unenforceable, invalid or not in full force and effect by the Guarantor; or
- (l) **Analogous Events:** any event occurs which under the laws of any relevant jurisdiction has an analogous effect to any of the events referred to in any of Condition 9 (d) to 9 (k) (both inclusive).

In this Condition 9, "**Principal Subsidiary**" means any Subsidiary of the Guarantor:

- (a) whose revenue or (in the case of a Subsidiary which itself has Subsidiaries) consolidated revenue, as shown by its latest audited income statement, is at least five per cent. of the consolidated revenue as shown by the latest published audited consolidated income statement of the Guarantor and its Subsidiaries including, for the avoidance of doubt, the Guarantor and its consolidated Subsidiaries' share of revenue of Subsidiaries not consolidated and of jointly controlled entities and after adjustments for minority interests; or
- (b) whose net profit or (in the case of a Subsidiary which itself has Subsidiaries) consolidated net profit, as shown by its latest audited income statement, is at least five per cent. of the consolidated net profit as shown by the latest published audited consolidated income statement of the Guarantor and its Subsidiaries including, for the avoidance of doubt, the Guarantor and its consolidated Subsidiaries' share of profits of Subsidiaries not consolidated and of jointly controlled entities and after adjustments for minority interests; or

- (c) whose total assets or (in the case of a Subsidiary which itself has Subsidiaries) consolidated total assets, as shown by its latest audited balance sheet, are at least five per cent. of the consolidated total assets of the Guarantor and its Subsidiaries as shown by the latest published audited consolidated balance sheet of the Guarantor and its Subsidiaries including, for the avoidance of doubt, the investment of the Guarantor in each Subsidiary whose accounts are not consolidated with the consolidated audited accounts of the Guarantor and after adjustment for minority interests; or
- (d) to which is transferred the whole or substantially the whole of the assets of a Subsidiary which immediately prior to such transfer was a Principal Subsidiary, provided that (xx) the Principal Subsidiary which so transfers its assets shall forthwith upon such transfer cease to be a Principal Subsidiary and the Subsidiary to which the assets are so transferred shall forthwith become a Principal Subsidiary and (yy) on or after the date on which the first published audited accounts (consolidated, if appropriate) of the Guarantor prepared as of a date later than such transfer are issued, whether such transferor Subsidiary or such transferee Subsidiary is or is not a Principal Subsidiary shall be determined on the basis of such accounts by virtue of the provisions of paragraphs (a), (b) or (c) above of this definition,

provided that, in relation to paragraphs (a), (b) and (c) above of this definition:

- (i) in the case of a corporation or other business entity becoming a Subsidiary after the end of the financial period to which the latest consolidated audited accounts of the Guarantor relate, the reference to the then latest consolidated audited accounts of the Guarantor for the purposes of the calculation above shall, until consolidated audited accounts of the Guarantor for the financial period in which the relevant corporation or other business entity becomes a Subsidiary are published be deemed to be a reference to the then latest consolidated audited accounts of the Guarantor adjusted to consolidate the latest audited accounts (consolidated in the case of a Subsidiary which itself has Subsidiaries) of such Subsidiary in such accounts;
- (ii) if at any relevant time in relation to the Guarantor or any Subsidiary which itself has Subsidiaries, no consolidated accounts are prepared and audited, revenue, net profit or total assets of the Guarantor and/or any such Subsidiary shall be determined on the basis of pro forma consolidated accounts prepared for this purpose by the Guarantor;
- (iii) if at any relevant time in relation to any Subsidiary, no accounts are audited, its revenue, net profit or total assets (consolidated, if appropriate) shall be determined on the basis of pro forma accounts (consolidated, if appropriate) of the relevant Subsidiary prepared for this purpose by the Guarantor; and
- (iv) if the accounts of any subsidiary (not being a Subsidiary referred to in proviso (i) above) are not consolidated with those of the Guarantor, then the determination of whether or not such subsidiary is a Principal Subsidiary shall be based on a pro forma consolidation of its accounts (consolidated, if appropriate) with the consolidated accounts (determined on the basis of the foregoing) of the Guarantor.

## **10. PRESCRIPTION**

Claims against the Issuer and/or the Guarantor for payment in respect of the Bonds or the Guarantee shall be prescribed and become void unless made within 10 years (in the case of principal or premium (if any)) or five years (in the case of interest) from the appropriate Relevant Date in respect of them.

## **11. REPLACEMENT OF CERTIFICATES**

If any Certificate is lost, stolen, mutilated, defaced or destroyed, it may be replaced, subject to applicable laws, regulations or other relevant regulatory authority regulations, at the specified office of the Registrar or such other Transfer Agent as may from time to time be designated by the Issuer for that purpose and notice of whose designation is given to Bondholders in accordance with Condition 16, in each case on payment by the claimant of the fees and costs incurred in connection therewith and on such terms as to evidence, security, indemnity, pre-funding and otherwise as the Issuer, Registrar or relevant Transfer Agent may require. Mutilated or defaced Certificates must be surrendered before replacements will be issued.

## **12. MEETINGS OF BONDHOLDERS, MODIFICATION, WAIVER, AUTHORISATION, DETERMINATION AND ENTITLEMENT OF TRUSTEE**

### **(a) Meetings of Bondholders**

The Trust Deed contains provisions for convening meetings of the Bondholders to consider any matter affecting their interests, including without limitation the sanctioning by Extraordinary Resolution of a modification of any of these Conditions or any of the provisions of the Trust Deed, the Agency Agreement and/or the Deed of Guarantee. Such a meeting may be convened by the Trustee, the Issuer or the Guarantor and shall be convened by the Trustee upon request in writing from Bondholders holding not less than 10 per cent. in aggregate principal amount of the Bonds for the time being outstanding and subject to the Trustee being indemnified and/or secured and/or pre-funded to its satisfaction against all costs and expenses. The quorum for any meeting convened to consider an Extraordinary Resolution will be two or more persons holding or representing more than 50 per cent. in aggregate principal amount of the Bonds for the time being outstanding, or at any adjourned meeting two or more persons being or representing Bondholders whatever the principal amount of the Bonds held or represented unless the business of such meeting includes the modification or abrogation of certain of the provisions of these Conditions and certain of the provisions of the Trust Deed, including consideration of proposals, *inter alia*, (i) to modify the maturity date of the Bonds or the dates on which interest is payable in respect of the Bonds, (ii) to reduce or cancel the principal amount of, any premium payable on redemption of, or interest on, the Bonds, (iii) to change the currency of payment of the Bonds or (iv) to modify the provisions concerning the quorum required at any meeting of Bondholders or the majority required to pass an Extraordinary Resolution, or (v) to modify or cancel the Deed of Guarantee (other than as provided in Condition 12 (b)), in which case the necessary quorum for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 75 per cent., or at any adjourned meeting not less than 25 per cent., in aggregate principal amount of the Bonds for the time being outstanding. Any Extraordinary Resolution duly passed shall be binding on Bondholders, whether or not they were present at the meeting at which such resolution was passed.

The Trust Deed provides that a resolution (A) in writing signed by or on behalf of the Bondholders of not less than 90 per cent. in aggregate principal amount of the Bonds for the time being outstanding or (B) passed by Electronic Consent (as defined in the Trust Deed) shall for all purposes be as valid and effective as an Extraordinary Resolution passed at a meeting of Bondholders duly convened and held. Such a resolution in writing may be contained in one document or several documents in the same form, each signed by or on behalf of one or more Bondholders.

**(b) Modification, Waiver, Authorisation and Determination**

The Trustee may (but shall not be obliged to) agree, without the consent of the Bondholders, to any modification (except as mentioned in the Trust Deed) of, or to the waiver or authorisation of any breach or proposed breach of, or any failure to comply with, any of these Conditions or any of the provisions of the Trust Deed, the Agency Agreement, the Deed of Guarantee and/or the Bonds which in its opinion is not materially prejudicial to the interest of the Bondholders, or may agree, without any such consent as aforesaid, to any modification which, in its opinion, is of a formal, minor or technical nature or to correct a manifest error or to comply with any mandatory provision of applicable law. Any such modification, waiver or authorisation shall be binding on the Bondholders and, unless the Trustee agrees otherwise, such modification, waiver or authorisation shall be notified to the Bondholders by the Issuer as soon as practicable thereafter in accordance with Condition 16.

**(c) Entitlement of the Trustee**

In connection with the exercise of its functions, rights, powers and/or discretions (including but not limited to those referred to in this Condition 12), the Trustee shall have regard to the interests of the Bondholders as a class and shall not have regard to the consequences of such exercise for individual Bondholders and the Trustee shall not be entitled to require, nor shall any Bondholder be entitled to claim, from the Issuer or the Trustee any indemnification or payment in respect of any tax consequence of any such exercise upon individual Bondholders.

**13. ENFORCEMENT**

At any time after the Bonds become due and payable, the Trustee may, at its sole and absolute discretion and without further notice, take such actions and/or steps and/or institute such proceedings against the Issuer and/or the Guarantor as it may think fit to enforce the terms of the Trust Deed, the Agency Agreement, the Bonds and/or the Deed of Guarantee, but it need not take any such actions or steps and/or institute any such proceedings unless (a) it shall have been so directed by an Extraordinary Resolution or so requested in writing by Bondholders holding at least 25 per cent. in aggregate principal amount of the Bonds then outstanding, and (b) it shall have been indemnified and/or secured and/or pre-funded to its satisfaction. No Bondholder may proceed directly against the Issuer and/or the Guarantor unless the Trustee, having become bound so to proceed, fails to do so within a reasonable time and such failure is continuing.

**14. INDEMNIFICATION OF THE TRUSTEE**

The Trust Deed contains provisions for the indemnification of the Trustee and for its relief from responsibility, including without limitation provisions relieving it from taking any steps and/or actions and/or instituting any proceedings to enforce its rights under the Trust Deed, the Agency Agreement, the Deed of Guarantee and/or these Conditions in respect of the Bonds or to enforce payment or taking other steps and/or actions and/or instituting any proceedings unless first indemnified and/or secured and/or pre-funded to its satisfaction and to be paid or reimbursed for its fees, costs, expenses and indemnity payments and any liabilities and other amounts incurred by it in priority to the claims of Bondholders.

The Trustee and its affiliates are entitled (i) to enter into business transactions with the Issuer, the Guarantor and/or any related entity, and to act as trustee for the holders of any other securities issued by, or relating to, the Issuer, the Guarantor and/or any entity related to the Issuer or the Guarantor, (ii) to exercise and enforce its rights, comply with its obligations and perform its duties under or in relation to any such transactions or, as the case may be, any such trusteeship without regard to the interests of, or consequences for, the Bondholders and (iii) to retain and not be liable to account for any profit made or any other amount or benefit received thereby or in connection therewith.

The Trustee may rely conclusively, without liability to the Holders, Issuer, Guarantor or any other person, on any report, information, confirmation or certificate from or any opinion or advice of any accountants, auditors, bankers, lawyers, valuers, auctioneers, surveyors, brokers, financial advisers, financial institution or any other expert, whether or not addressed to it and whether their liability in relation thereto is limited (by its terms or by any engagement letter relating thereto or in any other manner) by reference to a monetary cap, methodology or otherwise. The Trustee may accept and shall be entitled to rely conclusively on any such report, information, confirmation, certificate, opinion or advice, in which case such report, information, confirmation, certificate, opinion or advice shall be binding on the Issuer, the Guarantor and the Holders. Whenever the Trustee is required or entitled by the terms of the Trust Deed, the Agency Agreement, the Deed of Guarantee or these Conditions to exercise any discretion or power, take any action, make any decision or give any direction, the Trustee is entitled, prior to exercising any such discretion or power, taking any such action, making any such decision or giving any such direction, to seek directions or clarification of any such direction from the Bondholders by way of Extraordinary Resolution, and the Trustee shall not be responsible for any loss or liability incurred by the Issuer, the Guarantor, the Bondholders or any other person as a result of any delay in it exercising such discretion or power, taking such action, making such decision or giving such direction as a result of seeking such direction or clarification of any such direction from the Bondholders or in the event that no direction or clarification of any such direction is given to the Trustee by the Bondholders.

None of the Trustee or any of the Agents shall be responsible for the performance by the Issuer, the Guarantor and/or any other person appointed by the Issuer or the Guarantor in relation to the Bonds of the duties and obligations on their part expressed in respect of the same and, unless it has written notice from the Issuer to the contrary, the Trustee and each Agent shall be entitled to assume that the same are being duly performed. None of the Trustee or any Agent shall be liable to any Bondholder, the Issuer or any other person for any action taken by the Trustee or such Agent in accordance with the instructions of the Bondholders. The Trustee shall be entitled to rely on any direction or request given by Bondholders holding the requisite principal amount of Bonds outstanding or resolution of Bondholders passed at a meeting of Bondholders convened and held in accordance with the Trust Deed. Neither the Trustee nor any of the Agents shall have any obligation to monitor compliance with the provisions of the Trust Deed, the Deed of Guarantee, the Agency Agreement or these Conditions or to monitor whether an Event of Default, a Potential Event of Default or a Relevant Event has occurred, and shall not be responsible or liable to the Issuer, the Holders or any other person for not doing so.

Each Bondholder shall be solely responsible for making and continuing to make its own independent appraisal and investigation into the financial condition, creditworthiness, condition, affairs, status and nature of the Issuer and the Guarantor, and the Trustee shall not at any time have any responsibility for the same and each Bondholder shall not rely on the Trustee in respect thereof.

## **15. FURTHER ISSUES**

The Issuer may from time to time without the consent of the Bondholders create and issue further securities having the same terms and conditions as the Bonds in all respects (or in all respects save for the issue date, the first payment of interest on them and the timing for complying with the Cross-Border Security Registration, the NDRC Post-Issuance Filing and any subsequent notifications thereof to the Trustee and the Bondholders) and so that the same shall be consolidated and form a single series with the outstanding Bonds. References in these Conditions to the Bonds include (unless the context requires otherwise) any further securities issued pursuant to this Condition 15. Any further securities forming a single series with the Bonds shall be constituted by a deed supplemental to the Trust Deed. The Trust Deed contains provisions for convening a single meeting of the Bondholders and the holders of securities of other series in certain circumstances where the Trustee so decides.

## **16. NOTICES**

Notices to the holders of Bonds shall be mailed to them at their respective addresses in the Register and deemed to have been given on the fourth weekday (being a day other than a Saturday or a Sunday) after the date of mailing. The Issuer shall also ensure that notices are duly published in a manner that complies with the rules and regulations of any stock exchange or other relevant authority on which the Bonds are for the time being listed. Any such notice shall be deemed to have been given on the date of such publication or, if published more than once, on the first date on which publication is made.

*Until such time as any individual certificates are issued and so long as the Global Certificate is held in its entirety on behalf of Euroclear and Clearstream any notice to the Bondholders shall be validly given by the delivery of the relevant notice to Euroclear and Clearstream for communication by the relevant clearing system to entitled accountholders in substitution for notification as required by the Conditions and shall be deemed to have been given on the date of delivery to such clearing system.*

## **17. CONTRACTS (RIGHTS OF THIRD PARTIES) ACT 1999**

Without prejudice to Condition 13, no rights are conferred on any person to enforce any term or condition of the Bonds under the Contracts (Rights of Third Parties) Act 1999 but this shall not affect any right or remedy which exists or is available apart from such Act.

## **18. GOVERNING LAW AND JURISDICTION**

### **(a) Governing Law**

The Trust Deed, the Agency Agreement, the Deed of Guarantee and the Bonds and any non-contractual obligations arising out of or in connection with them are governed by, and shall be construed in accordance with, English law.

**(b) Jurisdiction**

The courts of Hong Kong are to have exclusive jurisdiction to settle any disputes that may arise out of or in connection with the Bonds, the Trust Deed, the Agency Agreement and the Deed of Guarantee and accordingly any legal action or proceedings arising out of or in connection with any Bonds, the Trust Deed and the Agency Agreement (“**Proceedings**”) may be brought in such courts. The Issuer and the Guarantor irrevocably submit to the exclusive jurisdiction of such courts and waive any objection to Proceedings in any such courts whether on the ground of venue or on the ground that the Proceedings have been brought in an inconvenient forum.

**(c) Agent for Service of Process**

The Guarantor has irrevocably appointed the Issuer at Unit 1015, 10/F BLK A, New Mandarin Plaza, No. 14 Science Museum Road, Tsim Sha Tsui, East Kowloon, Hong Kong as its agent in Hong Kong to receive service of process in any Proceedings in Hong Kong based on any of the Bonds, the Deed of Guarantee, the Trust Deed or the Agency Agreement. If for any reason the Guarantor ceases to have the Issuer as its agent in Hong Kong, the Guarantor shall promptly appoint a new agent in Hong Kong to accept service of process and deliver to the Trustee a copy of the agent’s acceptance of that appointment within 30 days of such cessation. Nothing herein shall affect the right to serve process in any other manner permitted by law.

**(d) Waiver of Immunity**

Each of the Issuer and the Guarantor has waived any right to claim sovereign or other immunity from jurisdiction or execution and any similar defence, and has irrevocably consented to the giving of any relief or the issue of any process, including, without limitation, the making, enforcement or execution against any property whatsoever (irrespective of its use or intended use) of any order or judgment made or given in connection with any Proceedings.

## SUMMARY OF PROVISIONS RELATING TO THE BONDS IN GLOBAL FORM

*The Global Certificate contains provisions which apply to the Bonds in respect of which the Global Certificate is issued, some of which modify the effect of the Terms and Conditions of the Bonds set out in this Offering Circular. Terms defined in the Terms and Conditions of the Bonds have the same meaning in the paragraphs below. The following is a summary of those provisions:*

The Bonds will be represented by the Global Certificate in registered form, which will be registered in the name of a nominee of, and deposited with, a common depository for Euroclear and Clearstream.

Under the Global Certificate, the Issuer will promise to pay such principal, interest and other sums and additional amounts (if any) on the Bonds to the holder of the Bonds on such date or dates as the same may become payable in accordance with the Terms and Conditions of the Bonds together with such other sums and additional amounts (if any) as may be payable under the Terms and Conditions of the Bonds, in accordance with the Terms and Conditions of the Bonds.

### **Payment**

So long as the Bonds are represented by the Global Certificate, each payment in respect of the Global Certificate will be made to, or to the order of, the person whose name is entered on the Register at the close of business on the record date which shall be on the Clearing System Business Day immediately prior to the date for payment, where “Clearing System Business Day” means a weekday (Monday to Friday, inclusive) except 25 December and 1 January.

### **Exchange of Bonds Represented by Global Certificates**

Owners of interests in the Bonds in respect of which the Global Certificate is issued will be entitled to have title to the Bonds registered in their names and to receive individual definitive Certificates if either Euroclear or Clearstream, or any other clearing system selected by the Issuer and notified in writing to the Trustee, the Principal Paying Agent and the Registrar through which the Bonds are cleared (an “**Alternative Clearing System**”) is closed for business for a continuous period of 14 days (other than by reason of holidays, statutory or otherwise) or announces an intention permanently to cease business or does in fact do so. In such circumstances, the Issuer will at its own expense cause sufficient individual definitive Certificates to be executed and delivered to the Registrar for completion, authentication and despatch to the relevant holders of the Bonds. A person with an interest in the Bonds in respect of which the Global Certificate is issued must provide the Registrar not less than 30 days’ notice at its specified office of such holder’s intention to effect such exchange and a written order containing instructions and such other information as the Issuer and the Registrar may require to complete, execute and deliver such individual definitive Certificates.

### **Calculation of Interest**

So long as the Bonds are represented by a Global Certificate and such Global Certificate is held on behalf of a clearing system, the Issuer will, *inter alia*, pay interest in respect of such Bonds from the Issue Date in arrear at the rates, on the dates for payment, and in accordance with the method of calculation provided for in the Terms and Conditions of the Bonds together with such other sums and additional amounts (if any) as may be payable under the Terms and Conditions of the Bonds, in accordance with the Terms and Conditions of the Bonds.

## **Notices**

So long as the Bonds are represented by the Global Certificate and the Global Certificate is held on behalf of Euroclear or Clearstream or any Alternative Clearing System, notices to holders of the Bonds may be given by delivery of the relevant notice to Euroclear and Clearstream or such Alternative Clearing System, for communication by it to accountholders entitled to an interest in the Bonds in substitution for notification as required by the Terms and Conditions of the Bonds, and such notice shall be deemed to be received by the Bondholders on the second business day following delivery of such notice to Euroclear or Clearstream or the Alternative Clearing System.

## **Meetings**

For the purposes of any meeting of Bondholders, the holder of the Bonds represented by the Global Certificate shall (unless the Global Certificate represents only one Bond) be treated as two persons for the purposes of any quorum requirements of a meeting of Bondholders and as being entitled to one vote in respect of each U.S.\$1,000 in principal amount of the Bonds for which the Global Certificate is issued.

## **Authentication**

The Global Certificate shall not become valid for any purpose until authenticated by or on behalf of the Registrar.

## **Bondholder's Redemption**

The Bondholder's redemption option in Condition 6 (c) of the Terms and Conditions of the Bonds may be exercised by the holder of the Global Certificate giving notice to the Paying Agent, in accordance with the rules and procedures of Euroclear and Clearstream and any Alternative Clearing System, as applicable, failing which, in the form of the notice of redemption available from any Paying Agent and stating of the principal amount of Bonds in respect of which the option is exercised within the time limits specified in the Terms and Conditions of the Bonds.

## **Issuer's Redemption**

The option of the Issuer provided for in Condition 6 (b) of the Terms and Conditions shall be exercised by the Issuer giving notice to the Bondholders within the time limits set out in and containing the information required by the Terms and Conditions of the Bonds.

## **Transfers**

Transfers of beneficial interests in the Bonds represented by the Global Certificate will be effected through the records of Euroclear and Clearstream (or any Alternative Clearing System) and their respective participants in accordance with the rules and procedures of Euroclear and Clearstream (or any Alternative Clearing System) and their respective direct and indirect participants.

## **Cancellation**

Cancellation of any Bond represented by the Global Certificate which is required by the Terms and Conditions of the Bonds to be cancelled will be effected by a reduction in the principal amount of the Bonds in the register of Bondholders and the Global Certificate on its presentation to or to the order of the Registrar for annotation (for information only) in Schedule A of the Global Certificate.

### **Trustee's Powers**

In considering the interests of the Bondholders whilst the Global Certificate is registered in the name of a nominee for a clearing system, the Trustee may, to the extent it considers it appropriate to do so in the circumstances, but without being obliged to do so, (a) have regard to any information as may have been made available to it by or on behalf of the relevant clearing system or its operator as to the identity of its accountholders (either individually or by way of category) with entitlements in respect of the Bonds and (b) consider such interests on the basis that such accountholders were the holders of the Bonds in respect of which the Global Certificate is issued.

## **USE OF PROCEEDS**

The gross proceeds from the offering of the Bonds will be U.S.\$210 million before deducting commissions and other estimated offering expenses payable in connection with this offering.

The Issuer intends to use the net proceeds from this offering for financing and/or refinancing of eligible projects under the Green Finance Framework.

## GREEN FINANCE FRAMEWORK

The Group has developed this Green Finance Framework (the “**Green Finance Framework**” or the “**Framework**”) to demonstrate how it intends to enter into green financing transactions (“**GFTs**”), including bonds, loans and other forms of debt financing, from time to time. The Framework has received a “second party opinion” by an independent consultant.

The Framework has been developed to demonstrate how the Group could, with GFTs, fund projects that would deliver positive environmental impacts and foster sustainable practices in support of the Group’s green and sustainability strategy.

The proceeds from GFTs will be applied exclusively to Eligible Projects (as defined in the Framework) that will deliver environmental benefits to support the Group’s business strategy and green mission.

Bonds issued under the Framework will be aligned with voluntary guidelines in Green Bond Principles (“**GBP**”) (2021) (with June 2022 Appendix 1) by the International Capital Markets Association’s (“**ICMA**”). Loans issued under the Framework will be aligned with voluntary guidelines in Green Loan Principles (“**GLP**”) 2023 by the Loan Market Association (“**LMA**”), Loan Syndications and Trading Association (“**LSTA**”) and Asia Pacific Loan Market Association (“**APLMA**”).

For each GFI issued under the Framework, the Group is committed to align with the following elements:

- Use of Proceeds
- Project Evaluation and Selection
- Management of Proceeds
- Reporting
- External Review



### Use of Proceeds

An amount equivalent to net proceeds from each GFT will be used exclusively to finance and/or refinance, in whole or in part, new or existing assets and projects aligned with one or more of the following eligible categories (“**Eligible Projects**”<sup>1</sup>). Refinancing of Eligible Projects will have a look-back period of no longer than 24 months from the time of issuance. The Group is committed to fully allocate the net proceeds of each GFT on a best effort basis within 12 months of issuance.

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<sup>1</sup> The Group may own Eligible Projects directly or indirectly through its subsidiaries.

Eligible Projects mean projects that fall within the categories stated below.

Eligible Project Categories	Eligibility Examples & Criteria	UN SDG Mapping
Energy Efficiency	<ul style="list-style-type: none"> <li>• Expenditures and investments related to design, construction, operation, and maintenance of energy-efficient facilities and infrastructure               <ul style="list-style-type: none"> <li>– Reuse of industrial residual heat and steam for downstream production, limited to construction and operation of pipelines to collect waste heat and associated infrastructure for distributing heating</li> <li>– Such as using at least 50% renewable energy or 50% waste heat or 75% cogenerated heat or 50% of a combination of such energy and heat</li> </ul> </li> </ul>	 

**Project Evaluation and Selection**

The evaluation and selection process ensures that an amount equivalent to net proceeds from each GFT will be allocated to projects that meet the Eligibility Project Criteria set out in the Use of Proceeds under the Framework. The Group has established a Green Financing Team (the “**Team**”) which governs the process, consisting of representatives and senior members from the Investment and Development Department and Financing Management Department. The Team will meet on an annual basis and is responsible for:

- Evaluating the compliance of projects with the Eligibility Criteria outlined in the Use of Proceeds under the Framework;
- Approving the inclusion of pre-selected Eligible Projects in Green Project List (the Team has full discretion to object the inclusion of any project);
- Monitoring and managing the Green Project List. The Team will maintain a register to keep track of the use of net proceeds of the GFTs through the internal information system on an annual basis;
- Replacing projects that no longer meet the Eligibility Criteria or reallocating divestment proceeds to Eligible Projects;
- Observing developments in the green financing markets and approving updates to this Framework accordingly to reflect relevant changes in our corporate strategy or market developments.

**Management of Proceeds**

Net proceeds or the equivalent amount of the net proceeds of the GFTs will be deposited in the general account, which will then be earmarked for allocation to the Eligible Projects in accordance with the Framework. Net proceeds of each GFT awaiting allocation will be held in accordance with the Group’s normal liquidity management policy. The Team will track the allocation of net proceeds from the issuance of any GFTs to Eligible Projects.

The Team will maintain a register to keep track of the use of an amount equivalent to net proceeds of each GFT through the internal information system, and the Team will review the Green Project List annually. If any of the Eligible Projects cease to fulfil requirements of Use of Proceeds under the Framework, the Team will identify other projects that comply with the Framework and re-allocate to those assets as soon as practicable. The balance of the tracked net proceeds will be on a best-effort basis annually adjusted to match allocations to Eligible Projects made while the GFT (s) remain outstanding.

The register will contain the following information:

**Type of Funding Transaction:** Key information including the issuer/borrower entity, transaction date, principal amount, repayment or amortization profile, maturity date, interest or coupon, and the ISIN number.

Pending full allocation, unallocated proceeds will be:

- held in temporary investment instruments that are assets with high liquidity and safety such as cash or cash equivalent instruments; or
- held in temporary placements that do not include projects, assets or activities that are inconsistent with the nature of a green debt instrument.

The Group commits not to invest unallocated proceeds to high pollution activities or ineligible projects. The following sectors and activities will be excluded from Eligible Projects:

- activities that violate national laws and regulations, international conventions and agreements, or are subject to international bans and sanctions;
- production or trade of weapons and ammunition;
- production or trade of alcoholic beverages (except for beer and wine);
- production or trade of tobacco;
- enterprises engaged in gambling or casino operations or similar businesses;
- production or trade of radioactive materials (excluding equipment which radioactive source is considered insignificant and/or adequately shielded, for example, quality control equipment); or
- production or activities involving harmful or exploitative forced labour or harmful child labour.

## Reporting

The Group will provide information on the allocation of the net proceeds or equivalent amount of the net proceeds of the GFTs via the website, social media, or report. Such information will be updated on an annual basis until all the net proceeds of the GFTs have been fully allocated.

**Allocation Report** should contain the following information:

- Amount of allocated proceeds by Eligible Project Category, with a brief description of Eligible Projects;
- The remaining balance of funds which have not yet been allocated;
- Share of financing vs. refinancing

Where possible, the Group will report on the environmental impacts associated with the Eligible Projects.

**Impact Report** may contain, on a best-effort basis and subject to data availability, such as but not limited to the following information:

<b>Eligible Project Categories</b>	<b>Impact Indicators<sup>2</sup></b>
Energy Efficiency	<ul style="list-style-type: none"><li>• Annual greenhouse gas emissions reduced/avoided (tonne of CO<sub>2</sub> equivalent)</li><li>• Annual energy savings (MWh/GWh)</li></ul>

**External Review:** the Group has engaged CECEP Environmental Consulting Group Ltd., an independent third party, to review and to issue an independent second party opinion on the Framework’s alignment with GBP and GLP.

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<sup>2</sup> Appropriate environmental impact indicators will be determined in reference to frameworks and resources published by ICMA, such as the Harmonized Framework for Impact Reporting June 2021

## CAPITALISATION AND INDEBTEDNESS

The following table sets forth the consolidated total indebtedness (both short-term and long-term portions), total owner's equity and total capitalisation of the Guarantor as of 31 December 2022 (i) on an actual basis, and (ii) on an adjusted basis to give effect to the issue of the Bonds before deducting the commissions and other estimated expenses payable in connection with the offering of the Bonds.

The summary consolidated financial information below should be read in conjunction with the Guarantor's Audited Financial Statements as of and for the year ended 31 December 2022 and the notes to those financial statements included elsewhere in this Offering Circular.

	As of 31 December 2022			
	Actual		As adjusted	
	(RMB in '000)	(U.S.\$ in '000)	(RMB in '000)	(U.S.\$ in '000)
<b>Short-term indebtedness</b>				
Short-term borrowings . . . . .	1,412,837.6	204,842.2	1,412,837.6	204,842.2
Non-current liabilities due within one year . . . . .	676,191.1	98,038.5	676,191.1	98,038.5
<b>Total short-term indebtedness . . . . .</b>	<b>2,089,028.7</b>	<b>302,880.7</b>	<b>2,089,028.7</b>	<b>302,880.7</b>
<b>Long-term indebtedness</b>				
Long-term borrowings . . . . .	4,288,390.1	621,758.1	4,288,390.1	621,758.1
Bonds payables . . . . .	800,000.0	115,989.1	800,000.0	115,989.1
Long-term payables . . . . .	1,111,214.3	161,110.9	1,111,214.3	161,110.9
Bonds to be issued <sup>(1)</sup> . . . . .	–	–	1,448,412.0	210,000.0
<b>Total long-term indebtedness . . . . .</b>	<b>6,199,604.5</b>	<b>898,858.2</b>	<b>7,648,016.5</b>	<b>1,108,858.2</b>
<b>Total indebtedness<sup>(2)</sup> . . . . .</b>	<b>8,288,633.2</b>	<b>1,201,738.9</b>	<b>9,737,045.2</b>	<b>1,411,738.9</b>
<b>Total owners' equity . . . . .</b>	<b>15,352,443.2</b>	<b>2,225,895.0</b>	<b>15,352,443.2</b>	<b>2,225,895.0</b>
<b>Total capitalisation<sup>(3)</sup> . . . . .</b>	<b>23,641,076.4</b>	<b>3,427,633.9</b>	<b>25,089,488.4</b>	<b>3,637,633.9</b>

*Notes:*

- (1) This amount represents the aggregate principal amount of the Bonds to be issued, before deducting the commissions and other estimated expenses payable by the Issuer in connection with the offering of the Bonds.
- (2) Total indebtedness equals the sum of short-term indebtedness and long-term indebtedness.
- (3) Total capitalisation equals the sum of total indebtedness and total owners' equity.

Since 31 December 2022, the Group has entered into additional financing arrangements and incurred indebtedness to replenish its working capital, to finance its business development and for other general corporate purposes. See "*Recent Developments*". Except as otherwise disclosed in this Offering Circular, there has been no material change in the Group's indebtedness or capitalisation since 31 December 2022.

## DESCRIPTION OF THE ISSUER

### FORMATION

The Issuer is a limited liability company incorporated under the Companies Ordinance (Cap. 622) of Hong Kong (CR No. 3104686). It was incorporated in Hong Kong on 22 November 2021. Its registered office is situated at Unit 1015, 10/F, Block A, New Mandarin Plaza, No. 14 Science Museum Road, Tsim Sha Tsui East, Kowloon, Hong Kong. The Issuer is a direct wholly-owned subsidiary of the Guarantor and has no subsidiary.

### BUSINESS ACTIVITY

The Issuer was established for the purpose of issuing offshore bonds and debt instruments. As at the date of this Offering Circular, the Issuer has not engaged, since its incorporation, in any material activities other than the activities relating to the proposed issuance of the Bonds and the on-lending of the proceeds thereof to the Company or its subsidiaries, and the authorisation of documents and agreements referred to in this Offering Circular to which it is or will be a party, other than U.S.\$210 million 6.0 per cent. of guaranteed green bonds due 2024. The Issuer will not, carry on any business or other activities other than (i) the offering, sale or issuance of debt securities and incurrence of borrowings and other indebtedness and performance of its obligations thereunder; (ii) investment in or on-lending of the proceeds thereof to the Company or any of its Subsidiaries and any other activities incidental thereto; (iii) the activities related to the establishment and/or maintenance of the Issuer's corporate existence; and (iv) any other activities in connection therewith.

### MANAGEMENT

The directors of the Issuer as at the date of this Offering Circular are Zhang Qi (張琦) and Yan Long (閻龍), one of the Guarantor's employee representative supervisors.

### SHARE CAPITAL

The authorised share capital of the Issuer is U.S.\$100,000, divided into 100,000 ordinary shares of U.S.\$1.00 each, all of which have been issued as at the date of this Offering Circular. None of the equity securities of the Issuer is listed or dealt in on any stock exchange, and no listing or permission to deal in such securities is being or is proposed to be sought.

## DESCRIPTION OF THE GROUP

### OVERVIEW

The Company is a large-scale wholly state-owned energy enterprise headquartered in Jinan, Shandong Province. The Company was established in 2020 through the consolidation and merger of four local heat and gas supply enterprises, as approved by the Jinan Municipal Government. The Group was formed with a strategic goal of building a national first-class energy service provider in order to attain a safe, green, intelligent and economic energy supply. Since its establishment, the Group has played a significant role in implementing the urban development plan of Jinan Municipal Government and has developed into a key force to optimise the energy supply and operation in Jinan. By virtue of its strategically important role in Jinan energy supply industry, the Group has received strong government support over the years, including capital and assets injection and also subsidies in various forms. As at the date of this Offering Circular, the Company has a registered capital of RMB10.0 billion and the Group has over 10,000 employees.

The Group mainly operates its energy supply business in Jinan, Shandong Province. The heat service area of Jinan has been steadily growing over the years. Considering the national average heat coverage rate in China is still lower than that of other developed countries, the Group believes there continues to be an increasing heat and energy demand and thus room for potential business. The Group's development in the energy industry also benefits from the rapid urbanization and economic development in Jinan. For example, Jinan has achieved an annual GDP of approximately RMB1,202.8 billion in 2022.

The Group's principal business segments include (i) heat supply, (ii) gas supply, (iii) engineering construction; and (iv) other businesses. Set forth below is a summary of its principal business segments.

- *Heat Supply.* Heat supply is one of the Group's core businesses. As at 31 December 2022, the Group's heat service account area covered approximately 351.4 million sq.m., with a total of approximately 2.1 million heat users. The Group obtains its heat sources mainly through two channels, namely (i) heat procurement from upstream power plants, and (ii) self-produced heat by using fuels such as pulverized coal and natural gas. As at 31 December 2022, the Group owned 38 large and medium-sized heat sources, 136 heating boilers with a total boiler capacity of 10,317 tons per hour, and a total heating supply capacity of 6,646 megawatt. The Group also had 230 small heat sources with a total heat supply capacity of 1,436.6 megawatt, which are capable of supplying heat for an area of 33.4 million sq.m.
- *Gas Supply.* The Group's gas supply business is mainly undertaken by Shandong Jihua Gas Group Co., Ltd. (山東濟華燃氣集團有限公司) ("**Shandong Jihua Gas**") and Jinan Towngas Group Co., Ltd. (濟南港華燃氣集團有限公司) ("**Jinan Towngas**"). Shandong Jihua Gas is a joint venture company and mainly engaged in natural gas supply and operation business. The Group obtained the exclusive right to operate and maintain municipal pipeline gas facilities to supply gas to users, within specified Jinan urban districts for 30 years from June 2010 to June 2040 by the Jinan Municipal Public Utilities Bureau (濟南市市政公用事業局). The Group mainly supplies gas to domestic and commercial end-users. As at 31 December 2022, the Group supplied gas to approximately 2.3 million domestic end-users, 1,446 public welfare sector end-users, 9,322 commercial end-users and 418 industrial end-users.

- *Engineering Construction.* Since the establishment of the Group, the construction engineering projects previously undertaken by project companies of Jinan Thermoelectricity Co., Ltd. (濟南熱電有限公司) (“**Jinan Thermoelectricity**”) and Jinan Thermal Group Co., Ltd (濟南熱力集團有限公司) (“**Jinan Thermal**”) have been allocated to Jinan Energy Engineering Group Co., Ltd. (濟南能源工程集團有限公司) (“**Jinan Energy Engineering**”). The engineering construction business of Jinan Energy Engineering mainly covers five segments, namely municipal engineering, highway engineering, housing construction engineering, design, survey and consulting, and energy construction. The Group primarily involves in project consulting and design, construction and project management, technology research and development, equipment integration and operation services. Jinan Energy Engineering has a number of first-class or top grade engineering qualifications, such as first-class EPC qualifications for municipal public facilities, construction engineering and highway engineering. Jinan Energy Engineering has completed a number of key engineering construction projects since its establishment. It undertakes construction projects mainly under three contracting models, namely general construction contracting, EPC, and design and construction.
- *Other Businesses.* In addition to its principal businesses as aforementioned, the Group is also engaged in other businesses, such as sale of gas appliances, maintenance services and technical services.

For the years ended 31 December 2020, 2021 and 2022, the Group’s revenue was RMB9,925.4 million, RMB10,686.1 million and RMB12,266.7 million, respectively. As at 31 December 2022, the Group had total assets of approximately RMB52.8 billion.

## **RELATIONSHIP WITH JINAN MUNICIPAL GOVERNMENT**

The Company is wholly owned by Jinan SASAC, which is a government organ of the Jinan Municipal Government. As a key state-owned enterprise based in Jinan, the Group has extensive connections with other entities directly or indirectly controlled by the Jinan Municipal Government.

Notwithstanding the Group’s extensive relationships with the Jinan Municipal Government and other entities controlled by it, the various social and public welfare functions performed by the Group and the financial support received by the Group, the Company is not part of any government. It is operationally and financially separated from the Jinan Municipal Government and Jinan SASAC. Its functions and departments are separated from those of the government and do not share any premises with the Jinan Municipal Government and Jinan SASAC. The directors and the senior management of the Company are not government officers. The Company has its own budget and financial reporting system, and its assets and liabilities are separated from those of the Jinan Municipal Government and Jinan SASAC. Jinan SASAC, as the controlling shareholder of the Company, is only responsible for the liability of the Company up to the limit of its equity contributions to the Company. Neither the Jinan Municipal Government, Jinan SASAC nor any other PRC governmental entity has any payment or other obligations under the Bonds, the Guarantee or the Trust Deed, and they will not provide guarantee of any kind for the Bonds. The Bondholders do not have any recourse against the Jinan Municipal Government, Jinan SASAC or any other PRC governmental entities in respect of any obligation arising out of or in connection with the Bonds, the Guarantee or the Trust Deed. The Bonds are solely to be repaid by the Issuer and the Guarantor, and the obligations of the Issuer and the Guarantor under the Bonds and the Guarantee shall solely be fulfilled by the Issuer and the Guarantor as independent legal persons. Investments in the Bonds are on the credit risk of the Issuer and the Guarantor, rather than that of the Jinan Municipal Government, Jinan SASAC or any other PRC governmental entity. In the event that the Issuer and/or the Guarantor (as the case may be) does not fulfil its obligations under the Bonds, investors will only be able to claim as an unsecured creditor against the Issuer and the Guarantor and their respective assets, and not any other person, including the Jinan Municipal Government, Jinan SASAC nor any other PRC governmental entity.

This position has been reinforced by Circular 23, Circular 706 and Circular 666. However, neither of these Circulars prohibit the PRC government from providing support (in various forms including capital injection and subsidies, but excluding injecting any kinds of public assets and land reserves as the Group's assets) to the Group in its ordinary course of business in compliance with PRC laws and regulations. The detailed description of the relationships between the Company and the Jinan Municipal Government and Jinan SASAC in this Offering Circular does not imply in any way any explicit or implicit credit support of the Jinan Municipal Government or Jinan SASAC in respect of the Bonds and the Guarantee, the repayment of which remains the sole responsibility of the Company.

## **COMPETITIVE STRENGTHS**

The Group believes the following competitive strengths have contributed to its success and are important to its future development:

### **Exclusive right for gas supply in most of Jinan urban districts granted by Jinan Municipal Government**

The Guarantor was established in 2020 under the approval of Jinan Municipal Government and is directly and wholly-owned by Jinan SASAC. By virtue of its consolidation of Shandong Jihua Gas in 2020 and Jinan Towngas in 2021 pursuant to the "single network" consolidation requirements of heat and gas supply in the city by the Jinan Municipal Government, the Group obtained the exclusive right granted by Jinan Municipal Public Utilities Bureau to operate and maintain municipal pipeline gas facilities and to supply gas to users within specified Jinan urban districts for 30 years from 10 June 2010 to 9 June 2040.

In June 2010, Jinan Municipal Public Utilities Bureau, commissioned by the Jinan Municipal Government, entered into municipal pipeline gas franchising agreements with each of Shandong Jihua Gas and Jinan Towngas, granting each of them the exclusive right to operate municipal gas facilities and supply gas within the distinct parts of the Jinan urban districts specified in the respective franchising agreements. With the support of the Jinan Municipal Government, the Group acquired both Shandong Jihua Gas and Jinan Towngas and became the leading gas supplier in the Jinan urban districts. As at 31 December 2022, the Group had eight gate stations, 27 pressure regulating stations and high, medium and low pressure gas pipeline network of approximately 10,365.7 kilometres. As at 31 December 2022, the Group supplied gas to approximately 2.3 million domestic end-users, 1,446 public welfare sector end-users, 9,322 commercial end-users and 418 industrial end-users in its gas supply business.

Jinan is the capital city of Shandong Province and one of the 15 sub-provincial cities in China and has achieved a one of the 23 cities in China that with a GDP of over RMB1 trillion in 2020. In 2021, Jinan's GDP increased to approximately RMB1,143.2 billion and further increased to approximately RMB1,202.8 billion in 2022. With the exclusive right for gas supply and its unique background, the Group believes it can capture most of the business opportunities in this sector in Jinan and its gas supply business will continue to profit from Jinan's prime geographical location and economic growth.

### **Strategic role in Jinan's heat supply industry**

As a direct wholly-owned subsidiary of Jinan SASAC, the Group has the largest heat supply system in Jinan and occupies a monopoly position in the heat supply industry in Jinan. As at 31 December 2022, the Group had a total length of 10,808 kilometres heat distribution pipelines, which consisted of 4,782 kilometres primary heat distribution pipelines and 6,026 kilometres secondary heat distribution pipelines. As at 31 December 2022, the Group's heat service area covered approximately 351.4 million sq.m., with a total of approximately 2.1 million heat users.

With the largest heat supply facilities, the support from the Jinan Municipal Government and the leading market position in the sector, the Group believe it will continue to dominate in Jinan's heat supply industry and play a vital role in Jinan's heat supply industry.

## **Strong support from the Jinan Government and well-positioned to benefit from Jinan’s economic development**

In recognition of the strategic importance of the Group’s business to the heat supply and gas supply in Jinan, the Group has received comprehensive support from the Jinan Municipal Government in various forms. Set out below are some examples of the Jinan Municipal Government’s support to the Group:

- **Government grant and subsidies:** the Jinan Municipal Government has made capital contribution and provided government grants and subsidies in various forms in support of the Group’s operation in Jinan. For the years ended 31 December 2020, 2021 and 2022, the Group recognised government subsidies as other revenue and non-operating income in the amount of RMB264.7 million, RMB1,480.8 million and RMB1,641.1 million respectively.
- **Special funds:** the Group receives funds from the Jinan Municipal Government in its heating and gas pipeline network construction projects and recognised such funds as special payables under long-term payables, which will be recognised as capital reserve after the completion of the relevant projects.
- **Asset injection:** the Jinan Municipal Government procured and facilitated the Group’s key acquisitions of Jinan Thermal, Jinan Thermoelectricity, Jinan Towngas, Shandong Jihua Gas, Jinan Energy Construction and Jinan City Lighting Engineering Co., Ltd. (濟南城市照明工程有限公司) (“**Jinan Lighting**”) at nil consideration.

## **Diversified business portfolios with sustainable growth**

The Group has a diversified business portfolio which enhances its risk resilience and provides it with a steady and sustainable stream of operating revenue from its businesses. As designated by the Jinan Municipal Government, the Group consolidated heat suppliers (Jinan Thermal and Jinan Thermoelectricity), gas suppliers (Jinan Towngas and Shandong Jihua Gas) and an engineering construction company (Jinan Energy Construction). As such, the Group’s current principal business includes heat supply, gas supply, engineering construction and other businesses. For the years ended 31 December 2020, 2021 and 2022, the Group’s revenue was RMB9,925.4 million, RMB10,686.1 million and RMB12,266.7 million, respectively. Heat supply, gas supply and engineering construction businesses all generate steady returns. The Group’s diversified business portfolio minimises the risk of business concentration and the level of volatility in its overall earnings and financial position as a result of changes in industrial conditions or other factors within any one sector. The Group believes that its diversified sources of income will enhance the Group’s stability and growth as well as flexibility in managing its operations.

In addition, the Group established Jinan Energy Investment Holding Group Co., Ltd. (濟南能源投資控股集團有限公司) (“**Jinan Energy Investment**”) in December 2020 with the intention to explore the opportunities in the new energy market in Jinan and acquired Jinan Lighting in January 2022 to commence its lighting business, both of which would further optimize the Group’s diversified business portfolio.

## **BUSINESS STRATEGIES**

The Group is determined to maintain its current competitive strengths and plan to implement the following business strategies in order to achieve its overall business objectives:

### **To further cement its unique position in heat and gas supply industries in Jinan**

The Group intends to leverage the “single network” consolidation requirements of heat and gas supply in Jinan by the Jinan Municipal Government and continue to cement its unique position in the heat and gas

supply industries in Jinan. Through acquisitions and consolidation, the Group has built a strong presence and achieved a leading market position in the heat and gas supply industries in Jinan. The Group plans to continue to actively leverage its unique background and its extensive experience, focus on the heat supply and gas supply businesses in Jinan and further enhance its core competitive advantages. The Group aims to become an integrated energy solution company in Jinan and provide energy services, electricity supply, technical services and renewable energy in the future. The Group will also build more gas stations and gate stations to improve its gas supply business. Through consolidating resources from its heat supply business, gas supply business and engineering construction business, the Group aims to further strengthen its competitiveness and improve its business and financial performance to achieve sustainable growth.

#### **To further optimise its business portfolio and create new sources of income**

On top of its current heat supply and gas supply businesses, the Group intends to develop its clean heating business and new energy business. The clean heating business involves development of central heating services and large-scale energy heat sources. The new energy business will cover service projects in connection with non-traditional energy, such as carbon-neutral demonstrations, photovoltaic power generation and biomass energy generation. The Group believes that its existing heat supply and gas supply businesses could facilitate the development of these new businesses and would be benefited from the synergy created by the new business segments. Additional sources of income would further optimise the Group's business portfolio and enhance the Group's business and financial performance in the future.

#### **To promote its market position and enhance its technological expertise in new energy segment**

In line with the PRC government's "carbon neutral" commitment by 2060 and in light of the increasing attention on the importance of environment protection, the Group established Jinan Energy Investment in December 2020 with the intention to explore the opportunities in the new energy market in Jinan. The Group believes that the clean energy and new energy industries have great potential for future growth. The Group intends to utilise its heat and gas supply network and part of the technology in its heat supply and gas supply businesses to develop its new energy segment, which will not only complement the existing heat supply and gas supply businesses, but also create a new source of income for the Guarantor. The Group believes that the investment in the new energy segment would enable the Group to capture the business opportunities in Jinan, enhance the Group's competitiveness and achieve sustainable growth.

### **RECENT DEVELOPMENTS**

On 22 April 2022, a subsidiary of the Group, Jinan Energy and Environmental Protection Technology Co., Ltd. (濟南能源環保科技有限公司) ("**Jinan EEPT**") entered into a share transfer agreement with Shandong Synthesis Technology Investment Co., Ltd. (山東神思科技投資有限公司) ("**Shandong Synthesis**"), under which Shandong Synthesis agreed to transfer 11.40 per cent. of its equity interest in Synthesis Electronic Technology Co., Ltd. (神思電子技術股份有限公司) ("**Synthesis Electronic**") to the Jinan EEPT. On the same date, Jinan EEPT entered into a voting rights entrustment agreement with Shandong Synthesis, where Shandong Synthesis agreed to entrust 5.20 per cent. of its voting rights in Synthesis Electronic to Jinan EEPT. Upon performance of the agreements, Jinan EEPT will hold 16.60 per cent. of voting rights in Synthesis Electronic, becoming the controlling shareholder of Synthesis Electronic.

In January 2022, the Company acquired 100 per cent. equity interest in Jinan Lighting without consideration to commence its lighting business, which includes the installation and design of lighting facilities in Jinan.

On 1 March 2022, the Company issued a total principal amount of RMB200 million of short-term financing papers titled “22 Jinan Energy CP001” (22濟南能源CP001) in the onshore market of the PRC. These short-term financing papers are listed on the China Foreign Exchange Trade System and have a tenor of 365 days with an interest rate of 2.60 per cent. per annum.

On 17 March 2022, the Company issued a total principal amount of RMB800 million of mid-term notes titled “22 Jinan Energy MTN001” (22濟南能源MTN001) in the onshore market of the PRC. These mid-term notes titled are listed on the Shanghai Clearing House and have a tenor of up to five years with an interest rate of 3.30 per cent. per annum.

On 19 April 2023, the Issuer issued a total principal amount of U.S.\$210 million of guaranteed green bonds due 2024 with a fixed annual interest rate of 6.0 per cent. These bonds were unconditionally and irrevocably guaranteed by the Guarantor.

### **Interim Results as at and for the Nine Months Ended 30 September 2023**

As at 30 September 2023, as compared to the financial information as at 31 December 2022, the Group’s short-term borrowings and notes payable increased primarily due to incurrence of borrowings and notes payable in the course of normal business activities. The Group’s bonds payable increased primarily due to an increase in bond issuance for its ordinary operating activities. The Group’s advances received, other payables and other current liabilities increased primarily due to adjustments made according to the accounting policies adopted by the Company. The Group’s long-term borrowings increased primarily due to an increase of borrowings which are used for construction projects. As a result of aforementioned reasons, the Group’s total liabilities increased as at 30 September 2023 compared to the financial information as at 31 December 2022. For the nine months ended 30 September 2023, the Group experienced increases in operating costs, selling expenses, R&D expenses, financial expenses and management expenses as compared to the same period in the preceding year, primarily due to the increase of the Group’s scale of business and were incurred in its normal operations activities. Furthermore, the Group experienced a decrease in non-operating revenue in the nine months ended 30 September 2023 compared with the same period in the previous year, primarily due to a decrease in non-operating subsidies. Such financial information has not been subject to an audit or review by independent auditors and should not be relied upon by investors to provide the same quality of information associated with information that has been subject to an audit or review.

Potential investors must exercise caution when using such data to evaluate the Group’s financial condition and results of operations. The financial information as at and for the nine months ended 30 September 2023 should not be taken as an indication of the Group’s expected financial condition or results of operations as at and for the full financial year ending 31 December 2023. See “*Risk Factors — Risks Relating to the Group’s Business — Prospective investors should be cautious and not place any reliance on the financial information other than that disclosed in this Offering Circular.*”

## HISTORY AND DEVELOPMENT

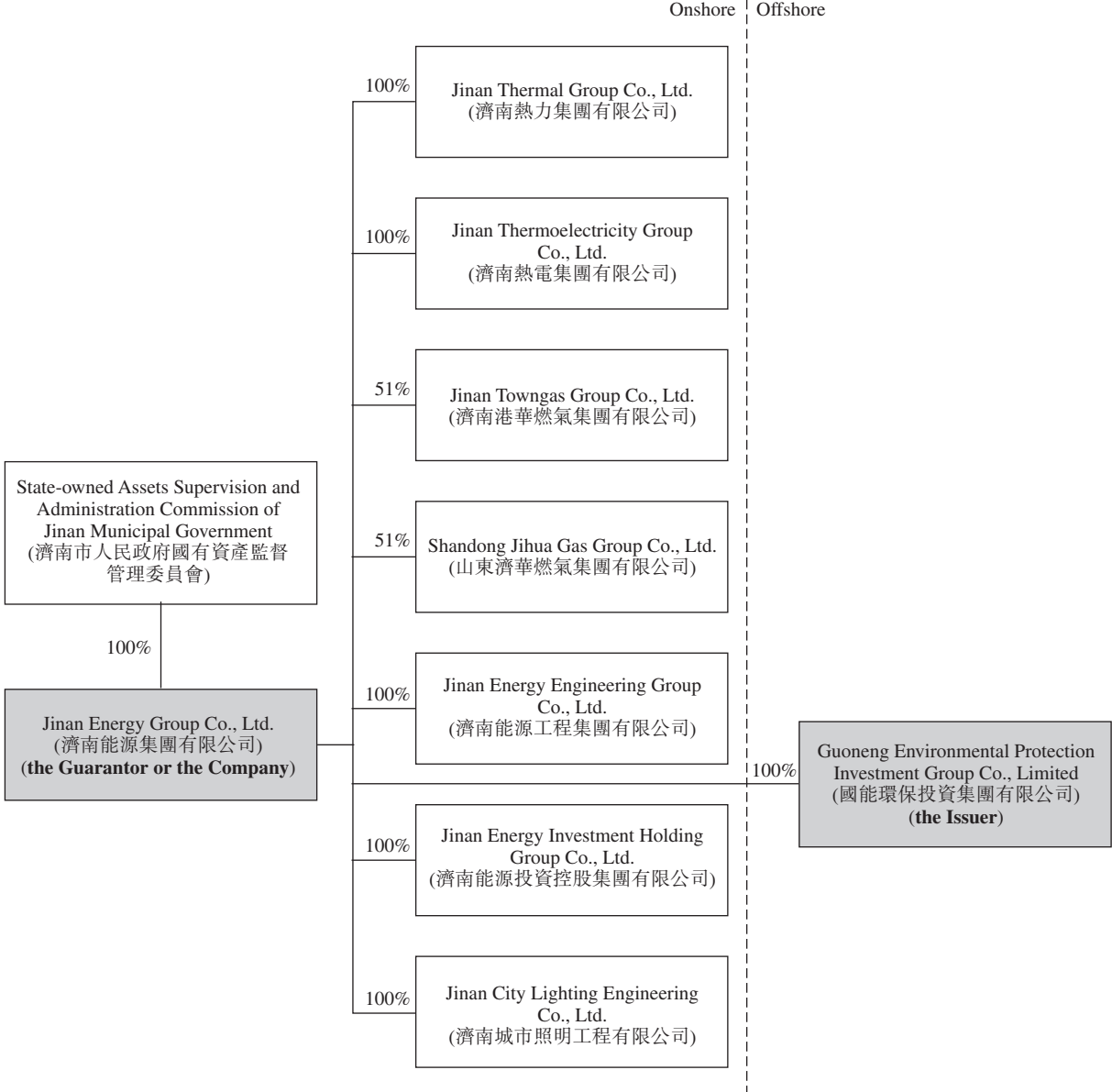
On 23 July 2020, the Company was incorporated as a municipality-level wholly state-owned enterprise under approval of Jinan Municipal Government. The Company was formed by the consolidation of four local heat and gas supply enterprises, namely, Jinan Thermal, Jinan Thermoelectricity, Jinan Towngas and Shandong Jihua Gas. As at the date of this Offering Circular, the Company has a registered capital of RMB10.0 billion.

The table below sets forth selected key milestones in the Group's history and development:

Year	Milestone Event
1990 . . . . .	In November 1990, Jinan Thermoelectricity was established with a registered capital of RMB950 million.
1992 . . . . .	On 22 June 1992, Jinan Energy Engineering was established with a registered capital of RMB300 million.
1994 . . . . .	In February 1994, Jinan Thermal was established with a registered capital of RMB600 million.
2003 . . . . .	In October 2003, Jinan Towngas was established by Jinan Pipeline Gas Company with The Hong Kong and China Gas Company Limited as a joint venture with a registered capital of RMB700 million.
2005 . . . . .	In November 2005, Shandong Jihua Gas was established with a registered capital of RMB400 million.
2020 . . . . .	<p>On 23 July 2020, the Company was established by the Jinan Municipal Government according to "Approval of Jinan Municipal People's Government on agreeing to establish Jinan Energy Group Co., Ltd." (濟南市人民政府關於同意組建濟南能源集團有限公司的批覆) with a registered capital of RMB10 billion.</p> <p>On 22 October 2020, the Company acquired Jinan Thermoelectricity, which was the first combined heat and power heat supply enterprise in Jinan. On 23 October 2020, the Company acquired Jinan Thermal, which was a wholly state-owned energy enterprise. On 13 November 2020, the Company acquired Jinan Energy Engineering, which became a wholly-owned subsidiary of the Guarantor.</p> <p>On 1 December 2020, the Company's wholly-owned subsidiary, Jinan Energy Investment was established with a registered capital of RMB1 billion.</p>
2021 . . . . .	<p>On 30 April 2021, the Company acquired 51 per cent. equity interest in Jinan Towngas.</p> <p>On 22 November 2021, the Issuer was incorporated as a wholly-owned subsidiary of the Company.</p>
2022 . . . . .	<p>On 27 January 2022, the Company acquired 100 per cent. equity interest in Jinan Lighting.</p> <p>On 22 April 2022, a subsidiary of the Group, Jinan EEPT entered into a share transfer agreement with Shandong Synthesis, under which Shandong Synthesis agreed to transfer 11.40 per cent. of its equity interest in Synthesis Electronic to Jinan EEPT. On the same date, Jinan EEPT entered into a voting rights entrustment agreement with Shandong Synthesis, where Shandong Synthesis agreed to entrust 5.20 per cent. of its voting rights in Synthesis Electronic to Jinan EEPT. Upon performance of the agreements, Jinan EEPT will hold 16.60 per cent. of voting rights in Synthesis Electronic, becoming the controlling shareholder of Synthesis Electronic.</p>

**CORPORATE STRUCTURE**

The following chart sets forth the simplified corporate structure of the Group as at the date of this Offering Circular:



## BUSINESS SEGMENTS

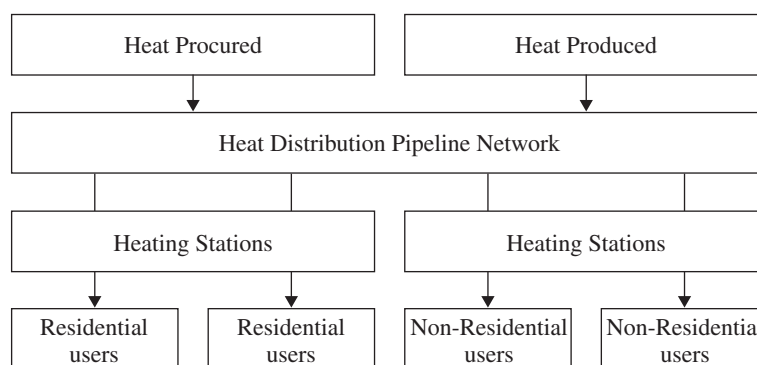
The Group's principal business includes the following segments, namely (i) heat supply, (ii) gas supply, (iii) engineering construction; and (iv) other businesses. The following table sets forth a breakdown of the Group's total revenue by business segments in absolute amounts and as a percentage of its total revenue for the periods indicated:

	For the years ended 31 December					
	2020		2021		2022	
	Amount (RMB in millions)	Per cent. of total	Amount (RMB in millions)	Per cent. of total	Amount (RMB in millions)	Per cent. of total
Heat Supply .....	3,450.6	34.8	3,941.5	36.9	4,143.9	33.8
Gas Supply .....	1,973.9	19.9	2,437.0	22.8	2,880.5	23.5
Engineering Construction .....	3,804.3	38.3	3,540.4	33.1	4,071.9	33.2
Other business .....	696.6	7.0	767.2	7.2	1,170.5	9.5
<b>Total operating revenue .....</b>	<b>9,925.4</b>	<b>100.0</b>	<b>10,686.1</b>	<b>100.0</b>	<b>12,266.7</b>	<b>100.0</b>

## Heat Supply

### Overview

Heat supply is one of the Group's core businesses. The Group conducts its heat supply business mainly through Jinan Thermal and Jinan Thermolectricity. The Group does not supply heat to end users. As at 31 December 2022, the Group's heat service account area covered approximately 351.4 million sq.m., with a total of approximately 2.1 million heat users. A simplified flow chart of the Group's heat supply service is set out below:



For the years ended 31 December 2020, 2021 and 2022, revenue generated from the Group's heat supply business amounted to approximately RMB3,450.6 million, RMB3,941.5 million and RMB4,143.9 million, respectively, accounting for approximately 34.8 per cent., 36.9 per cent. and 33.8 per cent. of the Group's revenue for the same periods.

### Heat Source

The Group obtains its heat sources mainly through two channels, namely (i) heat procurement from power and heat cogeneration companies, such as Huaneng Jinan Huangtai Power Generation Co., Ltd. (華能濟南黃台發電有限公司) and Huadian Jinan Zhangqiu Power Generation Co., Ltd. (華電濟南章丘發電有限公司); and (ii) self-produced heat by using fuels such as pulverized coal, coal-water slurries and natural gas.

Jinan Thermal procured its heat sources mainly from Huaneng Jinan Huangtai Power Generation Co., Ltd. (華能濟南黃台發電有限公司) and Huadian Jinan Zhangqiu Power Generation Co., Ltd. (華電濟南章丘發電有限公司). Jinan Thermal also produced heat through Tangye Heating Plant (唐冶熱源廠). Jinan Thermoelectricity relied on its own heat production without procurement from external sources. Since the consolidation of Jinan Thermal and Jinan Thermoelectricity into the Group in 2020, their respective functions and operations within the Group were reorganized. Jinan Thermal and Jinan Thermoelectricity have been dedicated to heat distribution pipeline network management and heat source management, respectively. Since 15 November 2021, the Group's heat supply business have been conducted by Jinan Thermal and Jinan Thermoelectricity no longer supplies heat to end users.

### ***Heat procurement***

The Group benefits from stable and low cost supply of heat by sourcing from cogeneration plants. The Group's heat distribution pipeline network is the sole heat transmission pipeline network which transmits heat sourced from the very few local cogeneration heat plants located in Jinan to the central urban area of Jinan. After the Group procured heat from such cogeneration companies, hot water and heat will be supplied through its heat distribution network to users. The Group has also entered into long-term cooperation agreements with the relevant cogeneration heat plants for exclusive rights to procure its heat source.

### ***Self-produced heat***

The Group also purchases raw materials such as coal dust and coal-water slurries as major fuels for its own heat production. The Group has replaced coal as fuels in the past, while the use of natural gas as fuel is relatively limited. The Group procures the relevant raw materials from its suppliers mainly by reference to the volume consumed in heat production in the previous year.

### ***Purchase price of heat source and raw materials***

The table below sets forth the Group's purchase price of heat source and raw materials for heat production for the years ended 31 December 2020, 2021 and 2022:

	<b>For the year ended 31 December</b>		
	<b>2020</b>	<b>2021</b>	<b>2022</b>
Natural gas (RMB per cubic metre) . . . . .	1.95	2.0	1.80
Raw coal (RMB per ton) . . . . .	687.97	1,021.09	1,274.89
Coal-water slurries (RMB per ton) . . . . .	750	1,186.57	1,160.66
Heat procurement (RMB per GJ) . . . . .	55	56.86	52.42

### ***Heat Supply Process***

Under the central heating system, the Group's heating stations connect the heat distribution network with the users. These heating stations are equipped with various heating equipment, pipelines, valves, instruments and control devices. Their major functions are transferring heat energy from the heat distribution networks to users for heat supply. The heat distribution networks consist of primary and secondary heat distribution networks. The primary heat distribution networks are high-temperature water pipeline networks (i.e. with water temperature from 70 to 100 degree Celsius) which connect the heat source plants to the heat exchange stations. The secondary heat distribution networks connect the heat exchange stations to the residential users' homes. As at 31 December 2022, the Group had a total length of 10,808 kilometres heat distribution pipelines, which consisted of 4,782 kilometres primary heat distribution pipelines and 6,026 kilometres secondary heat distribution pipelines.

## Heat Production Facilities

### Large and medium-sized heat source facilities

As at 31 December 2022, the Group had 38 large and medium-sized heat sources, which consisted of 136 heating boilers with a total boiler capacity of 10,317 tons per hour, and a total heating capacity of 6,646 megawatt. The details of these large and medium-sized heat production facilities owned by the Group are set out below:

Facilities	Fuel type	Quantity	Boiler capacity (ton per hour)	Consolidated installed heat production capacity (megawatt)	Heating Capacity (megawatt)
Cogeneration	Coal-fired	14	1,580	182	797
	Gas-fired	3	150	17	88
	Biomass	4	410	90	0
	Waste-generation	2	150	36	0
Hot water boiler	Coal-fired	30	3,062	/	2,182
	Coal-water slurries	19	1,960	/	1,422
	Semi coke	2	320	/	232
Gas-fired boilers	Gas-fired	62	2,671	/	1,925
<b>Total</b>		<b>136</b>	<b>10,303</b>	<b>325</b>	<b>6,646</b>

### Small heat source facilities

As at 31 December 2022, the Group also owned 230 small heat sources with a total capacity of 1,436.6 megawatt, which are capable of supplying heat for an area of 33.4 million sq.m. The details of the small heat source facilities are set out below:

Facility Type	Number of Distribution Points	Total Capacity (megawatt)	Heat Supply Capacity (thousand sq.m.)
Air Source Heat Pump . . . . .	77	92.1	2,300
Water Source Heat Pump . . . . .	13	61.5	1,525
Small-scale gas boilers . . . . .	79	434.2	9,374
Ground source heat pump . . . . .	22	53.5	1,657
Flue gas waste heat . . . . .	12	515.8	12,896
Electrode boiler . . . . .	3	28.3	707
Huge temperature difference . . . . .	5	42.1	1,053
Integrated energy . . . . .	19	209.1	3,899
<b>Total . . . . .</b>	<b>230</b>	<b>1,436.6</b>	<b>33,411</b>

## Heat Supply Fees

As at 31 December 2022, the Group's total heat account service area was 351.4 million sq.m., with a total of approximately 2.1 million heat users. The details of the Group's heat supply fees and heat service area as at 31 December 2022 are set forth below:

User type	Fees charged by area				Two-part pricing				Metering measurement area						
	Construction Area	Heat Service Area	Cease of heat supply area	Actual heat supply area	Number of scattered user	Construction Area	Heat Supply Area	Number of users	Number of metering users	Construction area of metering users	Number of steam heating users	Construction area of steam heating users	Total metering measurement area	Service coverage areas without heat supply	Total service coverage area
	(ten thousand sq.m.)					(ten thousand sq.m.)				(ten thousand sq.m.)		(ten thousand sq.m.)			
Jinan Thermal	17,246.95	13,855.77	3,961.75	9,894.02	1,636,080	232.99	201.34	11,820	39.18	1	0.02	39.2	4,305.99	21,825.13	
Non-residential end use	1,398.89	1,427.07	548.70	878.37	36,700	1,023.14	938.24	244	269.36	0	0	269.36	1,432.34	4,123.73	
<b>Subtotal</b>	<b>18,645.84</b>	<b>15,282.84</b>	<b>4,510.45</b>	<b>10,772.39</b>	<b>1,672,780</b>	<b>1,256.13</b>	<b>1,159.58</b>	<b>12,064</b>	<b>308.54</b>	<b>1</b>	<b>0.02</b>	<b>308.56</b>	<b>5,738.33</b>	<b>25,948.86</b>	
Jinan Energy Investment	5,114.86	4,531.21	1,675.98	2,855.23	424,152	5.99	5.18	307	122.67	5	11.14	133.81	2,047.20	7,301.86	
Non-residential end use	957.28	977.72	412.02	565.70	20,460	99.00	112.06	16	84.71	17	100.76	185.47	650.68	1,892.43	
<b>Subtotal</b>	<b>6,072.14</b>	<b>5,508.93</b>	<b>2,088.00</b>	<b>3,420.93</b>	<b>444,612</b>	<b>104.99</b>	<b>117.24</b>	<b>323</b>	<b>207.38</b>	<b>22</b>	<b>111.9</b>	<b>319.28</b>	<b>2,697.88</b>	<b>9,194.29</b>	
<b>Total</b>	<b>24,717.98</b>	<b>20,791.77</b>	<b>6,598.45</b>	<b>14,193.32</b>	<b>2,117,392</b>	<b>1,361.12</b>	<b>1,276.82</b>	<b>12,387</b>	<b>515.92</b>	<b>23</b>	<b>111.92</b>	<b>627.84</b>	<b>8,436.21</b>	<b>35,143.15</b>	

For the year ended 31 December 2022, the Group's receivables for heat supply fee was RMB4,015.5 million and the Group actually received heat supply fee with a total amount of RMB3,937.3 million, with a fee collection rate of approximately 98.1 per cent.

## Heat Supply Pricing

The Group's users mainly include residential and non-residential end-users. The main business model of the Group is to supply heat and hot water to users, and charge heating fees and hot water fees. The price of heat supply is determined by the government while that of hot water supply is market-oriented with differences in pricing among different areas of the city. The details of the price of heat supply for the years ended 31 December 2020, 2021 and 2022 are set out below:

		For the year ended 31 December			Applicable Areas
		2020	2021	2022	
	Heat supply to residential end-user (RMB/sq.m.) . . . .	20.5	20.5	20.5	Zhangqiu
	Heat supply to non-residential end-user (RMB/sq.m.) . . . .	28.9	28.9	28.9	Zhangqiu
	Heat supply to residential end-user (RMB/sq.m.) . . . .	20	20	20	Jiyang
	Heat supply to non-residential end-user (RMB/sq.m.) . . . .	32	32	32	Jiyang
	Industrial gas supply (RMB/ton) . . . . .	252	252	252	Jiyang
	Heat supply to residential end-user (RMB/sq.m.) . . . .	20	20	20	Shanghe
	Heat supply to non-residential end-user (RMB/sq.m.) . . . .	26.4	26.4	26.4	Shanghe
End-users charged by area	Heat supply to residential end-user (RMB/ sq.m.)	26.7	26.7	26.7	Jinan
	Heat supply to non-residential end-user (RMB/sq.m.)	39.8	39.8	39.8	Jinan
End-users charged by two-part pricing	Heat supply to non-residential end-user (basic fees and metering heat charges)	Basic heat price: RMB8.01/sq.m.; metering heat charges: RMB0.2/ kilowatt-hour	Basic heat price: RMB8.01/sq.m.; metering heat charges: RMB0.2/ kilowatt-hour	Basic heat price: RMB8.01/sq.m.; metering heat charges: RMB0.2/ kilowatt-hour	Jinan
	Heat supply to non-residential end-user (basic fees and metering heat charges)	Basic heat price: RMB11.94/sq.m.; metering heat charges: RMB0.3/ kilowatt-hour	Basic heat price: RMB11.94/ sq.m.; metering heat charges: RMB0.3/ kilowatt-hour	Basic heat price: RMB11.94/ sq.m.; metering heat charges: RMB0.3/ kilowatt-hour	Jinan
End-users charged by one-part system charges	Heat Supply to residential end-user (RMB/GJ)	59.62	59.62	59.62	Jinan
	Heat Supply to residential end-user (RMB/GJ)	86.1	86.1	86.1	Jinan
Steam end-users charged by one-part system charges	Heat Supply to residential end-user (RMB/ton)	174.5	174.5	174.5	Jinan
	Heat Supply to residential end-user (RMB/ton)	252	252	252	Jinan
Industrial gas end-users	Heat Supply to residential end-user (RMB/ton)	252	252	252	Jinan

## **Gas Supply**

### ***Overview***

The Group's gas supply business is mainly undertaken by Shandong Jihua Gas and Jinan Towngas. The Group's gas supply mainly covers domestic and commercial end-users. As at 31 December 2022, the Group supplied gas to approximately 2.3 million domestic end-users, 1,446 public welfare sector end-users, 9,322 commercial end-users and 418 industrial end-users. For the years ended 31 December 2020, 2021 and 2022, revenue generated from the Group's gas supply business amounted to approximately RMB1,973.9 million, RMB2,437.0 million and RMB2,880.5 million, respectively, accounting for approximately 19.9 per cent., 22.8 per cent. and 23.5 per cent. of the Group's revenue for the same periods.

### ***Shandong Jihua Gas***

Shandong Jihua Gas is a Sino-foreign joint venture mainly engaged in the natural gas industry. Its gas pipeline network spans across areas in Shizhong District, Huaiyin District, Tianqiao District, Licheng District, Changqing District and Nanshan District in Jinan, Qihe in Dezhou and Chiping in Liaocheng, forming a ring gas supply mode. As at 31 December 2022, Shandong Jihua Gas was mainly responsible for the gas supply to 1,040 thousand domestic end-users, more than 3,400 industrial users, commercial users and public welfare users in Jinan. Shandong Jihua Gas had 4 natural gas receiving stations, 22 pressure regulating stations and more than 4,700 kilometres high, medium and low pressure gas pipeline network. It has an overall pattern of high-pressure gas transmission, high-pressure storage and medium pressure ring network transmission and distribution.

### ***Jinan Towngas***

Jinan Towngas plays a leading role in the gas supply industry in Jinan and maintains its business strengths in professional technical force. It had nearly 6,000 kilometres of underground pipeline network, complete transmission and distribution facilities, customer service intelligent platform, pipeline network intelligent patrol management GPS system, mobile security inspection system and first-class customer centre. As at 31 December 2022, Jinan Towngas provided gas supply services to more than 1.25 million residential end-users and more than 7,700 industrial, commercial and public welfare customers. Its gas supply area covers Lixia District, Shizhong District, Tianqiao District, Licheng District and Jinan High-tech Industry Development Zone, among other districts.

### ***Exclusive right to supply gas within the Jinan urban districts***

In June 2010, Jinan Municipal Public Utilities Bureau, commissioned by the Jinan Municipal Government, entered into municipal pipeline gas franchising agreements with each of Shandong Jihua Gas and Jinan Towngas, granting each of them the exclusive right to operate and maintain municipal gas facilities and supply gas within the distinct parts of the Jinan urban districts specified in the respective franchising agreements. The term of the franchising agreements are 30 years, taking effect from 10 June 2010 to 9 June 2040. With the support of the Jinan Municipal Government, the Group acquired both Shandong Jihua Gas and Jinan Towngas and became the leading gas supplier in the Jinan urban districts.

### *Gas source and gas pipelines*

As at 31 December 2022, the Group had eight gate stations, 27 pressure regulating stations, three peak shaving storage and distribution stations in operation with details set out below:

	<u>Gate Station</u>	<u>Pressure Regulating Station</u>	<u>Peak shaving storage and distribution stations</u>
	(Units)		
Shandong Jihua Gas .....	4	22	2
Jinan Towngas .....	4	5	1
<b>Total</b> .....	<b>8</b>	<b>27</b>	<b>3</b>

As at 31 December 2022, the Group had 383.1 kilometres of high-pressure pipelines (including planning), 269.7 kilometres of secondary high-pressure pipelines, 3,043.7 kilometre of medium pressure pipelines and 6,669.3 kilometres of low-pressure pipelines, totaling 10,365.7 kilometres, with details set out as follows:

	<u>High-pressure pipelines</u>	<u>Secondary high-pressure pipelines</u>	<u>Medium pressure pipelines</u>	<u>Low-pressure pipelines</u>	<u>Total</u>
	(Kilometres)				
Shandong Jihua Gas .....	207.2	129.7	1,462.5	2,915.5	4,714.8
Jinan Towngas .....	175.9	140.0	1,581.3	3,753.8	5,650.9
<b>Total</b> .....	<b>383.1</b>	<b>269.7</b>	<b>3,043.7</b>	<b>6,669.3</b>	<b>10,365.7</b>

### *End-users and sales volume*

The gas end-users of the Group mainly include domestic end-users and commercial end-users. As at 31 December 2022, the Group had approximately 2.3 million domestic end-users, 1,446 public welfare end-users (including welfare homes, nursing homes, schools, public welfare organizations or other organizations), 9,322 commercial end-users and 418 industrial end-users. The details are as follows:

	<u>Domestic end-users</u>	<u>Public welfare end-users</u>	<u>Commercial end-users</u>	<u>Industrial end- users</u>
	(unit in thousands)	(units)		
Shandong Jihua Gas .....	1,040	337	3,064	73
Jinan Towngas .....	1,254	1,109	6,258	345
<b>Total</b> .....	<b>2,294</b>	<b>1,446</b>	<b>9,322</b>	<b>418</b>

### *Procurement of gas sources*

The Group's main gas sources suppliers are China National Petroleum Corporation and China Petroleum & Chemical Natural Gas Co. Ltd. The Group's procurement information for gas sources for the years ended 31 December 2020, 2021 and 2022 is set out as follows:

	<u>Volume of gas</u> (million cubic metres)	<u>Unit price</u> (tax inclusive) (RMB per sq.m.)	<u>Amount</u> (RMB in millions)
For the year ended 31 December 2020 . . . . .	750.5	2.36 (Shandong Jihua Gas) 2.29 (Jinan Towngas)	1,742.9
For the year ended 31 December 2021 . . . . .	888.1	2.73 (Shandong Jihua Gas) 2.73 (Jinan Towngas)	2,426.3
For the year ended 31 December 2022 . . . . .	955.0	3.29 (Shandong Jihua Gas) 3.44 (Jinan Towngas)	3,211.2

### **Engineering Construction Business**

#### *Overview*

Prior to the establishment of the Group, its engineering construction business was undertaken by the relevant engineering companies. They were mainly responsible for the constructions of heat supply and gas supply facilities, especially the construction of large ancillary facilities, heat supply and gas supply pipelines. Since the establishment of the Group in 2020, the construction engineering projects of Jinan Thermoelectricity and Jinan Thermal have been allocated to Jinan Energy Engineering.

According to the "single network" consolidation requirements of heating and gas supply in the city by the Jinan Municipal Government, the design, engineering and construction companies under the relevant subsidiaries were consolidated into Jinan Energy Engineering in 2021. Such strategic integration has enabled the Group to consolidate industry resources and prevent internal competition. Jinan Energy Engineering has five divisions, namely municipal engineering, highway engineering, housing construction engineering, design survey and consulting, and energy construction. The Group primarily involves in project consulting and design, construction and project management, technology research and development, equipment integration and operation services.

For the years ended 31 December 2020, 2021 and 2022, revenue generated from the Group's engineering construction business amounted to approximately RMB3,804.3 million, RMB3,540.4 million and RMB4,071.9 million, respectively, accounting for approximately 38.3 per cent., 33.1 per cent. and 33.2 per cent. of the Group's revenue for the same periods.

#### *Qualifications*

Jinan Energy Engineering is in possession of a number of qualifications, including the following:

- three first-class qualifications for EPC of municipal public engineering works, construction engineering and highway engineering
- Grade II qualification for specialized contracting of waterproof, anti-corrosion and thermal insulation works and building electromechanical installation works

- Grade III qualification for specialized contracting of electromechanical engineering, steel structure engineering and environmental protection engineering
- Grade A professional qualification in municipal engineering industry (thermal engineering)
- Grade A professional qualification in municipal engineering industry (urban gas engineering)
- Grade B design qualification in construction industry (construction engineering)

In addition to these engineering related qualifications, Jinan Energy Engineering also has construction permits for public pipeline installation (GB1 and GB2 Grades), industrial pipeline installation (GC2 Grade) and boiler installation (including repair and transformation) (B). Jinan Energy Engineering also has certification of environmental management system, occupational health and safety management system and quality management system.

These qualifications and permits have enabled the Group to undertake various types of planning, design and construction of municipal public works such as thermal engineering, heat source (electricity) engineering, gas engineering, cooling engineering, new energy engineering, municipal landscape engineering projects. The Group is also capable of undertaking constructions of highway projects, bridge projects, urban tunnel projects and housing construction projects at all levels.

### ***Business Model***

Jinan Energy Engineering mainly conducts its construction engineering business by three major contracting models, namely (i) general construction contracting, (ii) EPC, and (iii) design and construction. Under the general construction contracting model, Jinan Energy Engineering undertakes the construction work after the property owner has completed the project initiation, design and engineering stages. Under the EPC model, Jinan Energy Engineering is responsible for the whole engineering construction process, covering project designing, material procurement and construction works. Jinan Energy Engineering is responsible for the design and construction of the project under design and construction contracting model and the project owners are responsible for material procurement.

### ***Project Contract***

#### *Contract negotiation and project planning*

During the negotiation of typical general contracting terms, Jinan Energy Engineering communicates with the property owner on payment and project stages for better payment terms of advance payment and progress payment. The remaining funds for investment in the construction process will be raised by Jinan Energy Engineering.

The market development department of Jinan Energy Engineering organizes project meetings to communicate key terms in the project contract with the implementation project department. Prior to implementation stage, the engineering group sets out project plan according to the project type, project scale and signed contract content, which typically focus on advance planning in project progress, capital, quality, safety, technology, capital and construction difficulties so as to ensure the smooth implementation of the project.

#### *Fund raising*

Jinan Energy Engineering's financial audit department is mainly responsible for external fundraising. In terms of project payment collection, the engineering management department takes a leading role in funds collection from previous projects in the previous years and to provide funding support for implementation of new projects.

### Collection of payment and revenue recognition

The stages of payment collection of the project shall be subject to the payment stages of the EPC contract. In the process of project management, the project department of the branch (subsidiary) company will request for payment from the owner according to the payment stages as stipulated in the contract. After the property owner confirms that the payment conditions are met, the project department of the branch (subsidiary) company initiates the invoicing application, the confirmation process of payment collection, and continues to follow up on the project payment collection.

The Jinan Energy Engineering shall update the project contract and progress in real time. When the project payment stages are reached, the engineering management department will remind and urge the branch (subsidiary) to handle the project payment collection in time. The payment collection will be linked to the production and operation indicators of the branch (subsidiary) of the Jinan Energy Engineering. After the project payment reaches the financial audit department of Jinan Energy Engineering, the financial audit department will compare the actual payment collection with the payment collection confirmation information initiated by the project department. If the information is consistent, the payment is deemed to be done.

### Project Description

#### Completed Projects

As at 31 December 2022, the Group had completed six major engineering construction projects with a total contract value of approximately RMB150 million. The particulars of the Group's major completed engineering construction projects are set forth below:

Project	Year of Commencement	Year of Completion	Contract value (RMB in millions)
General Contractor for the Cable Trench Construction Project in Liantaishan Road Section and Bingu Street Section in Dongwang Area, Changqing District, Jinan City (濟南市長清區東王片區電纜溝建設項目蓮臺山路段、賓谷街段施工總承包) . . . . .	2019	2021	31
Construction and installation of superstructure of Huadian Zibo Huaxing Thermal Network Phase II Project (Power Plant – Nanjing Road) (華電淄博華星熱力熱網二期項目主管網(電廠-南京路)建安工程) . . . . .	2020	2021	27
Jinan City West Shilliuli River Municipal Road Engineering Construction (濟南市西十六裏河市政道路建設工程施工) . . . . .	2018	2021	27
Jinan City Changpingtan District Dike Protection Project Changqing Section (Construction Bid No. 4) (濟南市長平灘區護城堤工程長清段(施工4標)) . . . . .	2020	2021	27
Shanghe Shuimu Tsinghua Community Temporary Electrical Renovation Project (商河水木清華小區臨時電改造工程) . . . . .	2020	2021	26
Jinan Municipal Shizhong District Housing and Urban-rural Development Bureau for Special Facilities Transformation for the Old Community Improvement and Transformation Project in 2020 (Offices of Shunyu, Shungeng and Shishiuli River) Rainfall and Sewage Diversion Construction Entities Project Procurement (濟南市市中區住房和城鄉建設局2020年度老舊小區整治改造項目專項設施改造(舜玉、舜耕、十六裏河三個辦事處)雨汗分流項目施工單位採購) . . . . .	2020	2021	12
<b>Total</b> . . . . .			<b>150</b>

### Projects under Construction

As at 31 December 2022, the Group had ten major engineering construction projects under construction with a total estimated investment of approximately RMB3.0 billion. The particulars of these projects are set forth below:

Project	Year of Commencement	Expected Year of Completion	Total Estimated Investment <sup>(1)</sup> (RMB in millions)
Dongcheng Comprehensive Intelligent Heat Source Matching Heating Pipe Network Project (東城綜合智慧熱源配套供熱管網項目) . . . . .	2022	2023	288
Jinan Nancaofang LNG Peaking Distribution Station (Phase II) Project (濟南南曹範LNG調峰儲配站(二期)項目) . . . . .	2019	2022	1,000
Xinglong District New Energy Heat Supply Demonstration Centre Project (興隆片區新能源供熱示範中心項目) . . . . .	2022	2023	212
2022 Heating Pipe Network Project (2022年供熱管網工程) . . . . .	2022	2023	284
New and Old Kinetic Energy Conversion Pilot Zone Bridge Assembly Group 4 × 58MW Gas Fired Boiler Heat Source Plant Project for (新舊動能轉換先行區大橋組團4×58兆瓦燃氣鍋爐熱源廠項目) . . . . .	2020	2023	271
2021 Heating Pipe Network Phase I Project (2021年供熱管網一期工程項目) . . . . .	2021	2022	249
Kuangshan, Lvyuan Grid Integration and Heating Connection Project Phase I (匡山、綠園一張網整合供熱接管項目一期工程) . . . . .	2022	2022	193
Longshan Relay Pump Station Project (龍山中繼泵站項目) . . . . .	2022	2023	190
Minghu Thermal Power Plant Coal Replacement Heating Pipeline Network Project (明湖熱電廠燃煤替代供熱管網工程) . . . . .	2022	2023	188
Feiyue Avenue Relay Pump Station Project (飛躍大道中繼泵站項目) . . . . .	2022	2023	120
<b>Total</b> . . . . .			<b>2,933.0</b>

*Note:*

- (1) Represents the estimated total cost to be incurred for the project. The actual cost incurred upon completion may differ from the estimation.

### Projects under Planning

As at 31 December 2022, the Group had five major engineering construction projects under planning with a total estimated investment amount of RMB1,791.0 million. The particulars of these project are set forth below:

Project	Total Estimated Investment <sup>(1)</sup>
	(RMB in millions)
Dongcheng Intelligent Heating Matching Project (東城智慧供熱配套工程項目) . . . . .	288
Jinan Thermal Power Group Co., Ltd. University Science Park Heat Source Branch Office Heat Source Pipeline Network Extension (Phase I) (濟南熱力集團有限公司大學科技園熱源分公司擴建熱源配套管網(一期)) . . . . .	75
Gas Pipeline Network (燃氣管網) . . . . .	298
Energy Industry Manufacturing Base Project (能源產業智造基地項目) . . . . .	380
Distributed Photovoltaic Project (分佈式光伏項目) . . . . .	750
<b>Total</b> . . . . .	<b>1,791</b>

Note:

- (1) Represents the estimated total cost to be incurred for the project. The actual cost incurred upon completion may differ from the estimation.

### Other Businesses

In addition to its principal businesses as aforementioned, the Group is also engaged in other businesses, such as sale of gas appliances, maintenance services and technical services. For the years ended 31 December 2020, 2021 and 2022, revenue generated from the Group's other businesses amounted to approximately RMB696.6 million, RMB767.2 million and RMB1,170.5 million, respectively, accounting for approximately 7.0 per cent., 7.2 per cent. and 9.5 per cent. of the Group's revenue for the same periods.

### OCCUPATIONAL HEALTH AND WORK SAFETY

The Group is exposed to a variety of risks associated with its business operations, in particular the risks associated with the heat supply and gas supply businesses. These risks and hazards could result in damage to, or destruction of property, personal injury, environmental damage, business interruption and possible legal liability of the Group. The Group adopts comprehensive safety protocols to ensure workplace safety. For example, it has implemented workplace safety guidelines setting out the requirements when handling dangerous substances, including hot water, steam and natural gas, procedures in handling leakage of gases and systems for monitoring the risks in the workplaces. The Group believes that as at the date of this Offering Circular, it is in compliance in all material respects with applicable safety regulations.

### ENVIRONMENT MATTERS

The Group is subject to environmental laws and regulations governing noise emissions, hazardous substances, water and waste discharge and other environmental matters issued by various governmental authorities in the PRC. The Group believes that it is in compliance in all material respects with applicable environmental laws and regulations as at the date of this Offering Circular.

## **INTELLECTUAL PROPERTY**

The Group relies on a combination of copyright and trademark registrations to protect its intellectual property rights. As at the date of this Offering Circular, the Group had 137 patents and 3 domain names.

As at the date of this Offering Circular, the Group is not aware of any infringement (i) by the Group of any intellectual property rights owned by third parties, or (ii) by any third parties of any intellectual property rights owned by the Group. Further, as at the date of this Offering Circular, the Group is not involved in any litigation or legal proceedings in relation to any material claims of infringement, either threatened or pending, of any intellectual property rights initiated by or against the Group which has a material and adverse effect on the Group's business.

## **INSURANCE**

The Group maintains insurance coverage in amounts that it believes are commensurate with its risk of loss and industry practice. Consistent with what the Group believes to be customary practice in the PRC, it does not carry any business interruption insurance or key-man insurance. There is a risk that the Group does not have sufficient insurance coverage for losses, damages and liabilities should any of such arise from its business operation. For details, see "*Risk Factors — Risks relating to the Group's Business — The insurance coverage of the Group may not adequately protect it against all operational risks.*"

## **EMPLOYEES**

As at 31 December 2022, the Group had 10,395 employees. The Group contributes to the pension plan, medical insurance, unemployment insurance, maternity insurance and work-related injury insurance for its employees, in accordance with applicable PRC laws and regulations. As at the date of this Offering Circular, the Group has not experienced any strike or any other form of labour disturbance that could materially and adversely affect its business, financial condition and results of operations.

## **LEGAL PROCEEDINGS**

The Group is from time to time involved in disputes and legal proceedings arising in the ordinary course of its business. To the best of its knowledge, there are no pending litigation, arbitration or administrative proceedings against the Group as at the date of this Offering Circular that could have a material adverse effect on its business, results of operations or financial condition.

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

### DIRECTORS

The board of directors (the “**Board**”) of the Company consists of nine members, including a chairman, two directors, five external directors and one employee director. The Board is accountable to the shareholders of the Company. Its power and duties include, among others, implementation of shareholders’ resolutions, formulation of operational plans and investment proposals, formulation of annual financial budget and final accounts, formulation of profit distribution plans and loss recovery plans, formulation of plans for registered capital increase or decrease and bond issuance proposals, decision-making on organisational structure, appointment and removal of the general manager and other senior management and decision-making on their remunerations, and formulation of management policies.

The following table sets forth the Company’s directors as at the date of this Offering Circular:

Name	Age	Position
Mr. Pan Shiyong (潘世英) . . . . .	51	Chairman
Mr. Liu Yanbo (劉衍波) . . . . .	57	Director and general manager
Mr. Yang Yonggang (楊勇剛) . . . . .	48	Director
Mr. Hou Duanyun (侯端雲) . . . . .	56	External director
Mr. Liu Chengbo (柳承波) . . . . .	59	External director
Mr. Liu Bingli (劉炳立) . . . . .	56	External director
Mr. Li Xingquan (李興泉) . . . . .	57	External director
Mr. Li Aijun (李愛軍) . . . . .	42	External director
Mr. Wang Weiqing (王維青) . . . . .	48	Employee director

**Mr. Pan Shiyong (潘世英)**, born in 1972, has been the chairman of the Board since July 2020. Mr. Pan currently also serves as the Communist Party committee secretary of the Company. Mr. Pan obtained a bachelor’s degree in engineering from Shandong Industrial University (山東工業大學) and is a senior engineer. Mr. Pan is the vice chairman of China Town Heat Supply Association (中國城鎮供熱協會), the chairman of Shandong Province Gas and Heat Association (山東省燃氣熱力協會) and was a deputy to the 16th and 17th National People’s Congress. Mr. Pan was awarded various titles, including “Outstanding Entrepreneur in Shandong Province” (山東省優秀企業家), “Labour Role Model” (勞動模範) in both Jinan and Shandong Province and “Labour Medal on Enriching Shandong Province” (山東省富民興魯勞動獎章).

**Mr. Liu Yanbo (劉衍波)**, born in 1965, has been a director and the general manager of the Company since July 2020. Mr. Liu currently also serves as a Communist Party committee deputy secretary of the Company. Mr. Liu obtained a bachelor’s degree in engineering from Shandong Jianzhu University (山東建築大學) and is an engineering technology application researcher. Mr. Liu was awarded various titles, including “Best Individual of Safety Production in Shandong Province” (山東省安全生產工作先進個人), “May 1 Labour Medal in Jinan City” (濟南市五一勞動獎章) and “Labour Medal on Enriching Shandong Province” (山東省富民興魯勞動獎章).

**Mr. Yang Yonggang (楊勇剛)**, born in 1974, has been a director of the Company since February 2022. Mr. Yang currently also serves as a Communist Party committee deputy secretary of the Company. Mr. Wang obtained a bachelor’s degree in engineering and is an assistant engineer.

**Mr. Hou Duanyun (侯端雲)**, born in 1967, has been an external director of the Company since June 2022. Mr. Hou previously served as a director and the chief accountant of Jinan Cultural Tourism Development Group Co., Ltd. (濟南文旅發展集團有限公司).

**Mr. Liu Chengbo (柳承波)**, born in 1964, has been an external director of the Company since June 2022. Mr. Liu previously served as the chairman of the Board and the Communist Party committee secretary of Agri-star Group Co., Ltd. (澳利集團有限公司).

**Mr. Liu Bingli (劉炳立)**, born in 1966, has been an external director of the Company since June 2022. Mr. Liu previously served as a Communist Party committee deputy secretary and the general manager of Jinan Investment Holdings Group Company Limited (濟南市投資控股集團有限公司).

**Mr. Li Xingquan (李興泉)**, born in 1965, has been an external director of the Company since June 2022. Mr. Li currently also serves as a professor and postgraduate supervisor in the Department of Thermal Engineering of Shandong Jianzhu University (山東建築大學熱能工程學).

**Mr. Li Aijun (李愛軍)**, born in 1980, has been an external director of the Company since June 2022. Mr. Li currently also serves as a professor and postgraduate supervisor in the Center for Economic Research of Shandong University (山東大學經濟研究院).

**Mr. Wang Weiqing (王維青)**, born in 1974, has been an employee director of the Company since July 2020. Mr. Wang currently also serves as a member of Communist Party committee of the Company and the chairman of the Workers' Union of the Company. Mr. Wang obtained a bachelor's degree in administrative management from Shandong University (山東大學). Mr. Wang is a professor level senior political engineer and economist. Mr. Wang was recognised as an "Outstanding Corporate Ideological and Political Worker in Jinan City" (濟南市優秀企業思想政治工作者).

## SUPERVISORS

The following table sets forth the Company's supervisors as at the date of this Offering Circular:

Name	Age	Position
Mr. Li Xuan (李璿)	43	Chairman of the Board of Supervisors
Ms. Zhou Li (周麗)	45	Employee representative supervisor
Mr. Dong Yufeng (董玉峰)	47	Employee representative supervisor
Mr. Zhang Xueqian (張學謙)	41	Employee representative supervisor
Mr. Yan Long (閻龍)	38	Employee representative supervisor

**Mr. Li Xuan (李璿)**, born in 1980, has been the chairman of the Board of Supervisors of the Company since July 2020. Mr. Li currently also serves as a chief safety director of the Company and a party member of Jinan Energy Engineering. Mr. Li obtained a bachelor's degree in economic management from CPC Shandong Provincial Party School (山東省委黨校) and is an assistant engineer.

**Ms. Zhou Li (周麗)**, born in 1975, has been an employee representative supervisor of the Company since October 2023. Ms. Zhou currently also serves as a deputy manager of audit department (presiding over the work) of the Company. Ms. Zhou obtained a bachelor's in economic management from CPC Shandong Provincial Party School and is a senior accountant.

**Mr. Dong Yufeng (董玉峰)**, born in 1975, has been an employee representative supervisor of the Company since July 2020. Mr. Dong currently also serves as a deputy manager of heat supply division (presiding over the work) of the Company. Mr. Dong obtained a bachelor's degree in engineering Shandong Industrial University (山東工業大學) and is a senior engineer.

**Mr. Zhang Xueqian (張學謙)**, born in 1981, has been an employee representative supervisor of the Company since July 2020. Mr. Zhang currently also serves as a director, general manager (middle level and deputy) and a Communist Party committee deputy secretary of Jinan Energy Investment. Mr. Zhang obtained a bachelor's degree in business management in Shandong University of Finance and Economics (山東財經大學) and is an engineer.

**Mr. Yan Long (閔龍)**, born in 1984, has been an employee representative supervisor of the Company since July 2020. Mr. Yan currently also serves as a deputy manager of enterprise management and human resources department of the Company (presiding over the work). Mr. Yan obtained a master's degree in engineering from University of Jinan (濟南大學). Mr. Yan is an assistant economist and an assistant political engineer.

## SENIOR MANAGEMENT

The following table sets forth the Company's senior management as of the date of this Offering Circular:

<b>Name</b>	<b>Age</b>	<b>Position</b>
Mr. Liu Yanbo (劉衍波) . . . . .	57	Director and General Manager

For the biographies of Mr. Liu, see “*Directors*” above.

## PRC REGULATIONS

*This section is a high-level overview of the PRC legal system and a summary of the principal PRC laws and regulations relevant to the Company's business and the issue of the Bonds by the Issuer. As this is a summary, it does not contain a detailed analysis of the PRC laws and regulations.*

### PRC LAWS ON HEAT SUPPLY

#### Historical Change in Heat Supply System

China has once implemented a heat supply welfare system on the basis of the housing welfare system. Starting from late 1990s, municipal housing reform has been gradually carried out and substantially all residences in China's cities and towns have already been owned by urban residents, and the heat supply welfare system has lost foundation.

In July 2003, eight ministries and commissions including the National Development and Reform Commission jointly issued the Guiding Opinions on the Trial Reforms of Heat Supply Regimes of Urban Cities (關於城鎮供熱體制改革試點工作的指導意見) which highlighted the ultimate goal and general direction of the heat supply system reform-terminating the welfare type of heat supply and implementing the commercialized and monetary subsidy for heat supply, hence building a market-oriented municipal heat supply operation mechanism. In October 2005, the National Development and Reform Commission and the Ministry of Construction (revoked) issued the Guiding Opinions on Building a Coal & Heat Price Pass Through Mechanism (關於建立煤熱價格聯動機制的指導意見) to provide guiding opinions on the gradual promotion of commercialization and monetization of heat supply, marking the official launch of market reform for China's heat supply system. The Interim Measures for the Price Control of Municipal Heat Supply (城市供熱價格管理暫行辦法) in 2007 also mentioned that the state allows participation of nonpublic capitals in the investment, construction and operation of heat supply facilities so as to gradually promote the commercialized and monetary subsidy for heat supply.

Furthermore, the state also encourages private capitals to enter the heat supply industry. At the end of 2002, the Ministry of Construction (revoked) issued the Opinions on Accelerating the Marketization Process of the Municipal Utilities Industry (關於加快市政公用行業市場化進程的意見) which encourage social funds to participate in the construction of operational municipal public facilities through various forms such as sole proprietorship, joint venture and cooperation, and reasonable return of enterprises through legal operation should be guaranteed. In 2012, the Ministry of Housing and Urban-Rural Development issued the Implementation Opinions on further Encouraging and Guiding Private Capitals to Enter the Municipal Utilities Sector (進一步鼓勵和引導民間資本進入市政公用事業領域的實施意見), which clearly stated that it is necessary to further break monopoly, introduce market competition mechanism, open up the market for investment, construction and operation of municipal public utilities, encourage private capitals to directly invest in the construction and operation of municipal heat supply and other municipal infrastructure projects through sole proprietorship, joint venture cooperation and asset acquisition etc. In November 2014, the State Council issued the Guiding Opinions on Innovating the Investment and Financing Mechanisms in Key Areas and Encouraging Social Investment (關於創新重點領域投融資機制鼓勵社會投資的指導意見), which pointed out the active promotion of social capitals to participate in construction and operation of municipal infrastructure, and encouraged social capitals to invest in municipal infrastructure projects such as municipal heat supply through various ways such as franchising, investment subsidies and government procurement services. In December 2014, the Guiding Opinions on Launching Cooperation between Government and Social Capitals (關於開展政府和社會資本合作的指導意見) issued by the National Development and Reform Commission further emphasized the cooperation between government and social capitals in public services and infrastructure projects.

## **Pricing**

Principal PRC laws and regulations applicable to prices of heat supply include the Pricing Law of the People's Republic of China (中華人民共和國價格法) and the Interim Measures for the Administration of Municipal Heat Supply Prices (城市供熱價格管理暫行辦法). Pursuant to provisions of the Interim Measures for the Price Control of Municipal Heat Supply (城市供熱價格管理暫行辦法) implemented on 1 October 2007, price of heat supply shall be formulated by the competent price department under provincial (district, municipal) people's government or authorized municipal or county people's government (hereinafter referred to as the pricing mechanism of heat price). Authorized municipal and county people's governments shall formulate the heat price and specific work shall be undertaken by competent price department thereunder, while the administrative department for heat supply shall assist the competent price department in management of the heat price.

## **Energy Saving**

Principal environmental laws and regulations applicable to the construction and operation of our heat supply industry include the Environmental Protection Law of the PRC (中華人民共和國環境保護法), the Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution (中華人民共和國大氣污染防治法), the "Law of the People's Republic of China on Promotion of Cleaner Production (中華人民共和國清潔生產促進法) and the "Law of the People's Republic of China on Environmental Impact Assessment (中華人民共和國環境影響評價法). According to the Law of the People's Republic of China on Environmental Impact Assessment (中華人民共和國環境影響評價法) which implemented on 1 September 2003 and subsequently amended on 2 July 2016 and 29 December 2018, if the environmental impact assessment document of a construction project has not been submitted for review in accordance with the law or approved upon review by the approval authority, the approving department of the project shall not approve the construction, and the construction entity shall not commence construction of the project.

Specific provisions for saving energy in the heat supply industry include the Decision of the State Council on Enhancement of Energy Saving Work (國務院關於加強節能工作的決定), which was promulgated and implemented on 6 August 2006, proposes to promote the reform of municipal heating system and change the heat subsidy from "implicit subsidy" to "explicit subsidy", strengthen measurement of heat supply, promote the charging system by measurement according to heat quantity, improve the price formation mechanism of heat supply, study and formulate the charge policy based on heat quantity in heat supply of buildings, and cultivate a heat supply market that is conducive to energy conservation. The Energy Conservation Law of the People's Republic of China (中華人民共和國節約能源法), promulgated on 1 November 1997, implemented on 1 January 1998 and subsequently revised on 28 October 2007, 2 July 2016, and 26 October 2018, made further stipulation on energy saving management, that is, the State shall take measures to implement, step by step, the system of household-based heating metering and usage-based heating fees to buildings with central heating. In the construction of new buildings or the energy conservation retrofits of existing buildings, heating metering devices, indoor temperature controls and heating supply control devices shall be installed as required.

Since then, the use of charge by heat measurement and energy conservation of buildings have become important contents of energy conservation for the heat supply industry. In this regard, the Implementation Opinions on Promoting the Heat Supply Measurement and Energy-saving Renovation of Existing Residential Buildings in Northern Heating Areas (關於推進北方採暖地區既有居住建築供熱計量及節能改造工作的實施意見) promulgated in May 2008 and the Technical Guidelines for Heat Supply Measurement and Energy Saving Renovation of existing residences in Northern heating areas (北方採暖地區既有居住建築供熱計量及節能改造技術導則) issued by the Ministry of Housing and Urban-Rural Development in July of the same year also proposes the heat supply measurement and the energy conservation alteration of existing residential buildings in the northern heat service area, and provide specific technical guidance for this purpose. In addition, the Regulations on Energy Conservation of Civil

Buildings (民用建築節能條例) promulgated by the State Council in August 2008 and the Notice on Further Deepening the Work of Heat Supply Measurement and Energy-conservation Alteration of Existing Residential Buildings in Northern Heat Service Areas (關於進一步深入開展北方採暖地區既有居住建築供熱計量及節能改造工作的通知) issued by the Ministry of Finance and the Ministry of Housing and Urban-Rural Development in January 2011, the 12th Five-Year Plan for Energy Conservation of Buildings (“十二五”建築節能專項規劃) by the Ministry of Housing and Urban-Rural Development in May 2012, the Action Plan for Prevention of Air Pollution (大氣污染防治行動計劃) by the State Council in September 2013, and the 2014–2015 Action Plan for Energy Conservation and Emission Reduction and Low Carbon Development (2014–2015年節能減排低碳發展行動方案) by the Office of the State Council have made provisions for improving the energy utilization efficiency of civil buildings, promoting the application of new building materials, increasing the supply of clean energy, and accelerating the construction of energy conservation and emission reduction projects.

## PRC LAWS ON GAS SUPPLY

The natural gas business mainly involves the concession of municipal public utilities transmission pipelines, city gas pipeline networks and city gas. The key applicable laws and regulations include the Measures for the Administration on the Franchise of Municipal Public Utilities (市政公用事業特許經營管理辦法), the Measures for the Administration of Concession for Infrastructure and Public Utilities (基礎設施和公用事業特許經營管理辦法), the Regulation on the Administration of Urban Gas (城鎮燃氣管理條例), the Policies on the Utilisation of Natural Gas (天然氣利用政策), and Notice on the Adjustment of Natural Gas Price.

## Foreign Investment Policy

According to the Catalogue of Industry Guidance for Foreign Investment (revised in 2015) (外商投資產業指導目錄(2015年修訂)), the Catalogue of Industry Guidance for Foreign Investment (revised in 2017) (外商投資產業指導目錄(2017年修訂)), and the Special Management Measures for the Market Entry of Foreign Investment (Negative List) (2018) (外商投資准入特別管理措施(負面清單))(2018年版) jointly promulgated by the NDRC and the Ministry of Commerce of the PRC on 10 March 2015, 18 June 2017 and 28 June 2018 respectively, enterprises engaged in the construction and operation of urban gas, heat and water supply and drainage pipelines and networks for cities with an urban population of 500,000 or more shall be controlled by Chinese shareholders (the “**Restrictions on Chinese Holding**”).

According to the Special Administrative Measures (Negative List) for the Access of Foreign Investment (2021) (外商投資准入特別管理措施(負面清單)(2021年版) jointly promulgated by the NDRC and the Ministry of Commerce of the People’s Republic of China on 27 December 2021 and implemented on 1 January 2022, the construction and operation of the gas pipeline network is not within the scope of the Special Administrative Measures for the Access of Foreign Investment.

## Industry Policies

On 14 October 2012, the NDRC promulgated the Policies on the Utilisation of Natural Gas (天然氣利用政策2012年第15號令) pursuant to which the use of natural gas is regulated on a demand basis. Under the policy, the usage of natural gas is categorised into four main areas, namely city gas, industrial fuel, power generation by natural gas, and chemical engineering using natural gas. Balancing factors such as its social, environmental and economic benefits, and the different profiles of its users, natural gas utilisation is divided into the following categories: prioritised, permitted, restricted and prohibited.

On 24 December 2016, the NDRC promulgated the Notice on Oil and Natural Gas Development 13th Five-Year Plan (天然氣發展“十三五”規劃發改能源[2016]2743號), According to the Plan, Natural gas will become one of the main energy sources. By 2020, natural gas is expected to account for 10% for the proportion of primary energy consumption.

In May 2017, the CPC Central Committee and the State Council promulgated the Advice on Deepening the Reform of Oil and Gas System (關於深化石油天然氣體制改革的若干意見). According to the Advice, Natural gas peaking policy (天然氣調峰政策) and grading reserve peaking mechanism (分級儲備調峰制度) shall be established. The responsibility and obligation among the government, gas supply enterprises, pipeline enterprises, city gas companies and users with large consumption shall be clarified to adjust their peaks. Gas supply enterprises and pipeline enterprises shall bear the responsibility of the adjustment of seasonal peaking and emergency treatment.

On 23 June 2017, the NDRC promulgated the Advice on Accelerating the Use of Natural Gas (加快推進天然氣利用的意見發改能源[2017]1217號). According to the Advice, by 2030, natural gas is expected to account for 15% for the proportion of primary energy consumption.

On 26 April 2018, the NDRC and the National Energy Administration promulgated the Advice on Accelerating the Construction of Gas Storage Facilities and Improving the Market Mechanism of Gas Storage and Peak Adjustment Auxiliary Services (關於加快儲氣設施建設和完善儲氣調峰輔助服務市場機制的意見發改能源規[2018]637號). According to the Advice, every gas supply enterprise shall establish a storage system. By 2020, city gas enterprises are encouraged to establish natural gas reserves and have the capacity of storing natural gas of not less than 5% of their annual consumption volume. If any city gas enterprise fails to maintain a gas storage capacity of 5% of annual gas consumption by the end of 2020, and is still in the situation of shortage of gas supply for successive years and refuse to sign a sales contract to make up for the shortage, the competent administrative department for gas operation should order it to strengthen rectification, and may further revoke the gas business license and the franchise right in accordance with laws and regulations such as the Regulation on the Administration of Urban Gas.

On 30 August 2018, the State Council promulgated the Advice on Promoting Coordinated and Stable Development of Natural Gas (關於促進天然氣協調穩定發展的若干意見國發[2018]31號). According to the Advice, urban gas enterprise are responsible for establishing a multi-level gas storage system with underground gas storage and coastal LNG receiving stations as the main part, inland intensive and large scale LNG storage tanks as the auxiliary, and pipeline network interconnection as the support. By 2020, city gas enterprises are encouraged to form a gas storage capacity of no less than 5% of their annual gas consumption. Local governments and enterprises that breach contracts and fail to provide adequate assurance of gas supply shall be included in the list of dishonesty according to relevant regulations, and joint punishment shall be carried out for serious violations of laws and dishonesty.

According to the Opinions on the Implementation of the Operation Mechanism Reform of the Oil and Natural Gas Pipeline Network (石油天然氣管網運營機制改革實施意見) proposed by the Seventh Meeting of the Central Comprehensive Deepening Reform Committee on 19 March 2019, the PRC government intends to unify the intermediary pipeline networks, strengthen the control on transmission cost of the intermediary pipeline networks and promote multi-channel supply of upstream PNG sources.

### **Concession in Municipal Public Utilities Projects**

According to the Measures for the Administration on the Franchise of Municipal Public Utilities (市政公用事業特許經營管理辦法) promulgated by the Ministry of Housing and Urban-Rural Development of the People's Republic of China (hereinafter referred to as "MOHURD") on 19 March 2004 and amended on 4 May 2015 and the Measures for the Administration of Concession for Infrastructure and Public Utilities (基礎設施和公用事業特許經營管理辦法) mainly promulgated by NDRC on 25 April 2015 (hereinafter referred to as the "Concession Rights Measures"), the Concession Rights Measures governing the grant of concession rights for municipal public utilities projects are applicable to municipal public utilities projects including supply of natural gas projects. The Concession Rights Measures are applicable to the grant and period of concession rights, the qualification of enterprises for applying concession rights, major clause of a concession contract, responsibility for enterprises with concession rights and changes and termination of concession rights and others.

## **The Grant of Concession Rights**

According to the Concession Rights Measures, government authorities should select investors or operators of municipal public utilities projects through competitive modes such as public bidding and competitive negotiation according to relevant regulations, and enter into concession agreements to grant concession rights with them. However, the Concession Rights Measures provide no penalty for acquisition of concession rights without adopting competitive methods. The Concession Rights Measures require written concession agreements to be entered into for all municipal public utilities projects prior to the commencement of a concession period. For any concession projects which fail to comply with such requirement, the Concession Rights Measures require that the rectification can be made by entering into written concession agreements in a timely manner.

## **Urban Gas Development Plan**

According to the Regulation on the Administration of Urban Gas (城鎮燃氣管理條例) (hereinafter referred to as the Urban Gas Regulation) promulgated by the State Council on 19 October 2010 and amended on 6 February 2016, the department of housing and urban-rural development under the State Council shall, jointly with the relevant departments under the State Council, organize to formulate the national plan for gas development in accordance with the plan for national economic and social development, the overall plan of land utilization, urban and rural planning and the energy program and in light of the balance situation of the total amount of national gas resources and organize the implementation thereof. The gas administrative department of the local people's government at or above the county level shall, jointly with the relevant departments, organize to formulate the plan for gas development of its respective administrative region in accordance with the plan for national economic and social development, the overall plan for land utilization, the urban and rural planning, the energy program and the plan for gas development of the next higher level, organize the implementation thereof upon the approval of the people's government at the same level and file it with the gas administrative department of the people's government at the next higher level for archival purpose.

## **Safety of Gas Operation**

According to the Regulation on the Administration of Urban Gas (城鎮燃氣管理條例), gas operators plan to carry out alteration in municipal gas facilities, gas operators shall prepare and submit alteration plans for the approval by gas authorities departments under local people's government at or above the county level.

Local people's government at or above the county level shall organise the competent gas authorities and relevant departments to formulate emergency plans for gas accidents and clarify the constituent units of the emergency agencies and their corresponding responsibilities, safeguards for funds, equipment and personnel, and emergency action plans. Gas operators shall establish a responsibility system for gas safety management, and shall inspect, overhaul and update gas facilities regularly to eliminate possible accident in time.

## **Pricing of Natural Gas**

Pursuant to the PRC Pricing Law (中華人民共和國價格法) promulgated by the Standing Committee of National People's Congress (hereinafter referred to as "SCNPC") on 29 December 1997, the government is implementing and gradually optimizing the pricing mechanisms mainly formed by the market under the macroeconomic control policies. Most merchandise and services shall adopt the market price. Only very few merchandise and services are priced according to government guidance or priced by the government. Market-regulated prices refer to prices fixed independently by business operators through market competition. The government may enforce government-guided prices or government-set prices when necessary for the prices of the following commodities and services: (1) the prices of an extremely small

number of commodities vital for the development of the national economy and people's life; (2) the prices of a small number of commodities the resources of which are rare or short; (3) the prices of commodities under natural monopoly management; (4) the price of essential utilities; and (5) the prices of essential non-profit services. For the pricing of merchandise and services, in accordance with the aforesaid requirements, merchandise and services could be priced according to the market price, which is set by operators.

## **PRC REGULATIONS ON CONSTRUCTION PROJECTS**

### **Bidding and Tendering on Construction Projects**

Bidding and tendering of various construction projects have been provided in the Bidding and Tendering Law of the People's Republic of China (中華人民共和國招標投標法) promulgated by SCNPC on 30 August 1999 which was last amended on 27 December 2017, Regulation on the Implementation of the Bidding and Tendering Law of the People's Republic of China (中華人民共和國招標投標法實施條例) promulgated by State Council on 20 December 2011 which was last amended on 2 March 2019, Measures for the Construction Bidding and Tendering of Construction Projects (工程建設項目施工招標投標辦法) jointly promulgated by the NDRC, MOC, MOR, MOT, Ministry of Information Industry of the People's Republic of China, Ministry of Water Resources of the People's Republic of China, and Civil Aviation Administration of China in 8 March 2003 which was last amended on 11 March 2013, Administrative Measures for the Bidding and Tendering of Design of Construction Projects (建設工程設計招標投標管理辦法) issued by MOC on 18 October 2000 and became effective on the same date and Administrative Measures for the Bidding and Tendering of Housing Construction and Municipal Infrastructure Work (房屋建築和市政基礎設施工程施工招標投標管理辦法) issued by MOC on 1 June 2001 and last amended on 13 March 2019.

In accordance with the Bidding and Tendering Law of the People's Republic of China, certain types of projects shall go through bidding processes during phases, including project survey, design, construction, supervision and procurement of the essential equipment and materials relating to the project construction. Such projects include the projects related to social public interests and public security, including large infrastructure and utilities; projects invested by using state-owned fund or financed by the government in whole or in part; and projects using loans or aid funds of international organisations or foreign government.

The process of bidding and tendering consists of five stages including bid invitation, tendering, bid opening, bid evaluation and bid award. The principle of openness, fairness and equal competition shall be followed in the bidding and tendering for construction project contracting, and the contractor shall be chosen after evaluation. After the contractor is determined, the tenderee shall issue the notification to the successful bidder. The notification is legally binding on both the tenderee and the bid winner.

In accordance with the Bidding and Tendering Law of the People's Republic of China and Measures for the Construction Bidding and Tendering of Construction Projects, if any project that shall undergo bidding as required by law fails to go through the bidding process, or the items subject to bidding are broken up into pieces or the bidding requirement is otherwise evaded, the relevant administrative supervision department shall order rectification within a specified period, and may impose a fine of 0.5 per cent. up to 1 per cent. of the contract amount of the project. For projects using the state-owned funds in whole or in part, the project approval authority may suspend the implementation of the project or suspend the fund appropriation, and impose punishment on the person direct in charge of the entity or other person directly liable. Further, in accordance with the provisions of the Interpretations of the Supreme People's Court on Issues of Law Application during the Trial of Construction Contracts for Building Projects (最高人民法院關於審理建設工程施工合同糾紛案件適用法律問題的解釋) issued by the Supreme People's Court on 29 December 2020 and became effective on 1 January 2021, if any project that is required to undergo a bidding process fails to go through the bidding process or the bid award is invalid, the construction contract for building projects shall become invalid.

## Quality Management of Construction Projects

Laws and regulations on project quality mainly include Construction Law of the People's Republic of China, Regulation on Quality Management of Construction Projects (建設工程質量管理條例) issued by the State Council on 30 January 2000 and last amended on 23 April 2019, Administrative Measures for Quality Management of Construction Project Survey (建設工程勘察質量管理辦法) last amended by MOC on 1 April 2021 and became effective on the same date, Measures for the Administration of Quality Warranty Funds of Construction Projects (建設工程質量保證金管理辦法) issued jointly by MOHURD and MOF on 12 January 2005 which was amended on 20 June 2017 and became effective on 1 July 2017, Administrative Measures for Completion Acceptance Record of Building Construction and Municipal Infrastructure Projects (房屋建築和市政基礎設施工程竣工驗收備案管理辦法) issued by MOHURD on 19 October 2009 and became effective on the same date, Measures for Quality Warranty of Building Construction Projects (房屋建築工程質量保修辦法) issued by MOC on 30 June 2000 and became effective on the same date, Regulations on the Construction of Port Projects (港口工程建設管理規定) promulgated by MOT on 15 January 2018 which became effective on 1 March 2018 and was amended on 28 November 2018 and Measures for Completion (Delivery) Acceptance of Highway Works (公路工程竣(交)工驗收辦法) promulgated by MOT on 31 March 2004 and became effective on 1 October 2004, and its Implement which is promulgated on 27 January 2010.

According to the Regulation on Quality Management of Construction Projects, all the building, surveying, designing, construction and supervision units shall be responsible for the quality of the construction projects. The competent administrative department of construction at or above county level is the competent authority for quality supervision and management of construction projects.

## OTHER MAJOR PRC LAWS AND REGULATIONS

Regulation on the Foreign Exchange Administration On 12 May 2014, the SAFE promulgated the Notice concerning the Foreign Exchange Administration on Cross-Border Guarantee (國家外匯管理局關發佈《跨境擔保外匯管理規定》的通知) and the relating implementation guidelines (collectively the “**SAFE Regulations**”). The SAFE Regulations, which came into force on 1 June 2014, replace twelve other regulations regarding cross-border security and introduce a number of significant changes, including (i) abolishing prior SAFE approval and quota requirements for cross-border security; (ii) requiring SAFE registration or filing for two specific types of cross-border security only; (iii) removing eligibility requirements for providers of cross-border security; (iv) the validity of any cross-border security agreement is no longer subject to SAFE approval, registration, filing, and any other SAFE administrative requirements; (v) removing SAFE verification requirement for performance of cross-border security. A cross-border guarantee is a form of security under the SAFE Regulations. The SAFE Regulations classify cross-border security into three types:

- Nei Bao Wai Dai (內保外貸) (“**NBWD**”): security/guarantee provided by an onshore security provider for a debt owing by an offshore debtor to an offshore creditor;
- Wai Bao Nei Dai (外保內貸) (“**WBND**”): security/guarantee provided by an offshore security provider for a debt owing by an onshore debtor to an onshore creditor;
- Other Types of Cross-border Security (其他形式跨境擔保): any cross-border security/ guarantee other than NBWD and WBND.

In respect of NBWD, in the case where the onshore security provider is a non-financial institution, it shall register (by submitting an application document package) the relevant security/guarantee with the local branch of SAFE within 15 working days after its execution (or 15 working days after the date of any change to the security). The funds borrowed offshore shall not be directly or indirectly repatriated to or used onshore by means of loans, equity investments or securities investments without SAFE approval.

Upon enforcement, the onshore security provider can pay to the offshore creditor directly (by effecting remittance through an onshore bank) where the NBWD has been registered with SAFE. In addition, if any onshore security provider under a NBWD provides any security or guarantee for an offshore bond issuance, the offshore issuer's equity shares must be fully or partially held directly or indirectly by an onshore entity in the PRC. Moreover, the proceeds from any such offshore bond issuance must be applied towards the offshore project (s), where an onshore entity holds equity interest, and in respect of which the related approval, registration, record, or confirmation have been obtained from or made with the competent authorities subject to PRC laws.

The Guarantor will unconditionally and irrevocably guarantee the due payment of all sums expressed to be payable by the Issuer under the Securities and the Trust Deed. The Guarantor's obligations in respect of the Securities and the Trust Deed are contained in the Deeds of Guarantee.

The Deeds of Guarantee will be executed by the Guarantor on or before the Issue Date. Under the SAFE Regulations, the Deeds of Guarantee do not require any pre-approval by SAFE and is binding and effective upon execution.

The Guarantor is required to submit the Deeds of Guarantee to the Beijing Branch of SAFE for registration within 15 working days after its execution. The SAFE registration is merely a post signing registration requirement, which is not a condition to the effectiveness of the Guarantee of the Securities.

Under the SAFE Regulations:

- non-registration does not render the Guarantee of the Securities ineffective or invalid under PRC law although SAFE may impose penalties on the Guarantor if registration is not carried out within the stipulated time frame of 15 working days, and
- there may be logistical hurdles at the time of remittance (if any cross-border payment is to be made by the Guarantor upon enforcement under the Guarantee of the Securities) as domestic banks may require evidence of SAFE registration in order to effect such remittance, although this does not affect the validity of the Guarantee of the Securities itself.

### **Regulation on Fiscal Debts of Local Governments**

In accordance with Guidance on Further Strengthening Adjustment of Credit Structure to Promote Fast and Smooth Development of National Economy (中國人民銀行、中國銀行業監督管理委員會關於進一步加強信貸結構調整促進國民經濟平穩較快發展的指導意見) issued jointly by the PBOC and CBRC in March 2009, local governments are encouraged to establish financing platforms to issue financing instruments such as enterprise bonds and medium-term notes. In order to strengthen the management of financing platforms and effectively prevent fiscal financial risks, Circular 19 and Circular 2881 were separately promulgated in June 2010 and November 2010, respectively. In accordance with Circular 19, all levels of local governments shall clear up the debts of their respective financing platform. In accordance with Circular 2881, indebtedness of local governments will impact financing platform's issuance of enterprise bonds.

To effectively regulate the construction of public works projects financed by local governments through the BT business model, the MOF, the NDRC, the PBOC and CBRC jointly promulgated Circular 463 on 24 December 2012. According to Circular 463, all levels of local governments and their government departments and offices generally shall not incur government debts through agent construction projects on BT business model basis where repurchase fee would be paid in instalments. For public works projects which are eligible for incurring government debts, Circular 463 makes it clear that the government must carefully plan the construction scale and the repurchase schedule in accordance with the construction plan of the relevant project and the repayment ability of the government itself if the relevant project is to be constructed on BT business model basis.

On 21 September 2014, Circular 43 was promulgated by the State Council. Circular 43 aims at regulating financing system of local government and the three channels are presented. In accordance with Circular 43, financing platforms shall no longer serve the fiscal financing functions nor incur new government debts. Public interest projects may be funded by the government through issuing government bonds, since the new Budget Law of the PRC (the “**New Budget Law**”), which took effect on 1 January 2015, empowers local governments to issue government bonds, and public interest projects with income generated, such as city infrastructure construction, may be operated independently by social investors or jointly by the government and social investors through the establishment of special purpose companies. Social investors or such special purpose companies shall invest in accordance with market-oriented principles and may be funded by, among other market-oriented approaches, bank loans, enterprise bonds, project revenue bonds and asset-backed securitisation. Social investors or the special purpose companies shall bear the obligation to pay off such debts and the government shall not be liable for any of the social investors’ or special purpose companies’ debts. Circular 43 also sets forth the general principles of dealing with existing debts of financing platforms. Based on the auditing results of such debts run by the local governments, the existing debts that should be repaid by the local governments shall be identified, reported to State Council for approval, and then included in the budget plan of local governments.

On 11 May 2015, Opinion on the Proper Solution of the Follow-up Financing Issues for Projects under Construction of Financing Platform of Local Governments issued jointly by the MOF, the PBOC and the CBRC (財政部人民銀行銀監會關於妥善解決地方政府融資平臺公司在建項目後續融資問題意見) (“**Circular 40**”) was promulgated by the General Office of the State Council of the PRC. In accordance with Circular 40, local governments at all levels and banking financial institutions shall properly deal with follow-up financing issues for projects under construction of financing platform companies. Projects under construction refer to projects that have started construction upon the completion of examination, approval or filing procedures in accordance with relevant regulations manuscript by competent investment authorities before the date when the Circular 43 was promulgated.

The key tasks of local governments and banking financial institutions are as followings:

- *Support stock financing needs for projects under construction.* Local governments at all levels and banking financial institutions shall ensure the orderly development of projects under construction. For the loans to the projects under construction of financing platform companies, if the loan contracts with legal effect have been signed before 31 December 2014 and the loans have been granted but the contracts have not yet expired, banking financial institutions shall, under the premise of fully controlling risks and implementing credit conditions, continue to grant loans as agreed in the contracts, and shall not blindly call in loans in advance, delay or suspend the granting of loans.
- *Regulate increment financing for projects under construction.* Local governments at all levels shall pay close attention to the increment financing needs which are expected to be given fiscal support for the projects under construction of the financing platform companies, and shall, under the premise of compliance with laws and regulations and standard administration, make overall arrangements for various kinds of capitals such as fiscal capital and social capital and ensure the continuation and completion of projects under construction. For the projects under construction of financing platform companies for which the loan amount in the contracts that have been signed fails to meet the construction needs, if it is suitable for them to adopt government and social capital cooperation mode, they shall prioritise such mode to make up the needs. And if they are in compliance with the relevant state provisions without any other funding sources for construction, but temporarily the government and social capital cooperation mode is not suitable, the increment financing needs shall be incorporated into government budget management and solved through issuing government bonds by local governments as required by laws and relevant regulations.

- *Administer in an effective and proper manner follow-up financing for projects under construction.* Banking financial institutions shall carefully check the destinations of the loans, and focus on supporting the projects under construction of financing platform companies in respects such as farmland water conservancy facilities, affordable housing projects and urban railway systems.
- *Improve supporting measures.* Under the premise of ensuring fiscal expenditure needs, in the regions where there are corresponding amount of government bonds issuance and where the treasury balances exceed the treasury payment for one and a half months, the local financial departments are allowed to, within the limit of the amount of government bonds issuance, make more efforts to effectively use the stock of fiscal funds in the previous years and use the surplus amount of the treasury for capital flow before government bond issuance, so as to address the time difference between the financing for projects under construction and government bonds issuance.

## **Environmental Protection related Regulations**

### ***Construction Projects***

Major laws and regulations on environmental protection during the project construction process include the Environmental Protection Law of the People's Republic of China (中華人民共和國環境保護法) amended by SCNPC on 24 April 2014 which became effective on 1 January 2015, Law on Environmental Impact Assessment of the People's Republic of China (中華人民共和國環境影響評價法) promulgated by SCNPC on 28 October 2002 which became effective on 1 September 2003 and was last amended on 29 December 2018, Administrative Regulations on Environmental Protection of Construction Projects (建設項目環境保護管理條例) issued by State Council on 29 November 1998 and last amended on 16 July 2017.

In accordance with the provisions of the Administrative Regulations on Environmental Protection of Construction Projects and Administrative Measures for Environmental Protection Acceptance of Construction Projects upon Completion, the PRC government implements the system of environmental impact assessment on construction projects. After the completion of a construction project, the competent administrative department of environmental protection will undergo environmental protection acceptance process and assess whether the construction project has met the requirements for environmental protection.

### ***Environmental Protection Law***

The Environmental Protection Law (中華人民共和國環境保護法), promulgated on 26 December 1989 by the Standing Committee of the National People's Congress, which became effective on 26 December 1989, as amended on 24 April 2014, establishes the legal framework for environmental protection in the PRC. The environmental protection department of the State Council supervises environmental protection work in the PRC, and establishes national standards for the discharge of pollutants. Each of the local environmental protection bureaus is responsible for the environmental protection work within their respective jurisdictions.

### ***Air Pollution***

The Air Pollution Prevention Law (中華人民共和國大氣污染防治法), promulgated on 29 April 2000 by the Standing Committee of the National People's Congress, which was last amended on 26 October 2018, establishes the legal framework for air pollution prevention in the PRC. The environmental protection department of the State Council formulates national air quality standards. Each of the local environmental protection bureaus is authorised to regulate air pollution within each of their respective jurisdictions by formulating more specific local standards, and may impose penalties for violation.

### ***Water Pollution***

The Water Pollution Prevention Law (中華人民共和國水污染防治法), promulgated on 11 May 1984 by the Standing Committee of the National People's Congress, which became effective on 1 November 1984, and was last amended on 27 June 2017, establishes the legal framework for water pollution prevention in the PRC. The environmental protection department of the State Council formulates national waste discharge standards. Enterprises that discharge waste into water shall pay a treatment fee. Each of the local environmental protection bureaus is authorised to regulate water pollution within each of their respective jurisdictions by formulating more specific local standards, and may impose penalties for violation, including suspending operations.

### ***Noise Pollution***

The Noise Pollution Prevention Law (中華人民共和國噪聲污染防治法), promulgated by the Standing Committee of the National People's Congress on 5 June 2022, establishes the framework for noise pollution prevention in the PRC. Under the Noise Pollution Prevention Law, any person undertaking a construction, decoration or expansion project which might cause environmental noise pollution, shall prepare and submit an environmental impact report to the environmental protection authority for approval. Facilities for prevention and control of environmental noise pollution shall be designed and approved by the environmental protection authority prior to the commencement of the project, and be built and put into use simultaneously with the project works. Facilities for prevention and control of environmental noise pollution may not be dismantled or suspended without the approval of the environmental protection authority.

### **Labour**

#### ***Employment Contracts***

The Labour Contract Law (中華人民共和國勞動合同法), promulgated by the Standing Committee of the National People's Congress on 29 June 2007, which became effective on 1 January 2008 and was amended on 28 December 2012 and became effective on 1 July 2013, governs the relationship between employers and employees and provides for specific provisions in relation to the terms and conditions of an employee contract. The Labour Contract Law stipulates that employee contracts shall be in writing and signed. It imposes more stringent requirements on employers in relation to entering into fixed-term employment contracts, hiring of temporary employees and dismissal of employees. Pursuant to the Labour Contract Law, employment contracts lawfully concluded prior to the implementation of the Labour Contract Law and continuing as of the date of its implementation shall continue to be performed.

Where an employment relationship was established prior to the implementation of the Labour Contract Law, but no written employment contract was concluded, a contract shall be concluded within one month after its implementation.

#### ***Employee Funds***

Under applicable PRC laws, regulations and rules, including the Social Insurance Law (社會保險法), which was promulgated by the SCNPC on 28 October 2010 and became effective on 1 July 2011; the Interim Regulations on the Collection and Payment of Social Insurance Premiums (社會保險費徵繳暫行條例), which was promulgated by the State Council on 22 January 1999 and became effective on 22 January 1999 and amended on 24 March 2019 and became effective on the same day; and Administrative Regulations on the Housing Provident Fund (住房公積金管理條例), which was promulgated by the State Council on 3 April 1999 and became effective on 3 April 1999 and as amended on 24 March 2002 and on 24 March 2019, the Interim Measures Concerning the Maternity Insurance of Enterprises Employees (企業職工生育保險試行辦法) which was promulgated by Ministry of Labour on 14 December 1994 and

became effective on 1 January 1995, the Regulation on Work-Related Injury Insurance (工傷保險條例), which was promulgated on 27 April 2003 and became effective on 1 January 2004 and was amended on 20 December 2010 and became effective on 1 January 2011, employers are required to contribute, on behalf of their employees, to a number of social security funds, including funds for basic pension insurance, unemployment insurance, basic medical insurance, occupational injury insurance, maternity leave insurance, and to housing provident funds. These payments are made to local administrative authorities and any employer who fails to contribute may be fined and ordered to pay the outstanding amount within a stipulated time period.

## **REGULATIONS REGARDING OVERSEAS INVESTMENT, FINANCING AND ACQUISITION ACTIVITIES**

### **NDRC Supervision**

According to the Administrative Measures for the Outbound Investment by Enterprises (企業境外投資管理辦法) promulgated by the NDRC on 26 December 2017, which became effective on 1 March 2018. Projects subject to approval are sensitive projects to be carried out by investors either directly or through overseas enterprises controlled by them. The approval authority is NDRC. Projects subject to filing are non-sensitive projects directly carried out by investors, namely the non-sensitive projects involving the direct investment of assets and equities or the provision of financing or guarantees.

Specifically, for a project requiring filing, the authority in charge of filing is (i) NDRC, if the investor is a centrally administered enterprise (a centrally administered financial enterprise or an enterprise directly subordinate to the administration by the State Council or its subordinate organ); (ii) NDRC, if the investor is a local enterprise and the amount of Chinese investment is USD 0.3 billion or above; and (iii) the provincial development and reform authority at the place where the investor is registered, if the investor is a local enterprise and the amount of Chinese investment is less than USD 0.3 billion.

These Measures apply *mutatis mutandis* to investments in Hong Kong, Macao or Taiwan made by investors directly or through enterprises under their control.

For a project that falls within the scope of projects subject to approval and filing, the investor shall obtain the approval documents or filing notice for the project prior to the implementation of the project.

According to the NDRC New Measures, domestic enterprises and their overseas controlled entities prior to issuing any foreign debts shall obtain the Certificate of Review and Registration and complete the review and registration formalities. Prior to the completion of review and registration, no foreign debts may be borrowed. An enterprise shall, with the Certificate of Review and Registration, go through the relevant procedures of foreign exchange registration, account opening, proceeds receipt, payment and remittance, and use of proceeds in accordance with the applicable laws and regulations. Moreover, pursuant to the NDRC New Measures, an enterprise shall, among other things, (i) undertake to file or cause to be filed with the NDRC the requisite information; (ii) within ten working days after expiry of the NDRC Certificate, report the foreign debts borrowing information of the Bonds through the NDRC Online Reporting System; (iii) within five working days before the end of January and end of July of each year that any of the Bonds remains outstanding, report the information relating to, among other things, use of proceeds, repayment of principal and interest and related plans, and major business indicators, through the NDRC Online Reporting System; and (iv) so long as any of the Bonds remains outstanding, submit relevant information to the NDRC upon the occurrence of any material event that may affect the due performance of debt obligations, such as liquidity issues or significant asset restructuring, and take measures to isolate such risks to prevent cross default risks.

## **MOFCOM Supervision**

MOFCOM issued the new version of the Overseas Investment Administration Rules (境外投資管理辦法) on 6 September 2014, effective from 6 October 2014 (the “**New Overseas Investment Rules**”). Under the New Overseas Investment Rules, a domestic enterprise intending to carry out any overseas investment shall report to the competent department of commerce for verification or filing and the competent department of commerce shall, with regard to an enterprise so verified or filed, issue thereto an Enterprise Overseas Investment Certificate (企業境外投資證書). If two or more enterprises make joint investment to establish an overseas enterprise, the larger (or largest) shareholder shall be responsible for the verification or filing procedure after obtaining written consent of other investing parties.

An enterprise that intends to invest in a sensitive country or region or a sensitive industry shall apply for the verification by MOFCOM. “Sensitive countries and regions” refer to those countries without a diplomatic relationship with the PRC, or subject to the UNSC sanctions or otherwise under the list of verified countries and regions published by MOFCOM from time to time. “Sensitive industries” refer to those industries involving the products and technologies which are restricted from being exported, or affecting the interests of more than one country (or region). In accordance with the New Overseas Investment Rules, a central enterprise shall apply to MOFCOM for verification and MOFCOM shall, within 20 working days after accepting such application, decide whether or not the verification is granted. For a local enterprise, it shall apply through the provincial department of commerce to MOFCOM for such verification. The provincial department of commerce shall give a preliminary opinion within 15 working days after accepting such local enterprise’s application, and submit all application documents to MOFCOM. MOFCOM shall decide whether or not to grant the verification within 15 working days of receipt of such preliminary opinion from the provincial department of commerce. Upon verification, the Enterprise Overseas Investment Certificate shall be issued to the investing enterprise by MOFCOM.

All overseas investments other than those subject to MOFCOM verification as described above are subject to a filing procedure. The investing enterprise shall complete the filing form through the Overseas Investment Management System, an online system maintained by MOFCOM, print out a copy of such filing form for stamping with the company chop, and then submit such stamped filing form together with a copy of its business licence for filing at MOFCOM (for a central enterprise) or the provincial department of commerce (for a local enterprise) respectively.

MOFCOM or the provincial department of commerce shall accept the filing and issue the Enterprise Overseas Investment Certificate within three working days upon receipt of such filing form.

The investing enterprise must carry out the investment within two years of the date of the relevant Enterprise Overseas Investment Certificate, otherwise such certificate will automatically become invalid and a new filing or verification application has to be made by the investing enterprise. In addition, if any item specified in such certificate is changed, the investing enterprise shall make the change of registration at MOFCOM or the provincial department of commerce (as the case may be).

If an overseas invested company carries out a re-investment activity offshore, the investing enterprise shall report such re-investment activity to MOFCOM or the provincial department of commerce (as the case may be) after the legal process of the investment is completed offshore. The investing enterprise shall complete and print out a copy of the Overseas Chinese-invested Enterprise Re-investment Report Form (境外中資企業再投資報告表) from the Overseas Investment Management System and stamp and submit such form to MOFCOM or the provincial department of commerce.

## **Foreign Exchange Administration**

According to Circular of the State Administration of Foreign Exchange on Further Improving and Revising the Foreign Exchange Control Policy on Direct Investment (國家外匯管理局關於進一步改進和

調整直接投資外匯管理政策的通知), corporations, enterprises or other economic organisations (domestic investors) that have been permitted to make outbound investment shall go through the procedures of registration to the Foreign Exchange Bureau (外匯管理機構). The Foreign Exchange Bureau shall issue the Foreign Exchange Registration Certificate (外匯登記證) for overseas direct investment or an IC card to the domestic institution. The domestic institution shall go through the formalities for outward remittance of funds for overseas direct investment at a designated foreign exchange bank by presenting the approval document issued by the department in charge of overseas direct investment and the Foreign Exchange Registration Certificate for overseas direct investment. The scope of foreign exchange funds for overseas direct investment of domestic institutions includes their own foreign exchange funds, domestic loans in foreign currencies in compliance with relevant provisions, foreign exchange purchased with Renminbi, material objects, intangible assets and other foreign exchange funds approved by the Foreign Exchange Bureaus for overseas direct investment. The profits gained from overseas direct investment of domestic institutions may be deposited in overseas banks and used for overseas direct investment.

SAFE issued the Notice of the State Administration of Foreign Exchange on Further Simplifying and Improving the Policies of Foreign Exchange Administration Applicable to Direct Investment (國家外匯管理局關於進一步簡化和改進直接投資外匯管理政策的通知) (the “**2015 SAFE Circular**”) on 13 February 2015, abolishing the verification and approval of foreign exchange registration under overseas direct investment. The banks shall directly examine and handle foreign exchange registration under overseas direct investment. SAFE and its branches shall conduct indirect regulation of foreign exchange registration of overseas direct investment via banks.

### **State-owned Assets Supervision**

The Interim Measures for Administration of Overseas State-owned Property Rights of Central Enterprises (中央企業境外國有產權管理暫行辦法) apply to overseas investment projects. Where overseas enterprises wholly owned or controlled by central enterprises or their subsidiaries at all levels conduct economic activities such as transferring or acquiring properties, making non-monetary contribution, changing the state-owned shareholding in non-listed companies, consolidation, division, dissolution or liquidation, they shall appoint a professional agency with the corresponding qualifications, professional experiences and good reputation to evaluate or assess the subject matters, and the evaluation items or valuation results shall be submitted to SASAC for record-filing or approval (as the case may be).

Pursuant to the Interim Measures for Administration of Overseas State-owned Property Right of Central Enterprises, the central enterprise shall, in a unified way, apply for property right registration with the SASAC, where any of the following events take place in connection with a central enterprise or its subsidiaries at all levels:

- where an overseas enterprise is established by way of investment, division or consolidation, or the property right of an overseas enterprise is obtained for the first time by way of acquisition or equity investment;
- where any change occurs to an overseas enterprise’s basic information including its name, registration place, registered capital and the main business scope, or the overseas enterprise’s property right information changes due to any changes in the capital contributors, amount of capital contributions and proportions of capital contributions;
- where an overseas enterprise no longer keeps state-owned property right due to dissolution, bankruptcy, or property right transfer and capital reduction; or
- other circumstances in which property right registration needs to be made.

## TAXATION

*The following summary of certain tax consequences of the purchase, ownership and disposition of the Bonds is based upon applicable laws, regulations, rulings and decisions in effect as of the date of this Offering Circular, all of which are subject to change (possibly with retroactive effect). This discussion does not purport to be a comprehensive description of all the tax considerations that may be relevant to a decision to purchase, own or dispose of the Bonds and does not purport to deal with consequences applicable to all categories of investors, some of which may be subject to special rules. Neither these statements nor any other statements in this Offering Circular are to be regarded as advice on the tax position of any holder of the Bonds or any persons acquiring, selling or otherwise dealing in the Bonds or on any tax implications arising from the acquisition, sale or other dealings in respect of the Bonds. Persons considering the purchase of the Bonds should consult their own tax advisers concerning the possible tax consequences of buying, holding or selling any Bonds under the laws of their country of citizenship, residence or domicile.*

### **PRC Taxation**

*The following summary accurately describes the principal PRC tax consequences of ownership of the Bonds by beneficial owners who, or which, are not residents of PRC for the PRC tax purposes. These beneficial owners are referred to as non-resident Bondholders in this “PRC Taxation” section. In considering whether to invest in the Bonds, investors should consult their individual tax advisers with regard to the application of PRC tax laws to their particular situations as well as any tax consequences arising under the laws of any other tax jurisdiction. Reference is made to PRC taxes from the taxable year beginning on or after 1 January 2008.*

Pursuant to the EIT Law, which was amended on 29 December 2018 and took effect on the same date and its implementation regulations, enterprises that are established under the laws of foreign countries and territories (including Hong Kong, Macau and Taiwan) but whose “de facto management bodies” are within the territory of PRC are treated as PRC tax resident enterprises for the purpose of the EIT Law. The implementing regulations of the EIT Law define the location of the “de facto management body” as an “organisational body which effectively manages and controls the production and business operation, personnel, accounting, properties and other aspects of operations of an enterprise. “In addition, the Notice on Issues Concerning the Determination of Chinese-controlled Enterprises Incorporated Overseas as Resident Enterprises on the Basis of Their De Facto Management Bodies issued by SAT on 22 April 2009 provides that a foreign enterprise controlled by a PRC company or a PRC company group would be classified as a “resident enterprise” with a “de facto management body” located within the PRC if all of the following requirements are satisfied: (i) the senior management and core management departments in charge of daily operations are located mainly within the PRC; (ii) financial and human resources decisions are subject to determination or approval by persons or bodies in the PRC; (iii) main assets, accounting books, company seals and minutes and files of board and shareholders’ meetings are located or kept within the PRC; and (iv) at least half of the enterprise’s directors with voting rights, or senior management, reside within the PRC.

If the relevant PRC tax authorities decide, in accordance with applicable tax rules and regulations, that the “de facto management body” of the Issuer is within the territory of the PRC, the Issuer may be deemed to be a PRC tax resident enterprise for the purpose of the EIT Law. As confirmed by the Issuer, as of the date of this Offering Circular, the Issuer has not been notified or informed by the PRC tax authorities that it is considered as a PRC tax resident enterprise for the purpose of the EIT Law.

Pursuant to the EIT Law and its implementation regulations, any non-resident enterprise without an establishment or place of business within the PRC or whose income has no connection to its establishment or place of business inside the PRC must pay the enterprise income tax on income sourced within the PRC, and such income tax must be withheld at source by the PRC payer acting as a withholding

agent. Accordingly, in the event that the Issuer is deemed to be a PRC tax resident enterprise by the PRC tax authorities in the future, the Issuer may be required to withhold income tax from the payments of interest in respect of the Bonds to any non-resident enterprise holder of Bonds. Further, in accordance with the Individual Income Tax Law of the PRC (the “**IIT Law**”) which was amended on 31 August 2018 and took effect on 1 January 2019 and its implementing regulations, if the Issuer is considered to be a PRC tax resident enterprise, the interest payable to the non-resident individual holder of Bonds may be subject to PRC individual income tax. The tax rate is generally 10 per cent. for non-resident enterprise holders of Bonds and 20 per cent. for non-resident individual holders of Bonds, subject to the provisions of any applicable income tax treaty.

In addition, as the Guarantor is a PRC resident enterprise, in the event that the Guarantor is required to fulfil its obligations under the Guarantee by making interest payments on behalf of the Issuer, the Guarantor will be obliged to withhold PRC enterprise income tax at a rate of 10 per cent. on such payments to non-resident enterprise holders of Bonds and 20 per cent. for non-resident individual holders of Bonds if such interest payments are deemed to be derived from sources within the PRC. Such income tax shall be withheld by the Issuer or, as the case may be, the Guarantor, that is acting as the obligatory withholder and such PRC enterprise shall withhold the tax amount from each payment due. To the extent that the PRC has entered into arrangements relating to the avoidance of double taxation with any jurisdiction, such as Hong Kong, that allow a lower rate of withholding tax, such lower rate may apply to qualified non-PRC resident enterprise Bondholders. The tax so charged on interests paid on the Bonds to non-PRC Bondholders who, or which are residents of Hong Kong (including enterprise holders and individual holders) as defined in the Arrangement between the Mainland of China and the Hong Kong Special Administrative Region for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Income (內地和香港特別行政區關於對所得避免雙重徵稅和防止偷漏稅的安排) which was promulgated on 21 August 2006 (the “**Arrangement**”) will be 7 per cent. of the gross amount of the interest pursuant to the Arrangement and relevant interpretation of the Arrangement formulated by SAT. To enjoy this preferential tax rate of 7 per cent., the Issuer could apply, on behalf of the Bondholders, to SAT for the application of the tax rate of 7 per cent. in accordance with the Arrangement on the interest payable in respect of the Bonds.

On 23 March 2016, the MOF and the SAT issued the Circular 36 which confirms that business tax will be completely replaced by VAT from 1 May 2016. Since then, the income derived from the provision of financial services which attracted business tax will be entirely replaced by, and subject to, VAT.

According to Circular 36, the entities and individuals providing the services within China shall be subject to VAT. The services are treated as being provided within the PRC where either the service provider or the service recipient is located in the PRC. The services subject to VAT include the provision of financial services such as the provision of loans. It is further clarified under Circular 36 that the “loans” refers to the activity of lending capital for another’s use and receiving the interest income thereon. Based on the definition of “loans” under Circular 36, the issuance of Bonds may be treated as the holders of the Bonds providing loans to the Issuer, which thus could be regarded as financial services subject to VAT. Therefore, if the Issuer were deemed a PRC resident enterprise, the holders of the Bonds may be subject to VAT. Further, given that the Guarantor is located in the PRC, in the case that the Guarantor makes payments under the Bonds pursuant to the Guarantee, the holders of the Bonds may be regarded as providing the financial services within China and consequently, the holders of the Bonds may be subject to VAT. The rate of VAT and is currently 6 per cent. The Issuer or the Guarantor, as the case may be, withhold the VAT from the payment of interest to non-PRC Bondholders.

Where a holder of the Bonds who is an entity or individual located outside of the PRC resells the Bonds to an entity or individual located outside of the PRC and derives any gain, since neither the service provider nor the service recipient is located in the PRC, Circular 36 should not apply and the Guarantor should not have the obligation to withhold the VAT or the local levies. However, there is uncertainty as to the applicability of VAT if either the seller or buyer of Bonds is located inside the PRC.

The above statement may be subject to further change upon the issuance of further clarification rules and/or different interpretation by the competent tax authority. There is uncertainty as to the application of Circular 36.

The Issuer has agreed to pay additional amounts to holders of the Bonds so that holders of the Bonds would receive the full amount of the scheduled payment, as further set out in Terms and Conditions of the Bonds.

No PRC stamp duty will be imposed on non-resident Bondholders either upon issuance of the Bonds or upon a subsequent transfer of Bonds.

### **Hong Kong Taxation**

#### *Withholding tax*

No withholding tax is payable in Hong Kong in respect of payments of principal or interest on the Bonds.

#### *Stamp duty*

No Hong Kong stamp duty will be chargeable upon the issue or initial transfer of a Bond.

## SUBSCRIPTION AND SALE

The Issuer and the Guarantor have entered into a subscription agreement with the Joint Lead Managers dated 21 March 2024 (the “**Subscription Agreement**”) pursuant to which and subject to certain conditions contained in the Subscription Agreement, the Issuer has agreed to sell to the Joint Lead Managers, and the Joint Lead Managers have agreed to severally and not jointly subscribe and pay for, or to procure subscribers to subscribe and pay for, the aggregate principal amount of the Bonds set forth opposite its name below.

	<b>Principal Amount of the Bonds to be subscribed</b>
	(US\$)
China Securities (International) Corporate Finance Company Limited . . . . .	24,000,000
Guotai Junan Securities (Hong Kong) Limited. . . . .	24,000,000
Zhongtai International Securities Limited . . . . .	24,000,000
Shenwan Hongyuan Securities (H.K.) Limited . . . . .	24,000,000
Orient Securities (Hong Kong) Limited . . . . .	24,000,000
BOCOM International Securities Limited . . . . .	5,000,000
CCB International Capital Limited . . . . .	5,000,000
CEB International Capital Corporation Limited . . . . .	5,000,000
China Credit International Securities Co., Limited. . . . .	5,000,000
China Galaxy International Securities (Hong Kong) Co., Limited . . . . .	5,000,000
China International Capital Corporation Hong Kong Securities Limited . . . . .	5,000,000
CLSA Limited . . . . .	5,000,000
CMB International Capital Limited . . . . .	5,000,000
CMB Wing Lung Bank Limited . . . . .	5,000,000
CMBC Securities Company Limited. . . . .	5,000,000
CNCB (Hong Kong) Capital Limited . . . . .	5,000,000
Hua Xia Bank Co., Limited Hong Kong Branch . . . . .	5,000,000
Industrial Bank Co., Ltd. Hong Kong Branch . . . . .	5,000,000
Luso International Banking Limited. . . . .	5,000,000
Pearl International Securities Limited . . . . .	5,000,000
Shanghai Pudong Development Bank Co., Ltd., Hong Kong Branch . . . . .	5,000,000
TFI Securities and Futures Limited . . . . .	5,000,000
Zheshang International Financial Holdings Co., Limited . . . . .	5,000,000
<b>Total</b> . . . . .	<b>210,000,000</b>

The Subscription Agreement provides that the Issuer and the Guarantor will jointly and severally indemnify the Joint Lead Managers and their respective affiliates against certain liabilities in connection with the offer and sale of the Bonds. The Subscription Agreement provides that the obligations of the Joint Lead Managers are subject to certain conditions precedent and entitles the Joint Lead Managers to terminate it in certain circumstances prior to payment being made to the Issuer.

The Joint Lead Managers and their respective affiliates are financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities (“**Banking Services or Transactions**”). The Joint Lead Managers and their respective affiliates may have, from time to time, performed, and may in the future perform, various Banking Services or Transactions with the Issuer and the Guarantor for which they have received, or will receive, fees and expenses.

In connection with the offering of the Bonds, the Joint Lead Managers and/or their respective affiliates, or affiliates of the Issuer or the Guarantor, may place orders, receive allocations and purchase Bonds for their own account (without a view to distributing such Bonds) and such orders and/or allocations of the Bonds may be material. Such entities may hold or sell such Bonds or purchase further Bonds for their own

account in the secondary market or deal in any other securities of the Issuer or the Guarantor, and therefore, they may offer or sell the Bonds or other securities otherwise than in connection with the offering of the Bonds. Accordingly, references herein to the Bonds being ‘offered’ should be read as including any offering of the Bonds to the Joint Lead Managers and/or their respective affiliates, or affiliates of the Issuer or the Guarantor for their own account. Such entities are not expected to disclose such transactions or the extent of any such investment, otherwise than in accordance with any legal or regulatory obligation to do so. Furthermore, it is possible that only a limited number of investors may subscribe for a significant proportion of the Bonds. If this is the case, liquidity of trading in the Bonds may be constrained (see “*Risk Factors — Risks Relating to the Bonds and the Guarantee — An active trading market for the Bonds may not develop*”). The Issuer, the Guarantor and the Joint Lead Managers are under no obligation to disclose the extent of the distribution of the Bonds among individual investors.

In the ordinary course of their various business activities, the Joint Lead Managers and their respective affiliates may make or hold a broad array of investments and may actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Issuer and/or the Guarantor, including the Bonds and could adversely affect the trading prices and liquidity of the Bonds. The Joint Lead Managers and their respective affiliates may make investment recommendations and/or publish or express independent research views (positive or negative) in respect of the Bonds or other financial instruments of the Issuer or the Guarantor, and may recommend to their clients that they acquire long and/or short positions in the Bonds or other financial instruments or the Issuer and/or the Guarantor.

In connection with the issue of the Bonds, any of the Joint Lead Managers appointed and acting in the capacity of a stabilisation manager (or persons acting on its behalf) (the “**Stabilisation Manager**”) may, to the extent permitted by applicable laws and directives, over-allot the Bonds or effect transactions with a view to supporting the market price of the Bonds at a level higher than that which might otherwise prevail, but in so doing, the Stabilisation Manager or any person acting on behalf of the Stabilisation Manager shall act as principal and not as agent of the Issuer or the Guarantor. However, there is no assurance that the Stabilisation Manager or any person acting on behalf of the Stabilisation Manager will undertake stabilisation action. Any loss or profit sustained as a consequence of any such over-allotment or stabilisation shall be for the account of the Joint Lead Managers.

**Notice to capital market intermediaries and prospective investors pursuant to paragraph 21 of the Hong Kong SFC Code of Conduct – Important Notice to CMIIs (including Private Banks)**

This notice to CMIIs (including private banks) is a summary of certain obligations the Code imposes on CMIIs, which require the attention and cooperation of other CMIIs (including private banks). Certain CMIIs may also be acting as OCs for this offering and are subject to additional requirements under the Code.

Prospective investors who are the directors, employees or major shareholders of the Issuer, the Guarantor, a CMI or its group companies would be considered under the Code as having an Association with the Issuer, the Guarantor, the CMI or the relevant group company. CMIIs should specifically disclose whether their investor clients have any Association when submitting orders for the Bonds. In addition, private banks should take all reasonable steps to identify whether their investor clients may have any Associations with the Issuer, the Guarantor or any CMI (including its group companies) and inform the Joint Lead Managers accordingly.

CMIIs are informed that the marketing and investor targeting strategy for this offering includes institutional investors, sovereign wealth funds, pension funds, hedge funds, family offices and high net worth individuals, in each case, subject to the selling restrictions set out elsewhere in this Offering Circular.

CMI should ensure that orders placed are bona fide, are not inflated and do not constitute duplicated orders (i.e. two or more corresponding or identical orders placed via two or more CMIs). CMI should enquire with their investor clients regarding any orders which appear unusual or irregular. CMI should disclose the identities of all investors when submitting orders for the Bonds (except for omnibus orders where underlying investor information may need to be provided to any OCs when submitting orders). Failure to provide underlying investor information for omnibus orders, where required to do so, may result in that order being rejected. CMI should not place “X-orders” into the order book.

CMI should segregate and clearly identify their own proprietary orders (and those of their group companies, including private banks as the case may be) in the order book and book messages.

CMI (including private banks) should not offer any rebates to prospective investors or pass on any rebates provided by the Issuer or the Guarantor. In addition, CMI (including private banks) should not enter into arrangements which may result in prospective investors paying different prices for the Bonds.

The Code requires that a CMI disclose complete and accurate information in a timely manner on the status of the order book and other relevant information it receives to targeted investors for them to make an informed decision. In order to do this, those Joint Lead Managers in control of the order book should consider disclosing order book updates to all CMIs.

When placing an order for the Bonds, private banks should disclose, at the same time, if such order is placed other than on a “principal” basis (whereby it is deploying its own balance sheet for onward selling to investors). Private banks who do not provide such disclosure are hereby deemed to be placing their order on such a “principal” basis. Otherwise, such order may be considered to be an omnibus order pursuant to the Code.

In relation to omnibus orders, when submitting such orders, CMI (including private banks) that are subject to the Code should disclose underlying investor information in respect of each order constituting the relevant omnibus order (failure to provide such information may result in that order being rejected). Underlying investor information in relation to omnibus orders should consist of:

- The name of each underlying investor;
- A unique identification number for each investor;
- Whether an underlying investor has any “Associations” (as used in the Code);
- Whether any underlying investor order is a “Proprietary Order” (as used in the Code);
- Whether any underlying investor order is a duplicate order.

Underlying investor information in relation to omnibus order should be sent to: project.c2.iii@csci.hk; DebtSyndicate@csci.hk; dcm.c2@gtjas.com.hk; dcm@ztsc.com.hk; dcm@swhyhk.com and codcm@dfzq.com.hk

To the extent information being disclosed by CMI and investors is personal and/or confidential in nature, CMI (including private banks) agree and warrant: (A) to take appropriate steps to safeguard the transmission of such information to any OCs; and (B) that they have obtained the necessary consents from the underlying investors to disclose such information to any OCs. By submitting an order and providing such information to any OCs, each CMI (including private banks) further warrants that they and the underlying investors have understood and consented to the collection, disclosure, use and transfer of such information by any OCs and/or any other third parties as may be required by the Code, including to the Issuer, the Guarantor, relevant regulators and/or any other third parties as may be required by the Code,

for the purpose of complying with the Code, during the bookbuilding process for this offering. CMIIs that receive such underlying investor information are reminded that such information should be used only for submitting orders in this offering. The Joint Lead Managers may be asked to demonstrate compliance with their obligations under the Code, and may request other CMIIs (including private banks) to provide evidence showing compliance with the obligations above (in particular, that the necessary consents have been obtained). In such event, other CMIIs (including private banks) are required to provide the relevant Joint lead Manager with such evidence within the timeline requested.

By placing an order, prospective investors (including any underlying investors in relation to omnibus orders) are deemed to represent to the Joint Lead Managers that it is not a Sanctions Restricted Person. A **“Sanctions Restricted Person”** means an individual or entity (a **“Person”**): (a) that is, or is directly or indirectly owned or controlled by a Person that is, described or designated in (i) the most current **“Specially Designated Nationals and Blocked Persons”** list (which as of the date hereof can be found at: <http://www.treasury.gov/ofac/downloads/sdnlist.pdf>) or (ii) the Foreign Sanctions Evaders List (which as at the date of this Supplemental Offering Circular can be found at: <http://www.treasury.gov/ofac/downloads/fse/fselist.pdf>) or (iii) the most current **“Consolidated list of persons, groups and entities subject to EU financial sanctions”** (which as at the date of this Supplemental Offering Circular can be found at: [https://eeas.europa.eu/headquarters/headquartershomepage\\_en/8442/Consolidated%20list%20of%20sanction](https://eeas.europa.eu/headquarters/headquartershomepage_en/8442/Consolidated%20list%20of%20sanction)); or (b) that is otherwise the subject of any sanctions administered or enforced by any Sanctions Authority, other than solely by virtue of: (i) their inclusion in the most current **“Sectoral Sanctions Identifications”** list (which as at the date of this Supplemental Offering Circular can be found at: <https://www.treasury.gov/ofac/downloads/ssi/ssilist.pdf>) (the **“SSI List”**); (ii) their inclusion in Annexes 3, 4, 5 and 6 of Council Regulation No. 833/2014, as amended by Council Regulation No. 960/2014 (the **“EU Annexes”**); (iii) their inclusion in any other list maintained by a Sanctions Authority, with similar effect to the SSI List or the EU Annexes; (iv) them being the subject of restrictions imposed by the U.S. Department of Commerce’s Bureau of Industry and Security (**“BIS”**) under which BIS has restricted exports, re-exports or transfers of certain controlled goods, technology or software to such individuals or entities; (v) them being an entity listed in the Annex to the new Executive Order of 3 June 2021 entitled **“Addressing the Threat from Securities Investments that Finance Certain Companies of the People’s Republic of China”** (known as the Non-SDN Chinese Military-Industrial Complex Companies List), which amends the Executive Order 13959 of 12 November 2020 entitled **“Addressing the threat from Securities Investments that Finance Chinese Military Companies”**; or (vi) them being subject to restrictions imposed on the operation of an online service, Internet application or other information or communication services in the United States directed at preventing a foreign government from accessing the data of U.S. persons; or (c) that is located, organised or a resident in a comprehensively sanctioned country or territory, including Cuba, Iran, North Korea, Syria, the Crimea region of Ukraine, the Donetsk’s People’s Republic or Luhansk People’s Republic. **“Sanctions Authority”** means: (a) the United States government; (b) the United Nations; (c) the European Union (or any of its member states); (d) the United Kingdom; (e) any other equivalent governmental or regulatory authority, institution or agency which administers economic, financial or trade sanctions; and (f) the respective governmental institutions and agencies of any of the foregoing including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury, the United States Department of State, the United States Department of Commerce and His Majesty’s Treasury.

## **General**

The distribution of this Offering Circular or any offering material and the offering, sale or delivery of the Bonds is restricted by law in certain jurisdictions. Therefore, persons who may come into possession of this Offering Circular or any offering material are advised to consult their own legal advisers as to what restrictions may be applicable to them and to observe such restrictions. This Offering Circular may not be used for the purpose of an offer or invitation in any circumstances in which such offer or invitation is not authorised.

No action has been or will be taken in any jurisdiction by the Issuer, the Guarantor or the Joint Lead Managers that would permit a public offering, or any other offering under circumstances not permitted by applicable law, of the Bonds, or possession or distribution of this Offering Circular, any amendment or supplement thereto issued in connection with the proposed resale of the Bonds or any other offering or publicity material relating to the Bonds, in any country or jurisdiction where action for that purpose is required. Accordingly, the Bonds may not be offered or sold, directly or indirectly, and neither this Offering Circular nor any other offering or publicity material in connection with the Bonds may be distributed or published, by the Issuer, the Guarantor or the Joint Lead Managers, in or from any country or jurisdiction, except in circumstances which will result in compliance with all applicable rules and regulations of any such country or jurisdiction and will not impose any obligations on the Issuer, the Guarantor or the Joint Lead Managers.

If a jurisdiction requires that the offering be made by a licensed broker or dealer and the Joint Lead Managers or any affiliate of the Joint Lead Managers is a licensed broker or dealer in that jurisdiction, the offering shall be deemed to be made by such Joint Lead Managers or such affiliate in such jurisdiction.

### **United States**

The Bonds and the Guarantee have not been and will not be registered under the Securities Act and, subject to certain exceptions, may not be offered or sold within the United States. The Bonds and the Guarantee are being offered and sold outside of the United States in reliance on Regulation S. In addition, until 40 days after the commencement of the offering of the Bonds and the Guarantee, an offer or sale of the Bonds or Guarantee within the United States by any dealer (whether or not participating in the offering) may violate the registration requirements of the Securities Act.

### **United Kingdom**

The Joint Lead Managers have represented and agreed that:

- (a) (i) it is a person whose ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business and (ii) it has not offered or sold and will not offer or sell the Bonds other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or as agent) for the purposes of their businesses or who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses where the issue of the Bonds would otherwise constitute a contravention of Section 19 of the Financial Services and Markets Act 2000 (the “FSMA”) by the Issuer;
- (b) it has only communicated or caused to be communicated, and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of the Bonds in circumstances in which Section 21 (1) of the FSMA does not apply to the Issuer or the Guarantee; and
- (c) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Bonds in, from or otherwise involving the United Kingdom.

### **Hong Kong**

The Joint Lead Managers have represented, warranted and agreed that:

- (a) it has not offered or sold and will not offer or sell in Hong Kong, by means of any document, any Bonds other than (i) to “professional investors” as defined in the Securities and Futures Ordinance

(Cap. 571) of Hong Kong (the “SFO”) and any rules made under the SFO; or (ii) in other circumstances which do not result in the document being a “prospectus” as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong (the “C(WUMP)O”) or which do not constitute an offer to the public within the meaning of the C(WUMP)O; and

- (b) it has not issued or had in its possession for the purposes of issue, and will not issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere, any advertisement, invitation or document relating to the Bonds, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the Bonds which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” as defined in the SFO and any rules made under the SFO.

## **Singapore**

Each of the Joint Lead Managers has acknowledged that this Offering Circular has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each of the Joint Lead Managers has represented, warranted and agreed that it has not offered or sold any Bonds or caused the Bonds to be made the subject of an invitation for subscription or purchase, and will not offer or sell any Bonds or cause the Bonds to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute this Offering Circular or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Bonds, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act 2001 of Singapore, as modified or amended from time to time (the “SFA”)) pursuant to Section 274 of the SFA, or (ii) to an accredited investor (as defined in Section 4A of the SFA) pursuant to and in accordance with the conditions specified in Section 275 of the SFA.

*Singapore SFA Product Classification: In connection with Section 309B of the SFA and the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore (the “CMP Regulations 2018”), the Issuer has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Bonds are “prescribed capital markets products” (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).*

## **Japan**

The Bonds have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended, the “**Financial Instruments and Exchange Act**”). Accordingly, the Joint Lead Managers have represented and agreed that they have not, directly or indirectly, offered or sold and will not, directly or indirectly, offer or sell any Bonds in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organised under the laws of Japan) or to others for re-offering or re-sale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act and other relevant laws and regulations of Japan.

## **The People’s Republic of China**

The Joint Lead Managers have represented and agreed that the Bonds are not being offered or sold and may not be offered or sold, directly or indirectly, in the PRC (for such purposes, not including the Hong Kong, Macau or Taiwan), except as permitted by the securities laws of the PRC.

## **SUMMARY OF CERTAIN DIFFERENCES BETWEEN PRC GAAP AND IFRS**

*The Guarantor's Audited Financial Statements included in this Offering Circular have been prepared and presented in accordance with PRC GAAP. Certain differences exist between PRC GAAP and IFRS which might be relevant to the Company's consolidated financial information. The following is a general summary of certain differences between PRC GAAP and IFRS as applicable to the Group. Since the summary is not meant to be exhaustive, there is no assurance regarding the completeness of this summary. The Company has not prepared a complete reconciliation of the consolidated financial information and related disclosure between PRC GAAP and IFRS and have not quantified such differences. Had any such quantification or reconciliation been undertaken by the Group, other potentially significant accounting and disclosure differences may have been required that are not identified below. Additionally, no attempt has been made to identify possible future differences between PRC GAAP and IFRS as a result of prescribed changes in accounting standards. Regulatory bodies that promulgate PRC GAAP and IFRS have significant ongoing projects that could affect future comparisons. Furthermore, no attempt has been made to identify future differences between PRC GAAP and IFRS that may affect the financial information as a result of transactions or events that may occur in the future. As a result, no assurance is provided that the following summary of differences between PRC GAAP and IFRS is complete. In making an investment decision, each investor must rely upon its own examination of the Group, the terms of the offering and other disclosure contained herein. Each investor should consult its own professional advisers for an understanding the differences between PRC GAAP and IFRS and/or between PRC GAAP and other generally accepted accounting principles, and how those differences might affect the financial information contained herein.*

### **GOVERNMENT GRANT**

Prior to 1 January 2017, under PRC GAAP, an assets-related government grant was only required to be recognised as deferred income, and evenly amortised to profit or loss over the useful life of the related asset. However, under IFRS, such assets-related government grants are allowed to be presented in the statement of financial position either by setting up the grant as deferred income or by deducting the grant in arriving at the carrying amount of the asset. From 1 January 2017, the treatment of an assets-related government grant under the PRC GAAP has changed and is the same as that under IFRS.

Under PRC GAAP, the relocation compensation for public interests is required to be recognised as special payables. The income from compensation attributable to losses of fixed assets and intangible assets, related expenses, losses from production suspension incurred during the relocation and reconstruction period and purchases of assets after the relocation are transferred from special payables to deferred income and accounted for in accordance with the government grants standard. The surplus reached after deducting the amount transferred to deferred income shall be recognised in capital reserve.

Under IFRS, if an entity relocates for reasons of public interests, the compensation received shall be recognised in profit or loss.

### **REVERSAL OF AN IMPAIRMENT LOSS**

Under PRC GAAP, once an impairment loss is recognised for a long-term asset (including investment property valued under the cost model, long-term equity investments, fixed assets, intangible assets and goodwill, etc.), it shall not be reversed in any subsequent period.

Under IFRS, an impairment loss recognised in prior periods for an asset other than goodwill may be reversed if there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. The increased carrying amount due to reversal should not be more than what the depreciated historical cost would have been if the impairment had not been recognised.

## **FIXED ASSETS AND INTANGIBLE ASSETS**

Under PRC GAAP, only the cost model is allowed.

Under IFRS, an entity can choose either the cost model or the revaluation model as its accounting policy.

## **AVAILABLE-FOR-SALE FINANCIAL ASSETS**

Under PRC GAAP, an enterprise shall measure available-for-sale financial assets at their fair values. If the available-for-sale financial assets do not have a quoted market price in an active market, and their fair value cannot be reliably measured, cost model shall be applied.

Under IFRS, available-for-sale financial assets are measured at fair value.

## **RELATED PARTY DISCLOSURES**

Under PRC GAAP, government-related entities are not regarded as related parties simply because they are under common control from the State. The transactions with such government-related entities do not need to be disclosed.

Under IFRS, government-related entities are treated as related parties. The transactions with such government-related entities may be exempted from certain disclosure requirements under IAS 24, but it is still compulsory to disclose information including the name of the government and the relationship between such entity and the government, the nature and amount of each material transaction and other material qualitative or quantitative indicators of such transaction.

## GENERAL INFORMATION

1. **Clearing Systems:** The Bonds have been accepted for clearance through Euroclear and Clearstream under Common Code 277563231 and ISIN XS2775632313. The Issuer's Legal Entity Identifier is 25490085RKLZA9LXZT88.
2. **Authorisations:** The Issuer has obtained all necessary internal authorisations in connection with the issue and performance of the Bonds. The issue of the Bonds was authorized by written resolutions of the directors of the Issuer dated 22 January 2024. The Guarantor has obtained all necessary internal authorisations in connection with the giving of the Guarantee and performance of the Deed of Guarantee. The giving of the Guarantee was authorised by written resolutions of the directors of the Guarantor passed on 26 September 2023.
3. **No Material Adverse Change:** Save as disclosed in this Offering Circular, there has been no material adverse change, or any development or event involving a prospective change, in the financial condition, prospects, results of operations or general affairs of the Issuer, the Guarantor or the Group since 31 December 2022.
4. **Litigation:** Save as disclosed in this Offering Circular, none of the Issuer, the Guarantor or any member of the Group is involved in any litigation, arbitration or administrative proceedings which could have a material adverse effect on their business, results of operations and financial condition nor is the Issuer or the Guarantor aware that any such proceedings are pending or threatened. The Group may from time to time be involved in disputes and legal proceedings arising in the ordinary course of its business.
5. **Available Documents:** So long as any of the Bonds is outstanding, copies of the Trust Deed and the Agency Agreement relating to the Bonds will be available for inspection from the Issue Date at all reasonable times during normal business hours (being 9:00 a.m. (Hong Kong time) to 3:00 p.m. (Hong Kong time) Monday to Friday, public holidays excepted) by the Bondholders, following prior written request and proof of holding and identity satisfactory to the Trustee, at the principal office of the Trustee, which at the date of this Offering Circular is at 3/F, CCB Tower, 3 Connaught Road Central, Central, Hong Kong.
6. **Financial Statements:** The Guarantor's Audited Financial Statements, which is included elsewhere in this Offering Circular, have been reviewed and audited, as the case may be, by Pan-China CPA, respectively. Pan-China CPA has given and not withdrawn its consent to the inclusion of its auditor report in this Offering Circular in the form and context in which it appears.
7. **Listing of Bonds:** Application will be made to the Hong Kong Stock Exchange for the listing of, and permission to deal in, the Bonds by way of debt issues to Professional Investors only.

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## Auditor's Report

PCCPAAR SHANDONG [2023] No.354

To the Shareholders of Jinan Energy Group Co., Ltd.:

### I. Audit Opinion

We have audited the accompanying financial statements of Jinan Energy Group Co., Ltd.(the "Company"), which comprise the consolidated income statements, the consolidated cash flow statements for the years then ended, and the consolidated and parent company balance sheets as at December 31, 2022, the consolidated and parent company income statements, the consolidated and parent company cash flow statements for the year then ended, as well as notes to financial statements.

In our opinion, the attached financial statements present fairly, in all material respects, of its consolidated financial performance and its cash flows for the years then ended and the financial position of the consolidated and parent company as at December 31, 2022, and of the consolidated financial performance and cash flows for the year then ended in accordance with China Accounting Standards for Business Enterprises and basis of preparation as described in Section II of notes to financial statements.

### II. Basis for Audit Opinion

We conducted our audit in accordance with China Standards on Auditing. Our responsibilities under those standards are further described in the Certified Public Accountant's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company in accordance with the China Code of Ethics for Certified Public Accountants, and we have fulfilled other ethical responsibilities. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



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### **III. Responsibilities of the Management and Those Charged with Governance for the Financial Statements**

The Management is responsible for preparing and presenting fairly the financial statements in accordance with China Accounting Standards for Business Enterprises, as well as designing, implementing and maintaining internal control relevant to the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Company's financial reporting process.

### **IV. Certified Public Accountant's Responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with China Standards on Auditing will always detect a material misstatement when it exists. Misstatement can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

We exercise professional judgment and maintain professional skepticism throughout the audit performed in accordance with China Standards on Auditing. We also:

(I) Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion,



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forgery, intentional omissions, misrepresentations, or the override of internal control.

(II) Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.

(III) Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Management.

(IV) Conclude on the appropriateness of the Management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

(V) Evaluate the overall presentation, structure and content of the financial statements, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

(VI) Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain sole responsibility for our audit opinion.

We communicate with those charged with governance regarding the planned audit scope, time schedule and significant audit findings, including any deficiencies in internal control of concern that we identify during our audit.

## **V. Preparation Basis and Usage Restriction**

We draw the attention of statement users to the basis of preparation as described in section II of notes to financial consolidated statements. This report is only for financing purposes, not for other purposes.



This paragraph does not affect the audit opinion issued.



Chinese Certified Public Accountant  
(Engagement Partner)

Handwritten signature in black ink.



Chinese Certified Public Accountant

Handwritten signature in black ink.



Date of Report: April 7, 2023

The auditor's report and the accompanying financial statements are English translations of the Chinese auditor's report and statutory financial statements prepared under accounting principles and practices generally accepted in the People's Republic of China. These financial statements are not intended to present the financial position and financial performance and cash flows in accordance with accounting principles and practices generally accepted in other countries and jurisdictions. In case the English version does not conform to the Chinese version, the Chinese version prevails.



Jinan Energy Group Co., Ltd.  
Consolidated balance sheet as at December 31, 2022  
(Expressed in Renminbi Yuan)

Assets	Note No.	Closing balance	Opening balance
Current assets:			
Cash and bank balances	1	7,509,626,693.30	7,452,116,972.40
Settlement funds			
Loans to other banks			
Held-for-trading financial assets			
Derivative financial assets			
Notes receivable	2	32,372,979.71	43,516,118.98
Accounts receivable	3	2,502,248,007.08	1,400,976,781.33
Receivables financing	4	22,592,288.68	99,532,870.69
Advances paid	5	1,756,183,192.24	1,584,311,320.72
Premiums receivable			
Reinsurance accounts receivable			
Reinsurance reserve receivable			
Other receivables	6	5,673,706,439.05	4,081,494,851.28
Financial assets under reverse repo			
Inventories	7	3,224,753,121.79	2,216,591,005.00
Contract assets	8	584,401,142.86	219,646,563.01
Assets held for sale			
Non-current assets due within one year			4,535,584.48
Other current assets	9	252,380,049.86	661,931,238.49
Total current assets		21,558,263,914.57	17,764,653,306.38
Non-current assets:			
Loans and advances			
Debt investments	10	729,109,098.54	706,497,777.72
Other debt investments			
Long-term receivables			10,168,682.98
Long-term equity investments	11	574,688,881.43	196,022,041.44
Available-for-sale financial assets			
Other equity instrument investments	12	25,029,981.75	19,460,000.00
Other non-current financial assets	13	228,522,031.63	235,139,266.37
Investment property	14	39,017,924.14	40,180,085.45
Fixed assets	15	19,827,764,624.74	17,322,011,248.28
Construction in progress	16	6,814,443,602.43	6,407,721,105.11
Productive biological assets			
Oil & gas assets			
Right-of-use assets	17	142,149,288.04	81,590,535.32
Intangible assets	18	1,019,235,342.49	931,072,703.25
Development expenditures			
Goodwill	19	376,064,259.31	88,344,034.30
Long-term prepayments	20	1,302,353,716.82	893,517,096.40
Deferred tax assets	21	30,991,058.05	20,476,405.90
Other non-current assets	22	165,380,042.44	172,386,398.00
Total non-current assets		31,274,749,851.81	27,124,587,380.52
Total assets		52,833,013,766.38	44,889,240,686.90

Legal representative:



Officer in charge of accounting: 张琦 Head of accounting department:

张林强






Jinan Energy Group Co., Ltd.

Consolidated balance sheet as at December 31, 2022 (continued)

(Expressed in Renminbi Yuan)

Liabilities & Equity	Note No.	Closing balance	Opening balance
<b>Current liabilities:</b>			
Short-term borrowings	23	1,412,837,638.19	1,472,020,776.90
Central bank loans			
Loans from other banks			
Hold-for-trading financial liabilities			
Derivative financial liabilities			
Notes payable	24	2,990,771,320.88	2,509,187,534.27
Accounts payable	25	8,167,675,530.03	6,291,692,437.36
Advances received	26	6,219,158.91	3,305,220.09
Contract liabilities	27	7,382,158,633.92	7,184,043,960.40
Financial liabilities under repo			
Absorbing deposit and interbank deposit			
Deposit for agency security transaction			
Deposit for agency security underwriting			
Employee benefits payable	28	559,167,733.05	386,942,953.26
Taxes and rates payable	29	96,572,169.13	75,384,104.23
Other payables	30	3,283,665,340.71	3,821,360,870.95
Handling fee and commission payable			
Reinsurance accounts payable			
Liabilities held for sale			
Non-current liabilities due within one year	31	676,191,084.60	317,818,769.41
Other current liabilities	32	1,105,485,539.30	282,580,280.09
<b>Total current liabilities</b>		<b>25,680,744,148.72</b>	<b>22,344,336,906.96</b>
<b>Non-current liabilities:</b>			
Insurance policy reserve			
Long-term borrowings	33	4,288,390,117.79	3,386,694,555.97
Bonds payable	34	800,000,000.00	
Including: Preferred shares			
Perpetual bonds			
Lease liabilities	35	87,482,876.20	70,743,300.81
Long-term payables	36	5,570,456,644.06	4,939,212,853.83
Long-term employee benefits payable			
Provisions	37	4,642,783.25	
Deferred income	38	1,034,469,407.83	826,777,275.83
Deferred tax liabilities	21	14,384,584.52	11,615,675.56
Other non-current liabilities			
<b>Total non-current liabilities</b>		<b>11,799,826,413.65</b>	<b>9,235,043,662.00</b>
<b>Total liabilities</b>		<b>37,480,570,562.37</b>	<b>31,579,380,568.96</b>
<b>Equity:</b>			
Share capital	39	8,019,254,363.83	8,007,254,363.83
Other equity instruments			
Including: Preferred shares			
Perpetual bonds			
Capital reserve	40	5,591,014,516.91	3,736,981,623.22
Less: Treasury shares			
Other comprehensive income			
Special reserve	41	17,492,704.57	4,903,893.66
Surplus reserve			
General risk reserve			
Undistributed profit	42	-861,214,894.06	-446,242,302.48
<b>Total equity attributable to the parent company</b>		<b>12,766,546,691.25</b>	<b>11,302,897,578.23</b>
Non-controlling interest		2,585,896,512.76	2,006,962,539.71
<b>Total equity</b>		<b>15,352,443,204.01</b>	<b>13,309,860,117.94</b>
<b>Total liabilities &amp; equity</b>		<b>52,833,013,766.38</b>	<b>44,889,240,686.90</b>

Legal representative:  Officer in charge of accounting:  Head of accounting department: 



Jinan Energy Group Co., Ltd.  
 Parent company balance sheet as at December 31, 2022  
 (Expressed in Renminbi Yuan)

Assets	Note No.	Closing balance	Opening balance
<b>Current assets:</b>			
Cash and bank balances		520,964,068.02	35,135,260.04
Held-for-trading financial assets			
Derivative financial assets			
Notes receivable			
Accounts receivable			
Receivables financing			
Advances paid			
Other receivables		271,137,938.50	447,939.47
Inventories			
Contract assets			
Assets held for sale			
Non-current assets due within one year			
Other current assets		1,808,844.46	473,239.67
<b>Total current assets</b>		<b>793,910,850.98</b>	<b>36,056,439.18</b>
<b>Non-current assets:</b>			
Debt investments			
Other debt investments			
Long-term receivables		1,837,557,868.15	
Long-term equity investments	1	8,098,800,766.31	8,098,800,766.31
Other equity instrument investments			
Other non-current financial assets			
Investment property			
Fixed assets		729,634.33	806,282.61
Construction in progress			
Productive biological assets			
Oil & gas assets			
Right-of-use assets			
Intangible assets		2,947,890.40	92,972.38
Development expenditures			
Goodwill			
Long-term prepayments			
Deferred tax assets			
Other non-current assets		1,115,044.20	
<b>Total non-current assets</b>		<b>9,941,151,203.39</b>	<b>8,099,700,021.30</b>
<b>Total assets</b>		<b>10,735,062,054.37</b>	<b>8,135,756,460.48</b>

Legal representative:



Officer in charge of accounting:

张琦

Head of accounting department:

董林强



Jinan Energy Group Co., Ltd.  
Parent company balance sheet as at December 31, 2022 (continued)  
(Expressed in Renminbi Yuan)

Liabilities & Equity	Note No.	Closing balance	Opening balance
<b>Current liabilities:</b>			
Short-term borrowings			
Held-for-trading financial liabilities			
Derivative financial liabilities			
Notes payable			
Accounts payable		7,760,267.70	69,198.46
Advances received			
Contract liabilities			
Employee benefits payable		9,560,371.48	4,041,729.15
Taxes and rates payable		67,346.35	25,698.89
Other payables		519,885,343.86	623,917.22
Liabilities held for sale			
Non-current liabilities due within one year		20,613,698.63	
Other current liabilities		204,316,712.33	
<b>Total current liabilities</b>		<b>762,203,740.35</b>	<b>4,760,543.72</b>
<b>Non-current liabilities:</b>			
Long-term borrowings		1,018,000,000.00	
Bonds payable		800,000,000.00	
Including: Preferred shares			
Perpetual bonds			
Lease liabilities			
Long-term payables			
Long-term employee benefits payable			
Provisions			
Deferred income			
Deferred tax liabilities			
Other non-current liabilities			
<b>Total non-current liabilities</b>		<b>1,818,000,000.00</b>	
<b>Total liabilities</b>		<b>2,580,203,740.35</b>	<b>4,760,543.72</b>
<b>Equity:</b>			
Share capital		8,019,254,363.83	8,007,254,363.83
Other equity instruments			
Including: Preferred shares			
Perpetual bonds			
Capital reserve		56,546,402.48	56,546,402.48
Less: Treasury shares			
Other comprehensive income			
Special reserve			
Surplus reserve			
Undistributed profit		79,057,547.71	67,195,150.45
<b>Total equity</b>		<b>8,154,858,314.02</b>	<b>8,130,995,916.76</b>
<b>Total liabilities &amp; equity</b>		<b>10,735,062,054.37</b>	<b>8,135,756,460.48</b>

Legal representative:



Officer in charge of accounting:

张琦

Head of accounting department:

董林强



Jinan Energy Group Co., Ltd.  
Consolidated income statement for the year ended December 31, 2022  
(Expressed in Renminbi Yuan)

Items	Note No.	Current period cumulative	Preceding period comparative
I. Total operating revenue		12,266,672,002.89	10,686,115,861.54
Including: Operating revenue	1	12,266,672,002.89	10,686,115,861.54
Interest income			
Premiums earned			
Revenue from handling charges and commission			
II. Total operating cost		14,419,130,565.99	12,299,094,476.75
Including: Operating cost	1	12,386,270,208.90	10,967,870,801.92
Interest expenses			
Handling charges and commission expenditures			
Surrender value			
Net payment of insurance claims			
Net provision of insurance policy reserve			
Premium bonus expenditures			
Reinsurance expenses			
Taxes and surcharges	2	53,817,150.84	36,178,959.76
Selling expenses	3	416,003,801.45	309,728,342.86
Administrative expenses	4	1,199,869,734.78	870,485,083.74
R&D expenses	5	74,916,832.05	25,863,313.49
Financial expenses	6	288,252,837.97	88,967,974.98
Including: Interest expenses		367,845,497.03	198,411,727.97
Interest income		129,993,816.70	109,965,942.54
Add: Other income	7	1,640,257,749.00	1,471,583,897.09
Investment income (or less: losses)	8	86,681,723.34	19,115,266.65
Including: Investment income from associates and joint ventures			
Gains from derecognition of financial assets at amortized cost			
Gains on foreign exchange (or less: losses)			
Gains on net exposure to hedging risk (or less: losses)			
Gains on changes in fair value (or less: losses)	9	8,444,042.06	44,639,266.37
Credit impairment loss	10	-36,218,230.93	-134,432,848.20
Assets impairment loss	11	-75,716,812.37	1,815,308.28
Gains on asset disposal (or less: losses)	12	1,032,718.52	-1,622,164.47
III. Operating profit (or less: losses)		-527,977,373.48	-211,879,889.49
Add: Non-operating revenue	13	27,383,165.61	32,393,681.47
Less: Non-operating expenditures	14	8,243,685.22	21,731,850.26
IV. Profit before tax (or less: total loss)		-508,837,893.09	-201,218,058.28
Less: Income tax expenses	15	99,355,186.78	129,743,463.99
V. Net profit (or less: net loss)		-608,193,079.87	-330,961,522.27
(I) Categorized by the continuity of operations			
1. Net profit from continuing operations (or less: net loss)		-60,8193,079.87	-330,961,522.27
2. Net profit from discontinued operations (or less: net loss)			
(II) Categorized by the portion of equity ownership			
1. Net profit attributable to owners of parent company (or less: net loss)		-411,532,283.44	-314,244,463.67
2. Net profit attributable to non-controlling shareholders (or less: net loss)		-196,660,796.43	-16,717,058.60
VI. Other comprehensive income after tax			
Items attributable to the owners of the parent company			
(I) Not to be reclassified subsequently to profit or loss			
1. Remeasurements of the net defined benefit plan			
2. Items under equity method that will not be reclassified to profit or loss			
3. Changes in fair value of other equity instrument investments			
4. Changes in fair value of own credit risk			
5. Others			
(II) To be reclassified subsequently to profit or loss			
1. Items under equity method that may be reclassified to profit or loss			
2. Changes in fair value of other debt investments			
3. Profit or loss from reclassification of financial assets into other comprehensive income			
4. Provision for credit impairment of other debt investments			
5. Cash flow hedging reserve			
6. Translation reserve			
7. Others			
Items attributable to non-controlling shareholders			
VII. Total comprehensive income		-608,193,079.87	-330,961,522.27
Items attributable to the owners of the parent company		-411,532,283.44	-314,244,463.67
Items attributable to non-controlling shareholders		-196,660,796.43	-16,717,058.60
VIII. Earnings per share (EPS):			
(I) Basic EPS (yuan per share)			
(II) Diluted EPS (yuan per share)			

Legal representative:

英潘  
印世

Officer in charge of accounting:

张琦

Head of accounting department:

董林强



# Jinan Energy Group Co., Ltd.

Parent company income statement for the year ended December 31, 2022  
(Expressed in Renminbi Yuan)

Items	Note No.	Current period cumulative	Preceding period comparative
I. Operating revenue			
Less: Operating cost			
Taxes and surcharges		198,763.74	3,206.00
Selling expenses			
Administrative expenses		43,042,041.87	24,499,625.24
R&D expenses			
Financial expenses		-2,094,130.65	-252,106.62
Including: Interest expenses			
Interest income		2,098,032.41	253,598.62
Add: Other income			
Investment income (or less: losses)	1	26,403.49	3,909.70
Including: Investment income from associates and joint ventures		53,083,039.95	65,000,000.00
Gains from derecognition of financial assets at amortized cost			
Gains on net exposure to hedging risk (or less: losses)			
Gains on changes in fair value (or less: losses)			
Credit impairment loss			
Assets impairment loss			
Gains on asset disposal (or less: losses)			
II. Operating profit (or less: losses)		11,962,768.48	40,753,185.08
Add: Non-operating revenue			
Less: Non-operating expenditures		100,371.22	100,000.00
III. Profit before tax (or less: total loss)		11,862,397.26	40,653,185.08
Less: Income tax expenses			
IV. Net profit (or less: net loss)		11,862,397.26	40,653,185.08
(I) Net profit from continuing operations (or less: net loss)		11,862,397.26	40,653,185.08
(II) Net profit from discontinued operations (or less: net loss)			
V. Other comprehensive income after tax			
(I) Not to be reclassified subsequently to profit or loss			
1. Remeasurements of the net defined benefit plan			
2. Items under equity method that will not be reclassified to profit or loss			
3. Changes in fair value of other equity instrument investments			
4. Changes in fair value of own credit risk			
5. Others			
(II) To be reclassified subsequently to profit or loss			
1. Items under equity method that may be reclassified to profit or loss			
2. Changes in fair value of other debt investments			
3. Profit or loss from reclassification of financial assets into other comprehensive income			
4. Provision for credit impairment of other debt investments			
5. Cash flow hedging reserve			
6. Translation reserve			
7. Others			
VI. Total comprehensive income		11,862,397.26	40,653,185.08
VII. Earnings per share (EPS):			
(I) Basic EPS (yuan per share)			
(II) Diluted EPS (yuan per share)			

Legal representative






Officer in charge of accounting: 张琦

Head of accounting department: 董林强



Jinan Energy Group Co., Ltd.  
Consolidated cash flow statement for the year ended December 31, 2022  
(Expressed in Renminbi Yuan)

Items	Note No.	Current period cumulative	Preceding period comparative
<b>I. Cash flows from operating activities:</b>			
Cash receipts from sale of goods or rendering of services		12,832,108,711.39	10,520,827,997.62
Net increase of client deposit and interbank deposit			
Net increase of central bank loans			
Net increase of loans from other financial institutions			
Cash receipts from original insurance contract premium			
Net cash receipts from reinsurance			
Net increase of policy-holder deposit and investment			
Cash receipts from interest, handling charges and commission			
Net increase of loans from others			
Net increase of repurchase			
Net cash receipts from agency security transaction			
Receipts of tax refund		816,902,097.15	300,677,438.34
Other cash receipts related to operating activities		1,731,498,073.66	2,218,999,006.10
Subtotal of cash inflows from operating activities		15,380,508,882.20	13,040,504,442.06
Cash payments for goods purchased and services received		12,396,731,435.36	8,787,138,784.57
Net increase of loans and advances to clients			
Net increase of central bank deposit and interbank deposit			
Cash payments for insurance indemnities of original insurance contracts			
Net increase of loans to others			
Cash payments for interest, handling charges and commission			
Cash payments for policy bonus			
Cash paid to and on behalf of employees		1,898,982,412.97	1,484,163,852.10
Cash payments for taxes and rates		222,512,576.89	206,333,272.92
Other cash payments related to operating activities		1,703,580,662.01	2,002,870,075.73
Subtotal of cash outflows from operating activities		16,221,807,087.23	12,480,505,985.32
Net cash flows from operating activities		-841,298,205.03	559,998,456.74
<b>II. Cash flows from investing activities:</b>			
Cash receipts from withdrawal of investments		86,491,276.80	9,783,103.19
Cash receipts from investment income		292,957,77.780	1,061,187.58
Net cash receipts from the disposal of fixed assets, intangible assets and other long-term assets		3,591,972.80	4,105,075.04
Net cash receipts from the disposal of subsidiaries & other business units			
Other cash receipts related to investing activities		207,482,732.76	3,964,354.19
Subtotal of cash inflows from investing activities		326,861,760.14	18,913,720.00
Cash payments for the acquisition of fixed assets, intangible assets and other long-term assets		3,264,687,219.48	3,344,150,224.78
Cash payments for investments		300,000,000.00	186,317,600.00
Net increase of pledged borrowings			
Net cash payments for the acquisition of subsidiaries & other business units		20,155,693.89	3,731,336.70
Other cash payments related to investing activities		126,313,158.70	580,540,800.56
Subtotal of cash outflows from investing activities		3,711,156,072.07	4,114,739,962.04
Net cash flows from investing activities		-3,384,294,311.93	-4,095,826,242.04
<b>III. Cash flows from financing activities:</b>			
Cash receipts from absorbing investments		122,892,290.00	38,760,000.00
Including: Cash received by subsidiaries from non-controlling shareholders as investments		103,375,700.00	18,760,000.00
Cash receipts from borrowings		6,319,691,407.60	4,021,570,134.63
Other cash receipts related to financing activities		1,844,343,220.33	2,308,396,404.67
Subtotal of cash inflows from financing activities		8,286,926,917.93	6,368,726,539.30
Cash payments for the repayment of borrowings		2,651,710,163.52	1,675,230,221.34
Cash payments for distribution of dividends or profits and for interest expenses		329,016,362.92	215,337,143.69
Including: Cash paid by subsidiaries to non-controlling shareholders as dividend or profit			
Other cash payments related to financing activities		687,788,028.61	293,577,720.31
Subtotal of cash outflows from financing activities		3,668,514,555.05	2,184,145,085.34
Net cash flows from financing activities		4,618,412,362.88	4,184,581,453.96
IV. Effect of foreign exchange rate changes on cash & cash equivalents		10,095,824.59	-225.50
V. Net increase in cash and cash equivalents		402,915,670.51	648,753,443.16
Add: Opening balance of cash and cash equivalents		6,485,702,855.21	5,836,949,412.05
VI. Closing balance of cash and cash equivalents		6,888,618,525.72	6,485,702,855.21

Legal representative:  Officer in charge of accounting:  Head of accounting department: 



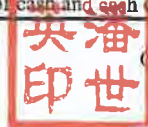
Jinan Energy Group Co., Ltd.

Parent company cash flow statement for the year ended December 31, 2022

(Expressed in Renminbi Yuan)

Items	Note No.	Current period cumulative	Preceding period comparative
<b>I. Cash flows from operating activities:</b>			
Cash receipts from sale of goods and rendering of services			
Receipts of tax refund			
Other cash receipts related to operating activities		2,938,430,862.30	4,514,315,480.35
Subtotal of cash inflows from operating activities		2,938,430,862.30	4,514,315,480.35
Cash payments for goods purchased and services received			
Cash paid to and on behalf of employees		22,154,993.05	13,368,312.92
Cash payments for taxes and rates		173,973.94	3,672.26
Other cash payments related to operating activities		2,477,453,272.57	4,554,601,467.93
Subtotal of cash outflows from operating activities		2,499,782,239.56	4,567,973,453.11
Net cash flows from operating activities		438,648,622.74	-53,657,972.76
<b>II. Cash flows from investing activities:</b>			
Cash receipts from withdrawal of investments			
Cash receipts from investment income			65,000,000.00
Net cash receipts from the disposal of fixed assets, intangible assets and other long-term assets			
Net cash receipts from the disposal of subsidiaries & other business units			
Other cash receipts related to investing activities			
Subtotal of cash inflows from investing activities			65,000,000.00
Cash payments for the acquisition of fixed assets, intangible assets and other long-term assets		4,367,814.76	180,923.71
Cash payments for investments			
Net cash payments for the acquisition of subsidiaries & other business units			45,000,000.00
Other cash payments related to investing activities		2,031,000,000.00	
Subtotal of cash outflows from investing activities		2,035,367,814.76	45,180,923.71
Net cash flows from investing activities		-2,035,367,814.76	19,819,076.29
<b>III. Cash flows from financing activities:</b>			
Cash receipts from absorbing investments		12,000,000.00	10,000,000.00
Cash receipts from borrowings		2,017,548,000.00	
Other cash receipts related to financing activities		53,000,000.00	
Subtotal of cash inflows from financing activities		2,082,548,000.00	10,000,000.00
Cash payments for the repayment of borrowings			
Cash payments for distribution of dividends or profits and for interest expenses			
Other cash payments related to financing activities			
Subtotal of cash outflows from financing activities			
Net cash flows from financing activities		2,082,548,000.00	10,000,000.00
<b>IV. Effect of foreign exchange rate changes on cash and cash equivalents</b>			
<b>V. Net increase in cash and cash equivalents</b>			
		485,828,807.98	-23,838,896.47
Add: Opening balance of cash and cash equivalents		35,135,260.04	58,974,156.51
<b>VI. Closing balance of cash and cash equivalents</b>			
		520,964,068.02	35,135,260.04

Legal representative:



Officer in charge of accounting: 张琦

Head of accounting department:



Jinan Energy Group Co., Ltd.

Consolidated statement of changes in equity for the year ended December 31, 2022  
(Expressed in Renminbi Yuan)

Items	Current period cumulative											Total equity	
	Equity attributable to parent company							Non-controlling interest					
	Share capital/ Paid-in capital	Other equity instruments Preferred shares	Perpetual bonds	Other shares	Capital reserve	Less: Treasury shares	Other comprehensive income	Special reserve	Surplus reserve	General risk reserve	Undistributed profit		
I. Balance at the end of prior year	8,007,254,363.83				3,736,981,623.22			4,903,893.66			-446,242,302.48	2,006,962,539.71	13,309,860,117.94
Add: Cumulative changes of accounting policies													
Error correction of prior period													
Business combination under common control													
Others													
II. Balance at the beginning of current year	8,007,254,363.83				3,736,981,623.22			4,903,893.66			-446,242,302.48	2,006,962,539.71	13,309,860,117.94
III. Current period increase (or less: decrease)	12,000,000.00				1,854,032,893.69			12,588,810.91			-414,972,591.58	578,933,973.05	2,042,583,086.07
(I) Total comprehensive income											-411,532,283.44	-196,660,796.43	-608,193,079.87
(II) Capital contributed or withdrawn by owners	12,000,000.00				1,854,032,893.69							773,410,583.70	2,639,443,477.39
1. Ordinary shares contributed by owners	12,000,000.00											88,904,800.00	100,904,800.00
2. Capital contributed by holders of other equity instruments													
3. Amount of share-based payment included in equity													
4. Others					1,854,032,893.69						-3,440,308.14	684,505,783.70	2,538,538,677.39
(III) Profit distribution													
1. Appropriation of surplus reserve													
2. Appropriation of general risk reserve													
3. Appropriation of profit to owners													
4. Others													
(IV) Internal carry-over within equity													
1. Transfer of capital reserve to capital													
2. Transfer of surplus reserve to capital													
3. Surplus reserve to cover losses													
4. Changes in defined benefit plan carried over to retained earnings													
5. Other comprehensive income carried over to retained earnings													
6. Others													
(V) Special Reserve													
1. Appropriation of current period								12,588,810.91				2,184,185.78	14,772,996.69
2. Application of current period								57,910,444.96				23,211,689.38	81,122,134.34
(VI) Others								-45,321,634.05				-21,027,503.60	-66,349,137.65
IV. Balance at the end of current period	8,019,254,363.83				5,591,014,516.91			17,492,704.57			-861,214,894.06	2,585,896,512.76	15,352,443,204.01

Legal representative:

潘世英 印

Officer in charge of accounting: 张琦

Head of accounting department: 董林强



**Jinan Energy Group Co., Ltd.**  
**Consolidated statement of changes in equity for the year ended December 31, 2022 (continued)**  
 (Expressed in Renminbi Yuan)

Items	Preceding period comparative											
	Equity attributable to parent company										Total equity	
	Share capital/ Paid-in capital	Other equity instruments		Capital reserve	Less: Treasury shares	Other comprehensive income	Special reserve	Surplus reserve	General risk reserve	Undistributed profit		Non-controlling interest
	Preferred shares	Perpetual bonds	Others									
I. Balance at the end of prior year	7,997,254,363.83				1,252,004,723.89		3,646,803.92			-244,479,773.60	1,356,547,926.37	10,364,974,046.41
Add: Cumulative changes of accounting policies												
Error correction of prior period					191,958,513.46					115,533,126.99	80,877,039.05	388,368,679.50
Business combination under common control												
Others												
II. Balance at the beginning of current year	7,997,254,363.83				1,443,963,237.35		3,646,805.92			-128,946,646.61	1,437,424,965.42	10,753,342,725.91
III. Current period increase (or less: decrease)	10,000,000.00				2,293,018,385.87		1,257,087.74			-317,295,655.87	569,537,574.29	2,556,517,392.03
(I) Total comprehensive income										-314,244,463.67	-16,717,058.60	-330,961,522.27
(II) Capital contributed or withdrawn by owners	10,000,000.00				2,293,018,385.87					-24,671,176.77	585,700,669.53	2,864,047,878.63
1. Ordinary shares contributed by owners	10,000,000.00				63,120,791.81						457,977,986.12	531,098,777.93
2. Capital contributed by holders of other equity instruments												
3. Amount of share-based payment included in equity												
4. Others					2,229,897,594.06					-24,671,176.77	127,722,683.41	2,332,949,100.70
(III) Profit distribution										21,619,984.57		21,619,984.57
1. Appropriation of surplus reserve												
2. Appropriation of general risk reserve												
3. Appropriation of profit to owners										21,619,984.57		21,619,984.57
4. Others												
(IV) Internal carry-over within equity												
1. Transfer of capital reserve to capital												
2. Transfer of surplus reserve to capital												
3. Surplus reserve to cover losses												
4. Changes in defined benefit plan carried over to retained earnings												
5. Other comprehensive income carried over to retained earnings												
6. Others												
(V) Special reserve							1,257,087.74				553,963.36	1,811,051.10
1. Appropriation of current period							27,569,711.31				11,679,496.01	39,249,207.32
2. Application of current period							-26,312,623.58				-11,123,532.64	-37,438,156.22
(VI) Others												
IV. Balance at the end of current period	8,007,254,363.83				3,736,981,623.22		4,903,893.66			-446,242,302.48	2,006,962,539.71	13,309,860,117.94

Legal representative:

Officer in charge of accounting: 张琦

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Head of accounting department:

张林强



Jinan Energy Group Co., Ltd.

Parent company statement of changes in equity for the year ended December 31, 2022  
(Expressed in Renminbi Yuan)

Items	Share capital/ Paid-in capital	Other equity instruments			Current period cumulative						Total equity
		Preferred shares	Perpetual bonds	Others	Capital reserve	Less: Treasury shares	Other comprehensive income	Special reserve	Surplus reserve	Undistributed profit	
I. Balance at the end of prior year	8,007,254,363.83				56,546,402.48					67,195,150.45	8,130,995,916.76
Add: Cumulative changes of accounting policies											
Error correction of prior period											
Others											
II. Balance at the beginning of current year	8,007,254,363.83				56,546,402.48					67,195,150.45	8,130,995,916.76
III. Current period increase (or less: decrease)	12,000,000.00									11,862,397.26	23,862,397.26
(I) Total comprehensive income										11,862,397.26	11,862,397.26
(II) Capital contributed or withdrawn by owners	12,000,000.00										12,000,000.00
1. Ordinary shares contributed by owners	12,000,000.00										12,000,000.00
2. Capital contributed by holders of other equity instruments											
3. Amount of share-based payment included in equity											
4. Others											
(III) Profit distribution											
1. Appropriation of surplus reserve											
2. Appropriation of profit to owners											
3. Others											
(IV) Internal carry-over within equity											
1. Transfer of capital reserve to capital											
2. Transfer of surplus reserve to capital											
3. Surplus reserve to cover losses											
4. Changes in defined benefit plan carried over to retained earnings											
5. Other comprehensive income carried over to retained earnings											
6. Others											
(V) Special reserve											
1. Appropriation of current period											
2. Application of current period											
(VI) Others											
IV. Balance at the end of current period	8,019,254,363.83				56,546,402.48					79,057,547.71	8,154,858,314.02

Legal representative:

英潘世印

Officer in charge of accounting: 张琦

Head of accounting department:



Jinan Energy Group Co., Ltd.

Parent company statement of changes in equity for the year ended December 31, 2022 (continued)

(Expressed in Renminbi Yuan)

Items	Preceding period comparative							Total equity			
	Share capital/ Paid-in capital	Preferred shares	Perpetual bonds	Others	Capital reserve	Less: Treasury shares	Other comprehensive income		Special reserve	Surplus reserve	Undistributed profit
I. Balance at the end of prior year	7,997,254,363.83									26,541,965.37	8,023,796,329.20
Add: Cumulative changes of accounting policies											
Error correction of prior period											
Others											
II. Balance at the beginning of current year	7,997,254,363.83									26,541,965.37	8,023,796,329.20
III. Current period increase (or less: decrease)	10,000,000.00				56,546,402.48					40,653,185.08	107,199,587.56
(I) Total comprehensive income										40,653,185.08	40,653,185.08
(II) Capital contributed or withdrawn by owners	10,000,000.00										10,000,000.00
1. Ordinary shares contributed by owners	10,000,000.00										10,000,000.00
2. Capital contributed by holders of other equity instruments											
3. Amount of share-based payment included in equity											
4. Others											
(III) Profit distribution											
1. Appropriation of surplus reserve											
2. Appropriation of profit to owners											
3. Others											
(IV) Internal carry-over within equity											
1. Transfer of capital reserve to capital											
2. Transfer of surplus reserve to capital											
3. Surplus reserve to cover losses											
4. Changes in defined benefit plan carried over to retained earnings											
5. Other comprehensive income carried over to retained earnings											
6. Others											
(V) Special reserve											
1. Appropriation of current period											
2. Application of current period											
(VI) Others											
IV Balance at the end of current period	8,007,254,363.83				56,546,402.48					67,195,150.45	8,130,995,916.76

英潘世印

Legal representative:

Officer in charge of accounting: 张琦

Head of accounting department:



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## **Jinan Energy Group Co., Ltd.**

### **Notes to Financial Statements**

For the year ended December 31, 2022

Monetary unit: RMB Yuan

#### **I. Company profile**

Jinan Energy Group Co., Ltd. (the “Company”) was registered at Jinan Market Supervision Bureau on July 23, 2020 and headquartered in No.3, Jiefang East Road, Lixia District, Jinan City. The Company currently holds a business license with unified social credit code of 91370100MA3TKR9T6T , with registered capital of 10 billion yuan. The legal representative of the company is Shiyang Pan. The company is a limited liability company (wholly state-owned).

The Company is mainly engaged in Heat production and supply; Pipeline gas supply, cooling, power generation; The operation of gas and hydrogen filling stations; Charging pile service; The design and construction of municipal public works; New energy technology research and development; Comprehensive energy use and services. (Except for projects subject to approval according to law, independently carry out business activities according to law with the business license) .

#### **II. Preparation basis of the financial statements**

##### **(I) Preparation basis**

The financial statements have been prepared on the basis of going concern.

##### **(II) Assessment of the ability to continue as a going concern**

The Company has no events or conditions that may cast significant doubts upon the Company’s ability to continue as a going concern within the 12 months after the balance sheet date.

#### **III. Significant accounting policies and estimates**

The financial statements have been prepared in accordance with the requirements of China Accounting Standards for Business Enterprises (CASBEs), and present truly and completely the financial position, financial performance and cash flows of the Company.

##### **(I) Accounting period**

The accounting year of the Company runs from January 1 to December 31 under the Gregorian calendar.

##### **(II) Operating cycle**



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The Company has a relatively short operating cycle for its business, an asset or a liability is classified as current if it is expected to be realized or due within 12 months.

(III) Functional currency

The Company's functional currency is Renminbi (RMB) Yuan.

(IV) Accounting treatments of business combination under and not under common control

1. Accounting treatment of business combination under common control

Assets and liabilities arising from business combination are measured at carrying amount of the combined party included in the consolidated financial statements of the ultimate controlling party at the combination date. Difference between carrying amount of the equity of the combined party included in the consolidated financial statements of the ultimate controlling party and that of the combination consideration or total par value of shares issued is adjusted to capital reserve, if the balance of capital reserve is insufficient to offset, any excess is adjusted to retained earnings.

2. Accounting treatment of business combination not under common control

When combination cost is in excess of the fair value of identifiable net assets obtained from the acquiree at the acquisition date, the excess is recognized as goodwill; otherwise, the fair value of identifiable assets, liabilities and contingent liabilities, and the measurement of the combination cost are reviewed, then the difference is recognized in profit or loss.

(V) Compilation method of consolidated financial statements

The parent company brings all its controlled subsidiaries into the consolidation scope. The consolidated financial statements are compiled by the parent company according to "CASBE 33 – Consolidated Financial Statements", based on relevant information and the financial statements of the parent company and its subsidiaries.

(VI) Recognition criteria of cash and cash equivalents

Cash as presented in cash flow statement refers to cash on hand and deposit on demand for payment. Cash equivalents refer to short-term, highly liquid investments that can be readily converted to cash and that are subject to an insignificant risk of changes in value.

(VII) Foreign currency translation

1. Translation of transactions denominated in foreign currency

Transactions denominated in foreign currency are translated into RMB yuan at the spot exchange rate at the transaction date at initial recognition. At the balance sheet date, monetary items denominated in foreign currency are translated at the spot exchange rate at the balance sheet date with difference, except for those arising from the principal and interest of exclusive borrowings eligible for capitalization, included in profit or loss; non-cash items carried at historical costs are translated at the spot exchange rate at the transaction date, with the RMB amounts unchanged; non-cash items carried at fair value in foreign currency are translated at the spot exchange rate at the date when the fair value was determined, with difference included in profit or loss or other



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comprehensive income.

## 2. Translation of financial statements measured in foreign currency

The assets and liabilities in the balance sheet are translated into RMB at the spot exchange rate at the balance sheet date; the equity items, other than undistributed profit, are translated at the spot exchange rate at the transaction date; the revenues and expenses in the income statement are translated into RMB at the spot exchange rate at the transaction date. The difference arising from the aforementioned foreign currency translation is included in other comprehensive income.

## (VIII) Financial instruments

### 1. Classification of financial assets and financial liabilities

Financial assets are classified into the following three categories when initially recognized: (1) financial assets at amortized cost; (2) financial assets at fair value through other comprehensive income; (3) financial assets at fair value through profit or loss.

Financial liabilities are classified into the following four categories when initially recognized: (1) financial liabilities at fair value through profit or loss; (2) financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies; (3) financial guarantee contracts not fall within the above categories (1) and (2), and commitments to provide a loan at a below-market interest rate, which do not fall within the above category (1); (4) financial liabilities at amortized cost.

### 2. Recognition criteria, measurement method and derecognition condition of financial assets and financial liabilities

#### (1) Recognition criteria and measurement method of financial assets and financial liabilities

When the Company becomes a party to a financial instrument, it is recognized as a financial asset or financial liability. The financial assets and financial liabilities initially recognized by the Company are measured at fair value; for the financial assets and liabilities at fair value through profit or loss, the transaction expenses thereof are directly included in profit or loss; for other categories of financial assets and financial liabilities, the transaction expenses thereof are included into the initially recognized amount. However, at initial recognition, for accounts receivable that do not contain a significant financing component or in circumstances where the Company does not consider the financing components in contracts within one year, they are measured at the transaction price in accordance with “CASBE 14 – Revenues”.

#### (2) Subsequent measurement of financial assets

##### 1) Financial assets measured at amortized cost

The Company measures its financial assets at the amortized costs using effective interest method. Gains or losses on financial assets that are measured at amortized cost and are not part of hedging relationships shall be included into profit or loss when the financial assets are derecognized, reclassified, amortized using effective interest method or recognized with impairment loss.



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2) Debt instrument investments at fair value through other comprehensive income

The Company measures its debt instrument investments at fair value. Interests, impairment gains or losses, and gains and losses on foreign exchange that calculated using effective interest method shall be included into profit or loss, while other gains or losses are included into other comprehensive income. Accumulated gains or losses that initially recognized as other comprehensive income should be transferred out into profit or loss when the financial assets are derecognized.

3) Equity instrument investments at fair value through other comprehensive income

The Company measures its equity instrument investments at fair value. Dividends obtained (other than those as part of investment cost recovery) shall be included into profit or loss, while other gains or losses are included into other comprehensive income. Accumulated gains or losses that initially recognized as other comprehensive income should be transferred out into retained earnings when the financial assets are derecognized.

4) Financial assets at fair value through profit or loss

The Company measures its financial assets at fair value. Gains or losses arising from changes in fair value (including interests and dividends) shall be included into profit or loss, except for financial assets that are part of hedging relationships.

(3) Subsequent measurement of financial liabilities

1) Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include held-for-trading financial liabilities (including derivatives that are liabilities) and financial liabilities designated as at fair value through profit or loss. The Company measures such kind of liabilities at fair value. The amount of changes in the fair value of the financial liabilities that are attributable to changes in the Company's own credit risk shall be included into other comprehensive income, unless such treatment would create or enlarge accounting mismatches in profit or loss. Other gains or losses on those financial liabilities (including interests, changes in fair value that are attributable to reasons other than changes in the Company's own credit risk) shall be included into profit or loss, except for financial liabilities that are part of hedging relationships. Accumulated gains or losses that originally recognized as other comprehensive income should be transferred out into retained earnings when the financial liabilities are derecognized.

2) Financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies

The Company measures its financial liabilities in accordance with "CASBE 23 – Transfer of Financial Assets".

3) Financial guarantee contracts not fall within the above categories 1) and 2), and commitments to provide a loan at a below-market interest rate, which do not fall within the above category 1)



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The Company measures its financial liabilities at the higher of: a. the amount of loss allowances in accordance with impairment requirements of financial instruments; b. the amount initially recognized less the amount of accumulated amortization recognized in accordance with “CASBE 14 – Revenues”.

4) Financial liabilities at amortized cost

The Company measures its financial liabilities at amortized cost using effective interest method. Gains or losses on financial liabilities that are measured at amortized cost and are not part of hedging relationships shall be included into profit or loss when the financial liabilities are derecognized and amortized using effective interest method.

(4) Derecognition of financial assets and financial liabilities

1) Financial assets are derecognized when:

- a. the contractual rights to the cash flows from the financial assets expire; or
- b. the financial assets have been transferred and the transfer qualifies for derecognition in accordance with “CASBE 23 – Transfer of Financial Assets”.

2) Only when the underlying present obligations of a financial liability are relieved totally or partly may the financial liability be derecognized accordingly.

3. Recognition criteria and measurement method of financial assets transfer

Where the Company has transferred substantially all of the risks and rewards related to the ownership of the financial asset, it derecognizes the financial asset, and any right or liability arising from such transfer is recognized independently as an asset or a liability. If it retained substantially all of the risks and rewards related to the ownership of the financial asset, it continues recognizing the financial asset. Where the Company does not transfer or retain substantially all of the risks and rewards related to the ownership of a financial asset, it is dealt with according to the circumstances as follows respectively: (1) if the Company does not retain its control over the financial asset, it derecognizes the financial asset, and any right or liability arising from such transfer is recognized independently as an asset or a liability; (2) if the Company retains its control over the financial asset, according to the extent of its continuing involvement in the transferred financial asset, it recognizes the related financial asset and recognizes the relevant liability accordingly.

If the transfer of an entire financial asset satisfies the conditions for derecognition, the difference between the amounts of the following two items is included in profit or loss: (1) the carrying amount of the transferred financial asset as of the date of derecognition; (2) the sum of consideration received from the transfer of the financial asset, and the accumulative amount of the changes of the fair value originally included in other comprehensive income proportionate to the transferred financial asset (financial assets transferred refer to debt instrument investments at fair value through other comprehensive income). If the transfer of financial asset partially satisfies the



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conditions to derecognition, the entire carrying amount of the transferred financial asset is, between the portion which is derecognized and the portion which is not, apportioned according to their respective relative fair value, and the difference between the amounts of the following two items is included into profit or loss: (1) the carrying amount of the portion which is derecognized; (2) the sum of consideration of the portion which is derecognized, and the portion of the accumulative amount of the changes in the fair value originally included in other comprehensive income which is corresponding to the portion which is derecognized (financial assets transferred refer to debt instrument investments at fair value through other comprehensive income).

#### 4. Fair value determination method of financial assets and liabilities

The Company uses valuation techniques that are appropriate in the circumstances and for which sufficient data and information are available to measure fair value. The inputs to valuation techniques used to measure fair value are arranged in the following hierarchy and used accordingly:

(1) Level 1 inputs are unadjusted quoted prices in active markets for identical assets or liabilities that the Company can access at the measurement date;

(2) Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 2 inputs include: quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or liability, for example, interest rates and yield curves observable at commonly quoted intervals; market-corroborated inputs;

(3) Level 3 inputs are unobservable inputs for the asset or liability. Level 3 inputs include interest rate that is not observable and cannot be corroborated by observable market data at commonly quoted intervals, historical volatility, future cash flows to be paid to fulfill the disposal obligation assumed in business combination, financial forecast developed using the Company's own data, etc.

#### 5. Impairment of financial instruments

##### (1) Measurement and accounting treatment

The Company, on the basis of expected credit loss, recognizes loss allowances of financial assets at amortized cost, debt instrument investments at fair value through other comprehensive income, contract assets, leases receivable, loan commitments other than financial liabilities at fair value through profit or loss, financial guarantee contracts not belong to financial liabilities at fair value through profit or loss or financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies.

Expected credit losses refer to the weighted average of credit losses with the respective risks of a default occurring as the weights. Credit loss refers to the difference between all contractual cash flows that are due to the Company in accordance with the contract and all the cash flows that the



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Company expects to receive (i.e. all cash shortfalls), discounted at the original effective interest rate. Among which, purchased or originated credit-impaired financial assets are discounted at the credit-adjusted effective interest rate.

At the balance sheet date, the Company shall only recognize the cumulative changes in the lifetime expected credit losses since initial recognition as a loss allowance for purchased or originated credit-impaired financial assets.

For accounts receivable and contract assets resulting from transactions regulated in “CASBE 14 – Revenues”, the Company chooses simplified approach to measure the loss allowance at an amount equal to lifetime expected credit losses.

For financial assets other than the above, on each balance sheet date, the Company shall assess whether the credit risk on the financial instrument has increased significantly since initial recognition. The Company shall measure the loss allowance for the financial instrument at an amount equal to the lifetime expected credit losses if the credit risk on that financial instrument has increased significantly since initial recognition; otherwise, the Company shall measure the loss allowance for that financial instrument at an amount equal to 12-month expected credit loss.

Considering reasonable and supportable forward-looking information, the Company compares the risk of a default occurring on the financial instrument as at the balance sheet date with the risk of a default occurring on the financial instrument as at the date of initial recognition, so as to assess whether the credit risk on the financial instrument has increased significantly since initial recognition.

The Company may assume that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument is determined to have relatively low credit risk at the balance sheet date.

The Company shall estimate expected credit risk and measure expected credit losses on an individual or a collective basis. When the Company adopts the collective basis, financial instruments are grouped with similar credit risk features.

The Company shall remeasure expected credit loss on each balance sheet date, and increased or reversed amounts of loss allowance arising therefrom shall be included into profit or loss as impairment losses or gains. For a financial asset measured at amortized cost, the loss allowance reduces the carrying amount of such financial asset presented in the balance sheet; for a debt investment measured at fair value through other comprehensive income, the loss allowance shall be recognized in other comprehensive income and shall not reduce the carrying amount of such financial asset.

(2) Financial instruments with expected credit risk assessed on a collective basis and expected credit losses measured using three-stage model



Items	Basis for determination of portfolio	Method for measuring expected credit loss
Other receivables – Portfolio grouped with Related party	Nature of receivables	Based on historical credit loss experience, the current situation and the forecast of future economic conditions, the Company calculates expected credit loss through exposure at default and 12-month or lifetime expected credit loss rate.
Other receivables – Portfolio grouped with government funds receivable		
Other receivables – Portfolio grouped with petty cash receivable		
Other receivables – Portfolio grouped with Large state-owned enterprises receivable		
Other receivables – Portfolio grouped with ages	Ages	

(3) Accounts receivable and contract assets with expected credit losses measured on a collective basis using simplified approach

1) Specific portfolios and method for measuring expected credit loss

Items	Basis for determination of portfolio	Method for measuring expected credit loss
Bank acceptance receivable	Type of notes	Based on historical credit loss experience, the current situation and the forecast of future economic conditions, the Company calculates expected credit loss through exposure at default and lifetime expected credit loss rate.
Trade acceptance receivable		
Accounts receivable– Portfolio grouped with government funds receivable	Nature of receivables	Based on historical credit loss experience, the current situation and the forecast of future economic conditions, the Company prepares the comparison table of ages and lifetime expected credit loss rate of accounts receivable, so as to calculate expected credit loss.
Accounts receivable – Portfolio grouped with Large state-owned enterprises receivable		
Accounts receivable – Portfolio grouped with Related party		
Accounts receivable – Portfolio grouped with ages	Ages	
Contract assets – Portfolio grouped with Nature of receivables	Nature of receivables	Based on historical credit loss experience, the current situation and the forecast of future economic conditions, the Company calculates expected credit loss through exposure at default and lifetime



Items	Basis for determination of portfolio	Method for measuring expected credit loss expected credit loss rate.
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2) Accounts receivable – comparison table of ages and lifetime expected credit loss rate of portfolio grouped with ages

Ages	Accounts receivable – Portfolio grouped with ages Expected credit loss rate (%)
Within 1 year (inclusive, the same hereinafter)	0.00-5.00
1-2 years	10.00-30.00
2-3 years	20.00-30.00
3-4 years	30.00-100.00
4-5 years	40.00-100.00
Over 5 years	50.00-100.00

#### 6. Offsetting financial assets and financial liabilities

Financial assets and financial liabilities are presented separately in the balance sheet and are not offset. However, the Company offsets a financial asset and a financial liability and presents the net amount in the balance sheet when, and only when, the Company: (1) currently has a legally enforceable right to set off the recognized amounts; and (2) intends either to settle on a net basis, or to realize the asset and settle the liability simultaneously.

For a transfer of a financial asset that does not qualify for derecognition, the Company does not offset the transferred asset and the associated liability.

#### (IX) Contract costs

Assets related to contract costs include costs of obtaining a contract and costs to fulfil a contract.

The Company recognizes as an asset the incremental costs of obtaining a contract if those costs are expected to be recovered. The costs of obtaining a contract shall be included into profit or loss when incurred if the amortization period of the asset is one year or less.

If the costs incurred in fulfilling a contract are not within the scope of standards related to inventories, fixed assets or intangible assets, etc., the Company shall recognize the costs to fulfil a contract as an asset if all the following criteria are satisfied:

1. The costs relate directly to a contract or to an anticipated contract, including direct labor, direct materials, manufacturing overhead cost (or similar cost), cost that are explicitly chargeable to the customer under the contract, and other costs that are only related to the contract;
2. The costs enhance resources of the Company that will be used in satisfying performance obligations in the future; and
3. The costs are expected to be recovered.



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An asset related to contract costs shall be amortized on a systematic basis that is consistent with related goods or services, with amortization included into profit or loss.

The Company shall make provision for impairment and recognize an impairment loss to the extent that the carrying amount of an asset related to contract costs exceeds the remaining amount of consideration that the Company expects to receive in exchange for the goods or services to which the asset relates less the costs expected to be incurred. The Company shall recognize a reversal of an impairment loss previously recognized in profit or loss when the impairment conditions no longer exist or have improved. The carrying amount of the asset after the reversal shall not exceed the amount that would have been determined on the reversal date if no provision for impairment had been made previously.

(X) Inventories

1. Classification of inventories

Inventories include finished goods or goods held for sale in the ordinary course of business, work in process in the process of production, materials, supplies etc. to be consumed in the production process or in the rendering of services.

2. Accounting method for dispatching inventories:

Inventories dispatched from storage are accounted for with specific identification method.

3. At the balance sheet date, inventories are measured at the lower of cost or net realizable value; provisions for inventory write-down are made on the excess of its cost over the net realizable value.

4. Perpetual inventory method is adopted.

5. Revolving materials are amortized with one-off method.

(XI) Long-term equity investments

1. Judgment of joint control and significant influence

Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control of these policies.

2. Determination of investment cost

(1) For business combination under common control, if the consideration of the combining party is that it makes payment in cash, transfers non-cash assets, assumes its liabilities or issues equity securities, on the date of combination, it regards the share of the carrying amount of the equity of the combined party included in the consolidated financial statements of the ultimate controlling party as the initial cost of the investment. The difference between the initial cost of the long-term equity investments and the carrying amount of the combination consideration paid or the par value



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of shares issued offsets capital reserve; if the balance of capital reserve is insufficient to offset, any excess is adjusted to retained earnings.

When long-term equity investments are obtained through business combination under common control achieved in stages, the Company determines whether it is a “bundled transaction”. If it is a “bundled transaction”, stages as a whole are considered as one transaction in accounting treatment. If it is not a “bundled transaction”, on the date of combination, investment cost is initially recognized at the share of the carrying amount of net assets of the combined party included the consolidated financial statements of the ultimate controlling party. The difference between the initial investment cost of long-term equity investments at the acquisition date and the carrying amount of the previously held long-term equity investments plus the carrying amount of the consideration paid for the newly acquired equity is adjusted to capital reserve; if the balance of capital reserve is insufficient to offset, any excess is adjusted to retained earnings.

(2) For business combination not under common control, investment cost is initially recognized at the acquisition-date fair value of considerations paid.

When long-term equity investments are obtained through business combination not under common control achieved in stages, the Company determined whether they are stand-alone financial statements or consolidated financial statements in accounting treatment:

1) In the case of stand-alone financial statements, investment cost is initially recognized at the carrying amount of the previously held long-term equity investments plus the carrying amount of the consideration paid for the newly acquired equity.

2) In the case of consolidated financial statements, the Company determines whether it is a “bundled transaction”. If it is a “bundled transaction”, stages as a whole are considered as one transaction in accounting treatment. If it is not a “bundled transaction”, the carrying amount of the acquirer’s previously held equity interest in the acquiree is remeasured at the acquisition-date fair value, and the difference between the fair value and the carrying amount is recognized in investment income; when the acquirer’s previously held equity interest in the acquiree involves other comprehensive income under equity method, the related other comprehensive income is reclassified as income for the acquisition period, excluding other comprehensive income arising from changes in net liabilities or assets from remeasurement of defined benefit plan of the acquiree.

(3) Long-term equity investments obtained through ways other than business combination: the initial cost of a long-term equity investment obtained by making payment in cash is the purchase cost which is actually paid; that obtained on the basis of issuing equity securities is the fair value of the equity securities issued; that obtained through debt restructuring is determined according to “CASBE 12 – Debt Restructuring”; and that obtained through non-cash assets exchange is determined according to “CASBE 7 – Non-cash Assets Exchange”.



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### 3. Subsequent measurement and recognition method of profit or loss

For a long-term equity investment with control relationship, it is accounted for with cost method; for a long-term equity investment with joint control or significant influence relationship, it is accounted for with equity method.

### 4. Disposal of a subsidiary in stages resulting in the Company's loss of control

#### (1) Stand-alone financial statements

The difference between the carrying amount of the disposed equity and the consideration obtained thereof is recognized in profit or loss. If the disposal does not result in the Company's loss of significant influence or joint control, the remained equity is accounted for with equity method; however, if the disposal results in the Company's loss of control, joint control, or significant influence, the remained equity is accounted for according to "CASBE 22 – Financial Instruments: Recognition and Measurement".

#### (2) Consolidated financial statements

##### 1) Disposal of a subsidiary in stages not qualified as "bundled transaction" resulting in the Company's loss of control

Before the Company's loss of control, the difference between the disposal consideration and the proportionate share of net assets in the disposed subsidiary from acquisition date or combination date to the disposal date is adjusted to capital reserve (capital premium), if the balance of capital reserve is insufficient to offset, any excess is adjusted to retained earnings.

When the Company loses control, the remained equity is remeasured at the loss-of-control-date fair value. The aggregated value of disposal consideration and the fair value of the remained equity, less the share of net assets in the disposed subsidiary held before the disposal from the acquisition date or combination date to the disposal date is recognized in investment income in the period when the Company loses control over such subsidiary, and meanwhile goodwill is offset correspondingly. Other comprehensive income related to equity investments in former subsidiary is reclassified as investment income upon the Company's loss of control.

##### 2) Disposal of a subsidiary in stages qualified as "bundled transaction" resulting in the Company's loss of control

In case of "bundled transaction", stages as a whole are considered as one transaction resulting in loss of control in accounting treatment. However, before the Company loses control, the difference between the disposal consideration at each stage and the proportionate share of net assets in the disposed subsidiary is recognized as other comprehensive income at the consolidated financial statements and reclassified as profit or loss in the period when the Company loses control over such subsidiary.

### 5. Impairment test and Provision for bad debts

At the balance sheet date, provisions for impairment loss are made at the difference between the



carrying amount and the recoverable amount when there is evidence indicating impairment loss.

(XII) Investment property

1. Investment property includes land use right of leased-out property and of property held for capital appreciation and buildings that have been leased out.

2. The initial measurement of investment property is based on its cost, and subsequent measurement is made using fair value model. The basis for the fair value measurement of investment real estate: accounting standards for enterprises stipulate that there is evidence that the fair value of investment real estate can be obtained continuously and reliably, and the fair value measurement model can be adopted. At the end of each year, the Company calculates the investment real estate according to the appraised value of the investment real estate listed in the asset value appraisal report issued by the third-party appraisal agency.

(XIII) Fixed assets

1. Recognition principles of fixed assets

Fixed assets are tangible assets held for use in the production of goods or rendering of services, for rental to others, or for administrative purposes, and expected to be used during more than one accounting year. Fixed assets are recognized if, and only if, it is probable that future economic benefits associated with the assets will flow to the Company and the cost of the assets can be measured reliably.

2. Depreciation method of different categories of fixed assets

Categories	Depreciation method	Useful life (years)	Residual value proportion (%)	Annual depreciation rate (%)
Buildings and structures	Straight-line method	4-40	0.00-10.00	2.25-25
General equipment	Straight-line method	1-30	3.00-10.00	3.00-97.00
Special equipment	Straight-line method	3-40	3.00	2.43-32.33
Transport facilities	Straight-line method	3-10	0.00-10.00	9.00-33.33
Other equipment	Straight-line method	3-20	0.00-10.00	4.5-33.33

3. Provisions for impairment are made at the excess of carrying amount over the recoverable amount if there is objective evidence indicating impairment loss at the balance sheet date.

(XIV) Construction in progress

1. Construction in progress is recognized if, and only if, it is probable that future economic benefits associated with the item will flow to the Company, and the cost of the item can be measured reliably. Construction in progress is measured at the actual cost incurred to reach its designed usable conditions.



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2. Construction in progress is transferred into fixed assets at its actual cost when it reaches the designed usable conditions. When the auditing of the construction in progress was not finished while reaching the designed usable conditions, it is transferred to fixed assets using estimated value first, and then adjusted accordingly when the actual cost is settled, but the accumulated depreciation is not to be adjusted retrospectively.

3. At the balance sheet date, provisions for impairment loss are made at the difference between the carrying amount and the recoverable amount when there is evidence indicating impairment loss.

(XV) Borrowing costs

1. Recognition principle of borrowing costs capitalization

Where the borrowing costs incurred to the Company can be directly attributable to the acquisition and construction or production of assets eligible for capitalization, it is capitalized and included in the costs of relevant assets; other borrowing costs are recognized as expenses on the basis of the actual amount incurred, and are included in profit or loss.

2. Borrowing costs capitalization period

(1) The borrowing costs are not capitalized unless the following requirements are all met: 1) the asset disbursements have already incurred; 2) the borrowing costs have already incurred; and 3) the acquisition and construction or production activities which are necessary to prepare the asset for its intended use or sale have already started.

(2) Suspension of capitalization: where the acquisition and construction or production of a qualified asset is interrupted abnormally and the interruption period lasts for more than 3 months, the capitalization of the borrowing costs is suspended; the borrowing costs incurred during such period are recognized as expenses, and are included in profit or loss, till the acquisition and construction or production of the asset restarts.

(3) Ceasing of capitalization: when the qualified asset under acquisition and construction or production is ready for the intended use or sale, the capitalization of the borrowing costs is ceased.

3. Capitalization rate and capitalized amount of borrowing costs

For borrowings exclusively for the acquisition and construction or production of assets eligible for capitalization, the to-be-capitalized amount of interests is determined in light of the actual interest expenses incurred (including amortization of premium or discount based on effective interest method) of the special borrowings in the current period less the interest income on the unused borrowings as a deposit in the bank or as a temporary investment; where a general borrowing is used for the acquisition and construction or production of assets eligible for capitalization, the Company calculates and determines the to-be-capitalized amount of interests on the general borrowing by multiplying the weighted average asset disbursement of the part of the accumulative asset disbursements less the general borrowing by the capitalization rate of the general borrowing used.



(XVI) Intangible assets

1. Intangible assets include land use right, patent right, non-patented technology, etc. The initial measurement of intangible assets is based on its cost.

2. For intangible assets with finite useful lives, their amortization amounts are amortized within their useful lives systematically and reasonably, if it is unable to determine the expected realization pattern reliably, intangible assets are amortized by the straight-line method with details as follows:

Items	Amortization period (years)
Land use right	10.00-50.00
Software	1.00-10.00
Copyright	10.00
Patent right	10.00

3. At the balance sheet date, provisions for impairment loss on intangible assets with finite useful life are made at the difference between the carrying amount and the recoverable amount when there is evidence indicating impairment loss. Impairment tests are performed on intangible assets with indefinite useful life and intangible assets not yet reaching the usable conditions, on annual basis, no matter there is evidence indicating impairment loss or not.

4. Expenditures on the research phase of an internal project are recognized as profit or loss when they are incurred. An intangible asset arising from the development phase of an internal project is recognized if the Company can demonstrate all of the followings: (1) the technical feasibility of completing the intangible asset so that it will be available for use or sale; (2) its intention to complete the intangible asset and use or sell it; (3) how the intangible asset will generate probable future economic benefits, among other things, the Company can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset; (4) the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and (5) its ability to measure reliably the expenditure attributable to the intangible asset during its development.

(XVII) Long-term prepayments

Long-term prepayments are expenses that have been recognized but with amortization period over one year (excluding one year). They are recorded with actual cost, and evenly amortized within the beneficiary period or stipulated period. If items of long-term prepayments fail to be beneficial to the following accounting periods, residual values of such items are included in profit or loss.

(XVIII) Employee benefits

1. Employee benefits include short-term employee benefits, post-employment benefits, termination benefits and other long-term employee benefits.



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## 2. Short-term employee benefits

The Company recognizes, in the accounting period in which an employee provides service, short-term employee benefits actually incurred as liabilities, with a corresponding charge to profit or loss or the cost of a relevant asset.

## 3. Post-employment benefits

The Company classifies post-employment benefit plans as either defined contribution plans or defined benefit plans.

(1) The Company recognizes in the accounting period in which an employee provides service the contribution payable to a defined contribution plan as a liability, with a corresponding charge to profit or loss or the cost of a relevant asset.

(2) Accounting treatment by the Company for defined benefit plan usually involves the following steps:

1) In accordance with the projected unit credit method, using unbiased and mutually compatible actuarial assumptions to estimate related demographic variables and financial variables, measure the obligations under the defined benefit plan, and determine the periods to which the obligations are attributed. Meanwhile, the Company discounts obligations under the defined benefit plan to determine the present value of the defined benefit plan obligations and the current service cost;

2) When a defined benefit plan has assets, the Company recognizes the deficit or surplus by deducting the fair value of defined benefit plan assets from the present value of the defined benefit plan obligation as a net defined benefit plan liability or net defined benefit plan asset. When a defined benefit plan has a surplus, the Company measures the net defined benefit plan asset at the lower of the surplus in the defined benefit plan and the asset ceiling;

3) At the end of the period, the Company recognizes the following components of employee benefits cost arising from defined benefit plan: a. service cost; b. net interest on the net defined benefit plan liability (asset); and c. changes as a result of remeasurement of the net defined benefit liability (asset). Item a and item b are recognized in profit or loss or the cost of a relevant asset. Item c is recognized in other comprehensive income and is not to be reclassified subsequently to profit or loss. However, the Company may transfer those amounts recognized in other comprehensive income within equity.

## 4. Termination benefits

Termination benefits provided to employees are recognized as an employee benefit liability for termination benefits, with a corresponding charge to profit or loss at the earlier of the following dates: (1) when the Company cannot unilaterally withdraw the offer of termination benefits because of an employment termination plan or a curtailment proposal; or (2) when the Company recognizes cost or expenses related to a restructuring that involves the payment of termination benefits.



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## 5. Other long-term employee benefits

When other long-term employee benefits provided to the employees satisfied the conditions for classifying as a defined contribution plan, those benefits are accounted for in accordance with the requirements relating to defined contribution plan, while other benefits are accounted for in accordance with the requirements relating to defined benefit plan. The Company recognizes the cost of employee benefits arising from other long-term employee benefits as the followings: (1) service cost; (2) net interest on the net liability or net assets of other long-term employee benefits; and (3) changes as a result of remeasurement of the net liability or net assets of other long-term employee benefits. As a practical expedient, the net total of the aforesaid amounts is recognized in profit or loss or included in the cost of a relevant asset.

### (XIX) Provisions

1. Provisions are recognized when fulfilling the present obligations arising from contingencies such as providing guarantee for other parties, litigation, products quality guarantee, onerous contract, etc., may cause the outflow of the economic benefit and such obligations can be reliably measured.

2. The initial measurement of provisions is based on the best estimated expenditures required in fulfilling the present obligations, and its carrying amount is reviewed at the balance sheet date.

### (XX) Revenue

#### 1. Revenue recognition principles

At contract inception, the Company shall assess the contracts and shall identify each performance obligation in the contracts, and determine whether the performance obligation should be satisfied over time or at a point in time.

The Company satisfies a performance obligation over time if one of the following criteria is met, otherwise, the performance obligation is satisfied at a point in time: (1) the customer simultaneously receives and consumes the economic benefits provided by the Company's performance as the Company performs; (2) the customer can control goods as they are created by the Company's performance; (3) goods created during the Company's performance have irreplaceable uses and the Company has an enforceable right to the payments for performance completed to date during the whole contract period.

For each performance obligation satisfied over time, the Company shall recognize revenue over time by measuring the progress towards complete satisfaction of that performance obligation. In the circumstance that the progress cannot be measured reasonably, but the costs incurred in satisfying the performance obligation are expected to be recovered, the Company shall recognize revenue only to the extent of the costs incurred until it can reasonably measure the progress. For each performance obligation satisfied at a point in time, the Company shall recognize revenue at the time point that the customer obtains control of relevant goods or services. To determine



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whether the customer has obtained control of goods, the Company shall consider the following indications: (1) the Company has a present right to payments for the goods, i.e., the customer is presently obliged to pay for the goods; (2) the Company has transferred the legal title of the goods to the customer, i.e., the customer has legal title to the goods; (3) the Company has transferred physical possession of the goods to the customer, i.e., the customer has physically possessed the goods; (4) the Company has transferred significant risks and rewards of ownership of the goods to the customer, i.e., the customer has obtained significant risks and rewards of ownership of the goods; (5) the customer has accepted the goods; (6) other evidence indicating the customer has obtained control over the goods.

## 2. Revenue measurement principle

(1) Revenue is measured at the amount of the transaction price that is allocated to each performance obligation. The transaction price is the amount of consideration to which the Company expects to be entitled in exchange for transferring goods or services to a customer, excluding amounts collected on behalf of third parties and those expected to be refunded to the customer.

(2) If the consideration promised in a contract includes a variable amount, the Company shall confirm the best estimate of variable consideration at expected value or the most likely amount. However, the transaction price that includes the amount of variable consideration only to the extent that it is high probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

(3) In the circumstance that the contract contains a significant financing component, the Company shall determine the transaction price based on the price that a customer would have paid for if the customer had paid cash for obtaining control over those goods or services. The difference between the transaction price and the amount of promised consideration is amortized under effective interest method over contractual period. The effects of a significant financing component shall not be considered if the Company expects, at the contract inception, that the period between when the customer obtains control over goods or services and when the customer pays consideration will be one year or less.

(4) For contracts containing two or more performance obligations, the Company shall determine the stand-alone selling price at contract inception of the distinct good underlying each performance obligation and allocate the transaction price to each performance obligation on a relative stand-alone selling price basis.

## 3. Revenue recognition method

### (1) Heating section services

Heating section services are a single performance obligation, which are performed within a certain



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period of time. The company recognizes the current income according to the heating days.

(2) Gas supply section services

Gas supply section services are performance obligations satisfied at a point in time. When the gas passes through the gas meter, the user gains control of the gas. The company recognizes revenue according to meter reading volume and monthly unit price.

(3) Engineering services

Engineering services are performance obligations satisfied over time. Revenue from construction services is recognized by the percentage of completion of the performance obligations, which is determined based on the proportion of the incurred costs to the estimated total costs. In the circumstance that the percentage of completion cannot be measured reasonably, but the incurred costs are expected to be recovered, the Company recognizes revenue only to the extent of the incurred costs until it can reasonably measure the percentage of completion.

(XXI) Government grants

1. Government grants shall be recognized if, and only if, the following conditions are all met: (1) the Company will comply with the conditions attaching to the grants; (2) the grants will be received. Monetary government grants are measured at the amount received or receivable. Non-monetary government grants are measured at fair value, and can be measured at nominal amount in the circumstance that fair value cannot be assessed.

2. Government grants related to assets

Government grants related to assets are government grants with which the Company purchases, constructs or otherwise acquires long-term assets under requirements of government. In the circumstances that there is no specific government requirement, the Company shall determine based on the primary condition to acquire the grants, and government grants related to assets are government grants whose primary condition is to construct or otherwise acquire long-term assets. They offset carrying amount of relevant assets, or they are recognized as deferred income. If recognized as deferred income, they are included in profit or loss on a systematic basis over the useful lives of the relevant assets. Those measured at notional amount are directly included into profit or loss. For assets sold, transferred, disposed or damaged within the useful lives, balance of unamortized deferred income is transferred into profit or loss of the period in which the disposal occurred.

3. Government grants related to income

Government grants related to income are government grants other than those related to assets. For government grants that contain both parts related to assets and parts related to income, in which those two parts are blurred, they are thus collectively classified as government grants related to income. For government grants related to income used for compensating the related future cost, expenses or losses, they are recognized as deferred income and included in profit or loss or used to



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offset relevant cost during the period in which the relevant cost, expenses or losses are recognized; for government grants related to income used for compensating the related cost, expenses or losses incurred to the Company, they are directly included in profit or loss or used to offset relevant cost.

4. Government grants related to the ordinary course of business shall be included into other income or used to offset relevant cost based on business nature, while those not related to the ordinary course of business shall be included into non-operating revenue or expenditures.

(XXII) Contract assets, contract liabilities

The Company presents contract assets or contract liabilities in the balance sheet based on the relationship between its performance obligations and customers' payments. Contract assets and contract liabilities under the same contract shall offset each other and be presented on a net basis.

The Company presents an unconditional right to consideration (i.e., only the passage of time is required before the consideration is due) as a receivable, and presents a right to consideration in exchange for goods that it has transferred to a customer (which is conditional on something other than the passage of time) as a contract asset.

The Company presents an obligation to transfer goods to a customer for which the Company has received consideration (or the amount is due) from the customer as a contract liability.

(XXIII) Leases

1. The Company as lessee

At the commencement date, the Company recognizes a lease that has a lease term of 12 months or less as a short-term lease, which shall not contain a purchase option; the Company recognizes a lease as a lease of a low-value asset if the underlying asset is of low value when it is new. If the Company subleases an asset, or expects to sublease an asset, the head lease does not qualify as a lease of a low-value asset.

For all short-term leases and leases of low-value assets, lease payments are recognized as cost or profit or loss with straight-line method over the lease term.

Apart from the above-mentioned short-term leases and leases of low-value assets with simplified approach, the Company recognizes right-of-use assets and lease liabilities at the commencement date.

(1) Right-of-use assets

The right-of-use asset is measured at cost and the cost shall comprise: 1) the amount of the initial measurement of the lease liabilities; 2) any lease payments made at or before the commencement date, less any lease incentives received; 3) any initial direct costs incurred by the lessee; and 4) an estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease.



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The Company depreciates the right-of-use asset using the straight-line method. If it is reasonable to be certain that the ownership of the underlying asset can be acquired by the end of the lease term, the Company depreciates the right-of-use asset from the commencement date to the end of the useful life of the underlying asset. Otherwise, the Company depreciates the right-of-use asset from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term.

At the balance sheet date, provisions for impairment loss are made at the difference between the carrying amount and the recoverable amount when there is evidence indicating impairment loss.

#### (2) Lease liabilities

At the commencement date, the Company measures the lease liability at the present value of the lease payments that are not paid at that date, discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, the Company's incremental borrowing rate shall be used. Unrecognized financing expenses, calculated at the difference between the lease payment and its present value, are recognized as interest expenses over the lease term using the discount rate which has been used to determine the present value of lease payment and included in profit or loss. Variable lease payments not included in the measurement of lease liabilities are included in profit or loss in the periods in which they are incurred.

After the commencement date, if there is a change in the following items: (a) actual fixed payments; (b) amounts expected to be payable under residual value guarantees; (c) an index or a rate used to determine lease payments; (d) assessment result or exercise of purchase option, extension option or termination option, the Company remeasures the lease liability based on the present value of lease payments after changes, and adjusts the carrying amount of the right-of-use asset accordingly. If the carrying amount of the right-of-use asset is reduced to zero but there shall be a further reduction in the lease liability, the remaining amount shall be recognized into profit or loss.

#### 2. The Company as lessor

At the commencement date, the Company classifies a lease as a finance lease if it transfers substantially all the risks and rewards incidental to ownership of an underlying asset. Otherwise, it is classified as an operating lease.

##### (1) Operating lease

Lease receipts are recognized as lease income with straight-line method over the lease term. Initial direct costs incurred shall be capitalized, amortized on the same basis as the recognition of lease income, and included into profit or loss by installments. Variable lease payments related to operating lease which are not included in the lease payment are charged as profit or loss in the periods in which they are incurred.

##### (2) Finance lease



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At the commencement date, the Company recognizes the finance lease payment receivable based on the net investment in the lease (sum of the present value of unguaranteed residual value and lease receipts that are not received at the commencement date, discounted by the interest rate implicit in the lease), and derecognizes assets held under the finance lease. The Company calculates and recognizes interest income using the interest rate implicit in the lease over the lease term.

Variable lease payments not included in the measurement of the net investment in the lease are charged as profit or loss in the periods in which they are incurred.

### 3. Sale and leaseback

#### (1) The Company as the lessee

In accordance with the “CASBE 14 – Revenues”, the Company would assess and determine whether the transfer of an asset in the sale and leaseback transaction is accounted for as a sale of that asset.

If the transfer of an asset is accounted for as a sale of the asset, the Company measures the right-of-use asset arising from the leaseback at the proportion of the original carrying amount of the asset that relates to the right of use retained by the Company. Accordingly, the Company recognizes only the amount of any gain or loss that relates to the rights transferred to the lessor.

Otherwise, the Company continues the recognition of the transferred assets, and recognizes a financial liability equal to the amount of transfer income in accordance with the “CASBE 22 – Financial Instruments: Recognition and Measurement” at the same time.

#### (2) The Company as the lessor

In accordance with the “CASBE 14 – Revenues”, the Company would assess and determine whether the transfer of an asset in the sale and leaseback transaction is accounted for as a sale of that asset.

If the transfer of an asset is accounted for as a sale of the asset, the Company accounts for the purchase of assets in accordance with other applicable standards, and accounts for the lease of assets in accordance with the “CASBE 21 – Leases”.

Otherwise, the Company does not recognize the transferred asset, but recognizes a financial asset equal to the amount of transfer income in accordance with the “CASBE 22 – Financial Instruments: Recognition and Measurement”.

#### (XXIV) Deferred tax assets/Deferred tax liabilities

1. Deferred tax assets or deferred tax liabilities are calculated and recognized based on the difference between the carrying amount and tax base of assets and liabilities (and the difference of the carrying amount and tax base of items not recognized as assets and liabilities but with their tax base being able to be determined according to tax laws) and in accordance with the tax rate



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applicable to the period during which the assets are expected to be recovered or the liabilities are expected to be settled.

2. A deferred tax asset is recognized to the extent of the amount of the taxable income, which is most likely to obtain and which can be deducted from the deductible temporary difference. At the balance sheet date, if there is any exact evidence that it is probable that future taxable income will be available against which deductible temporary differences can be utilized, the deferred tax assets unrecognized in prior periods are recognized.

3. At the balance sheet date, the carrying amount of deferred tax assets is reviewed. The carrying amount of a deferred tax asset is reduced to the extent that it is no longer probable that sufficient taxable income will be available to allow the benefit of the deferred tax asset to be utilized. Such reduction is subsequently reversed to the extent that it becomes probable that sufficient taxable income will be available.

4. The income tax and deferred tax for the period are treated as income tax expenses or income through profit or loss, excluding those arising from the following circumstances: (1) business combination; and (2) the transactions or items directly recognized in equity.

#### (XXV) Work safety fund

The Company accrues work safety fund in accordance with the “Circular on Management Measures on the Accrual and Use of Work Safety Fund” (Cai Zi [2022] No. 136) issued by Ministry of Finance and Ministry of Emergency Management. Standard work safety fund is included in the cost or profit or loss, meanwhile accounted for under “special reserve”. When work safety fund is used as an expense, it is to offset special reserve directly. When work safety fund is qualified to be included in the cost of fixed assets, it is accounted for under “construction in progress” and transferred to fixed assets when related safety projects reach the designed useful conditions; meanwhile, the cost included in fixed assets is to offset “special reserve”, and accumulated depreciation shall be recognized at the same amount. Such fixed assets shall not be depreciated in future periods.

#### (XXVI) Changes in accounting policies arising from changes in CASBEs

1. Since January 1, 2022, the Company has implemented the provisions of Accounting Standards for Enterprises Interpretation No. 15 issued by the Ministry of Finance on "Accounting treatment of products or by-products produced before fixed assets reach the predetermined usable state or in the process of research and development". This change in accounting policy has no impact on the financial statements of the company.

2. Since January 1, 2022, the Company has implemented the provisions of "Judgment on loss-making Contracts" in Interpretation of Accounting Standards for Business Enterprises No. 15 issued by the Ministry of Finance, and this change in accounting policy has no impact on the Company's financial statements.



3. Since November 30, 2022, the Company has implemented the provisions of Interpretation of Accounting Standards for Business Enterprises No. 16 issued by the Ministry of Finance on "Accounting for the Income tax Impact of dividends related to financial instruments classified by the issuer as equity instruments". This change in accounting policy has no impact on the financial statements of the Company.

4. Since November 30, 2022, the Company has implemented the provisions of Interpretation of Accounting Standards for Business Enterprises No. 16 issued by the Ministry of Finance on "Accounting treatment of the enterprise's modification of cash settlement share payment to equity settlement share payment". This change of accounting policy has no impact on the financial statements of the Company.

#### IV. Taxes

##### (I) Main taxes and tax rates

Taxes	Tax bases	Tax rates
Value-added tax (VAT)	The output tax calculated based on the revenue from sales of goods or rendering of services in accordance with the tax law, net of the input tax that is allowed to be deducted in the current period	13%、9%、6%、5%、3%
Housing property tax	For housing property levied on the basis of price, housing property tax is levied at the rate of 1.2% of the balance after deducting 30% of the cost; for housing property levied on the basis of rent, housing property tax is levied at the rate of 12% of lease income.	1.2%、12%
Urban maintenance and construction tax	Turnover tax actually paid	7%
Education surcharge	Turnover tax actually paid	3%
Local education surcharge	Turnover tax actually paid	2%
Enterprise income tax	Taxable income	25%、20%、15%

Different enterprise income tax rates applicable to different taxpayers:

Taxpayers	Income tax rate
Shandong Ganghua Jicheng Energy Service Co. LTD	15%
Jinan City Investment Design Co., LTD	15%
Shandong Hetong Information Technology Co., LTD	15%
Synthesis Electronic Technology Co., Ltd.	15%
Shensi (Shandong) Medical Information Technology Co., LTD	15%
Inovo Micro Technology (Tianjin) Co., LTD	15%
Jinan Port Hua Quantong Transportation Co. LTD	20%
Jinan Port Hua Quantong Binhe Natural Gas Company	20%
Jinan Port Huaping Antong New Energy Technology Co., LTD	20%



Taxpayers	Income tax rate
Jinan Ganghua Wantong Gas Engineering Design Co., LTD	20%
Jinan Anxintai Gas Engineering Design Co., LTD	20%
Shandong Jihua City Service Co. LTD	20%
Jinan Blue Sky Engineering Consulting Co. LTD	20%
Jinan Blue Sky Thermal Technology Co., LTD	20%
Jinan Blue Sky Thermoelectric New Building Materials Co. LTD	20%
Anshun Quan 'an Thermal Power Co., LTD	20%
Jinan Chengshi Engineering Service Co., LTD	20%
Zaozhuang Shengyuan Heating Co., LTD	20%
Jinan Heshun Sports Culture Development Co. LTD	20%
Jinan He 'an Natural Gas Peak Regulating Storage and Distribution Co. LTD	20%
Shandong Light Wisdom Energy Technology Co. LTD	20%
Shandong Jilai New Energy Co. LTD	20%
Jinan Queshan Thermal Power Co. LTD	20%
Jinan Hehong Regional Energy Co. LTD	20%
Shandong Heyida Construction Management Co. LTD	20%
Shensi Langfang (Fujian) Information Technology Co., LTD	20%
Shensi Computer Vision Technology (Jinan) Co., LTD	20%
Shensi Computer Vision Technology (Guiyang) Co. LTD	20%
Shensi Intelligent Technology Co., LTD	20%
Shensi Investment Management (Jinan) Co., LTD	20%
Taxpayers other than the above-mentioned	25%

(II) Tax preferential policies

1. According to the Notice of the Ministry of Finance and the State Administration of Taxation on the Extension of the Preferential Policies of Value-added Tax, Property Tax and Urban Land Use Tax for Heating Enterprises numbered Caishui [2019] 38, and Notice of the Ministry of Finance and the State Administration of Taxation on extending the implementation period of some preferential tax policies [2021] 6, the heating fee income obtained by heating enterprises from providing heating to individual residents shall be exempted from value-added tax. For heating enterprises that charge heating fees from residents, the factory buildings and land used for heating for residents shall be exempted from property tax and urban land use tax. Property tax and urban land use tax shall be levied on other plants and land of heat supply enterprises in accordance with regulations. For concurrently engaged heat supply enterprises, depending on whether the plants and land used for heat supply can be distinguished from those used for other production and business activities, the exempted real estate tax and urban land use tax shall be calculated according to different methods. For the workshop and land used for heating, the exempted



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property tax and urban land use tax shall be calculated according to the proportion of the heating fee income obtained from heating to residents in the total heating fee income. If it is difficult to distinguish, the exempted property tax and urban land use tax shall be calculated on the basis of the proportion of the heating fee income obtained from supplying heat to residents in the operating income of the whole plant and land. Shandong Jineng Pipeline Gas Co. LTD enjoy the preferential policy of VAT exemption during the reporting period. During the reporting period, Jinan Heating Group Co., Ltd., Jinan Shanghe Hengtai Heating Co., LTD, Jinan Changqing Thermoelectric Co. LTD enjoy tax preferential policies of exemption from property tax and urban land use tax for the factory buildings and land used for heating for residents.

2. According to the Notice of the State Administration of Taxation of the Ministry of Finance on Implementing the Policy of Inclusive Tax Reduction for Small and Micro-sized Enterprises numbered Cai Shui [2019] 13, from January 1, 2019 to December 31, 2021, for the part of annual taxable income less than 1 million yuan of small low-profit enterprises, income reduced by 25% shall be included into the taxable income amount, and the enterprise income tax shall be paid at the tax rate of 20% ;for the part of annual taxable income exceeding 1 million yuan but not exceeding 3 million yuan, income reduced by 50% shall be included into the taxable income amount, and the enterprise income tax shall be paid at the tax rate of 20%. On the basis of the preferential policies stipulated in Article 2 of the Notice of the General Administration of Taxation of the Ministry of Finance on the Implementation of Inclusive Tax Reduction and Exemption Policies for Small and Micro Enterprises (Finance and Taxation No.13, 2019), the enterprise income tax shall be halved. According to the Announcement on the Further Implementation of Preferential Income Tax Policies for Small and Micro Enterprises (No. 13, 2022) issued by the Ministry of Finance and the State Administration of Taxation, the part of the annual taxable income of small and micro profit enterprises exceeding 1 million yuan but not exceeding 3 million yuan shall be included in the taxable income amount by 25%, and the enterprise income tax shall be paid at a tax rate of 20%. For companies enjoying this preferential policy, please refer to the above "Explanation of Corporate Income Tax Rates of tax Subjects with Different tax Rates".

3. From January 1, 2022 to December 31, 2024, according to the Notice of Shandong Provincial Department of Finance, State Administration of Taxation, Shandong Provincial Tax Bureau on Implementing the Policy of "Six Taxes and Two Fees" Reduction and Exemption for Small and Micro Enterprises (No. 15, Lu Finance and Taxation [2022]), For small-scale VAT taxpayers, small and low-profit enterprises, and individual industrial and commercial households, the resource tax, urban maintenance and construction tax, property tax, urban land use tax, stamp tax (excluding stamp tax on securities transactions), cultivated land occupation tax, education fee surcharge, and local education surcharge will be levied at a reduced rate of 50%. Shandong Jilai New Energy Co., LTD., Jinan Queshan Thermal Power Co., LTD., Jinan Hehong Regional Energy Co., LTD., Shandong Heyida Construction Management Co., LTD., Jinan West Sewage Treatment Co., LTD., Jinan Heshun Sports Culture Development Co., LTD., Jinan He 'an Natural



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Gas Peak Storage Co., LTD., Jinan Hetai Heating Co., LTD., Jinan Blue Sky Engineering Consulting Co., LTD., Ji Nanlantian Thermal Technology Co., LTD., Jinan Lantian Thermal Power New Building Materials Co., LTD., Anshun Quan 'an Thermal Power Co., LTD., Jinan Chengshi Engineering Service Co., LTD., Zaozhuang Shengyuan Thermal Power Co., LTD., conforms to the small and low-profit enterprises, applicable to this preferential policy.

4. According to the Notice of the State Administration of Taxation of the Ministry of Finance on Printing and Distributing Preferential List of Value-added Tax for Products and Services of Comprehensive Utilization of Resources (Finance and Taxation No.78, 2015), taxpayers selling products of comprehensive utilization of resources and providing services of comprehensive utilization of resources are entitled to the policy of immediate collection and refund of value-added tax. Shandong Sunshine Power Co., Ltd. and Jinan Yuquan Biopower Co., Ltd. apply the preferential policy.

5. According to the Notice on the Relevant Issues Concerning the Pilot Project of Further Expanding the Verification and Deduction of the Input Tax of Agricultural Products Value-added Tax, Shandong Province adopts the input and output method, and implements the verification and deduction of the input tax of agricultural products value-added tax in accordance with the unified verification and deduction standard of the province for those engaged in the production of biomass electricity by using agricultural and forestry wastes such as corn cobs, crop straws, three residues and sub-small wood as raw materials. Shandong Sunshine Power Co., Ltd. and Jinan Yuquan Biopower Co., Ltd. apply the preferential policy.

6. According to the second paragraph of Article 28 of the Enterprise Income Tax Law, the Announcement of the State Administration of Taxation on Issues concerning the Implementation of Preferential Income Tax Policies for New and high Technology Enterprises (Announcement No. 24, 2017 of the State Administration of Taxation) and other documents, the enterprise income tax shall be levied at a reduced rate of 15% for new and high technology enterprises which need key support from the State. For companies enjoying this preferential policy, please refer to the above "Explanation of Corporate Income Tax Rates of tax Subjects with Different tax Rates".

7. According to The State Council "Notice on Issuing Policies to Further Encourage the Development of Software Industry and Integrated Circuit Industry" (Guofa [2011] No. 4) and the Ministry of Finance and the State Administration of Taxation "Notice on Value-added Tax Policy on Software Products" (Finance and Taxation No. 2011), from January 1, 2011, preferential value-added tax policies on software products will continue to be implemented. That is to say, general VAT taxpayers selling software products developed and produced by themselves shall collect VAT at the statutory rate, and implement the policy of immediate levy and refund for the part of their actual VAT burden exceeding 3%. Software products sold by Shensi Electronic Technology Co., LTD., Shensi Xuhui Medical Information Technology Co., LTD., Shensi Lanfang (Fujian) Information Technology Co., LTD., and Inuowei Technology (Tianjin) Co., LTD., are subject to the VAT collection and refund policy.



## V. Notes to items of consolidated financial statements

### (I) Notes to items of the consolidated balance sheet

#### 1. Cash and bank balances

##### (1) Details

Items	Closing balance	Opening balance
Cash on hand	61,659.44	48,865.13
Cash in bank	6,971,190,330.46	6,702,884,459.99
Other cash and bank balances	538,374,703.40	749,183,647.28
Total	7,509,626,693.30	7,452,116,972.40

##### (2) Description of restricted funds

Items	Closing balance
Cash in bank	
Including: Time deposits that cannot be withdrawn at any time	53,407,250.00
Lawsuit frozen deposit	30,599,722.04
Special funds	10,032,593.30
Subtotal	94,039,565.34
Other cash and bank balances	
Including: Bank acceptance deposit	382,159,274.38
Construction labor wage deposit	10,155,634.36
Loan margin	60,000,000.00
Letter of guarantee deposit	12,093,354.37
Housing reform and maintenance fund	29,269,314.05
Letter of credit deposit	21,000,000.00
Loan repayment reserve and foreign exchange fluctuation risk reserve	6,915,532.11
Land reclamation security deposit	1,472,279.49
Performance bond	3,903,213.48
Subtotal	526,968,602.24
Total	621,008,167.58

#### 2. Notes receivable

##### (1) Details

Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	



Withdrawal of bad debt reserves by combination	32,372,979.71	100.00			32,372,979.71
Bank acceptance	13,279,357.75	41.02			13,279,357.75
Trade acceptance	19,093,621.96	58.98			19,093,621.96
Total	32,372,979.71	100.00			32,372,979.71

(Continued)

Categories	Opening balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Withdrawal of bad debt reserves by combination	43,516,118.98	100.00			43,516,118.98
Bank acceptance	40,258,387.95	92.51			40,258,387.95
Trade acceptance	3,257,731.03	7.49			3,257,731.03
Total	43,516,118.98	100.00			43,516,118.98

(2) Notes receivable that have been endorsed or discounted by the company at the end of the period and have not yet matured on the balance sheet date

Project	Unrecognized amount at the end of the period
Bank acceptance	4,779,840.00
Trade acceptance	17,243,951.53
Subtotal	22,023,791.53

### 3. Accounts receivable

(1) Details

1) Details on categories

Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Receivables with provision made on an individual basis	14,545,252.07	0.55	12,735,687.90	87.56	1,809,564.17
Receivables with provision made on a collective basis	2,624,059,432.40	99.45	123,620,989.49	4.71	2,500,438,442.91
Total	2,638,604,684.47	100.00	136,356,677.39	5.17	2,502,248,007.08

(Continued)

Categories	Opening balance			
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	Book balance		Provision for bad debts		Carrying amount
	Amount	% to total	Amount	Provision proportion (%)	
Receivables with provision made on an individual basis	7,263,905.09	0.49	4,179,168.39	57.53	3,084,736.70
Receivables with provision made on a collective basis	1,475,706,263.06	99.51	77,814,218.43	5.27	1,397,892,044.63
Total	1,482,970,168.15	100.00	81,993,386.82	5.53	1,400,976,781.33

2) Accounts receivable with provision made on an individual basis

Debtors	Book balance	Provision for bad debts	Provision proportion (%)	Reasons
Anhui Xuhui Health Industry Co., Ltd.	12,471,189.35	10,971,189.35	87.97	The provision for bad debts based on aging analysis method no longer reflects its actual situation
Shandong Xineng Natural Gas Utilization Co., Ltd.	532,371.71	222,807.54	41.85	The individual amount is not significant, and the provision for bad debts calculated using the aging analysis method no longer reflects its actual situation
Shandong Nanshan Aluminum Industry Co., Ltd	520,000.00	520,000.00	100.00	Expected to be uncollectible
Shandong Provincial High People's Court	250,000.00	250,000.00	100.00	Expected to be uncollectible
Shandong Shanxian Tianlong Gas Co., LTD	110,000.00	110,000.00	100.00	Expected to be uncollectible
Shandong Shengli Energy Co., Ltd	85,000.00	85,000.00	100.00	Expected to be uncollectible
Lu Jie	71,794.52	71,794.52	100.00	Expected to be uncollectible
Weifang Tiantai Shengtang Energy Co., Ltd.	54,000.00	54,000.00	100.00	Expected to be uncollectible
Tengzhou Xin'ao Energy Logistics Port Co., Ltd.	39,600.00	39,600.00	100.00	Expected to be uncollectible
Jinbaifeng New Energy Technology Co., Ltd.	35,000.00	35,000.00	100.00	Expected to be uncollectible
Jinan Changqing District Gas Sales Department	33,843.17	33,843.17	100.00	Expected to be uncollectible
Nantong Zhongmin Ronghe Gas Co., Ltd.	33,000.00	33,000.00	100.00	Expected to be uncollectible
Suqian Hengtu Natural Gas Energy Co., Ltd.	30,000.00	30,000.00	100.00	Expected to be uncollectible



Debtors	Book balance	Provision for bad debts	Provision proportion (%)	Reasons
Shandong Province Decoration Group Corporation	27,000.00	27,000.00	100.00	Expected to be uncollectible
Jinan Dongfeng Boiler Factory	11,057.00	11,057.00	100.00	Expected to be uncollectible
Jinan Qinghe piling team	7,000.00	7,000.00	100.00	Expected to be uncollectible
Shanjian 17 branch factory	4,600.82	4,600.82	100.00	Expected to be uncollectible
Other sporadic payments	229,795.50	229,795.50	100.00	Expected to be uncollectible
Subtotal	14,545,252.07	12,735,687.90	87.56	

3) Accounts receivable with provision for bad debts made on a collective basis

Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Portfolio grouped with government funds receivable	527,463,561.41	20.10			527,463,561.41
Portfolio grouped with Large state-owned enterprises receivable	972,999,912.48	37.08			972,999,912.48
Portfolio grouped with ages	1,123,595,958.51	42.82	123,620,989.49	11.00	999,974,969.02
Total	2,624,059,432.40	100.00	123,620,989.49	4.71	2,500,438,442.91

4) Accounts receivable with provision made on a collective basis using age analysis method

Ages	Closing balance		
	Book balance	Provision for bad debts	Provision proportion (%)
Within 1 year	815,932,652.61	34,029,733.26	4.17
1-2 years	151,923,490.91	15,192,349.10	10.00
2-3 years	90,944,225.35	20,453,049.30	22.49
3-4 years	22,710,221.21	14,144,482.37	62.28
4-5 years	7,942,805.43	5,658,812.47	71.24
Over 5 years	34,142,563.00	34,142,562.99	100.00
Subtotal	1,123,595,958.51	123,620,989.49	11.00

(2) Details of the top 5 debtors with largest balances

Debtors	Book balance	Proportion to the total balance of accounts receivable (%)	Provision for bad debts
State Grid Shandong Electric Power Company Jinan Power Supply Company	211,277,718.36	8.01	



Debtors	Book balance	Proportion to the total balance of accounts receivable (%)	Provision for bad debts
Jinan Sub district Offices (Clean Heating Project)	117,934,475.99	4.47	
Shanghe County Housing and Urban Rural Development Bureau	64,706,386.20	2.45	
Jinan Dongxin Thermal Power Co.,Ltd.	46,482,967.83	1.76	
Jinan Puli Water Supply Engineering Co., LTD	40,001,356.75	1.52	2,489,108.55
Subtotal	480,402,905.13	18.21	2,489,108.55

#### 4. Receivables financing

Items	Closing balance		Opening balance	
	Carrying amount	Accumulated provision for credit impairment	Carrying amount	Accumulated provision for credit impairment
Bank acceptance	22,592,288.68		99,532,870.69	
Total	22,592,288.68		99,532,870.69	

#### 5. Advances paid

##### (1) Details

Ages	Closing balance			
	Book balance	% to total	Provision for impairment	Carrying amount
Within 1 year	1,481,157,964.40	84.34		1,481,157,964.40
1-2 years	48,195,465.84	2.74		48,195,465.84
2-3 years	70,140,495.33	3.99		70,140,495.33
Over 3 years	156,689,266.67	8.93		156,689,266.67
Total	1,756,183,192.24	100.00		1,756,183,192.24

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Ages	Opening balance			
	Book balance	% to total	Provision for impairment	Carrying amount
Within 1 year	1,214,849,685.84	76.68		1,214,849,685.84
1-2 years	183,106,312.87	11.56		183,106,312.87
2-3 years	44,679,793.88	2.82		44,679,793.88
Over 3 years	141,675,528.13	8.94		141,675,528.13
Total	1,584,311,320.72	100.00		1,584,311,320.72

##### (2) Details of the top 5 debtors with largest balances

Debtors	Book balance	Proportion to the total balance of advances paid (%)
Shandong Natural Gas Sales Center of	281,555,189.18	16.03



Debtors	Book balance	Proportion to the total balance of advances paid (%)
Sinopec Natural Gas Branch		
Huaneng Jinan Huangtai Power Generation Co., Ltd.	108,468,357.33	6.18
Shandong Zhongyu Construction Engineering Co., Ltd.	95,096,016.68	5.41
Shandong Branch of PetroChina Natural Gas Sales Co., Ltd.	91,003,918.28	5.18
Shaanxi Dongxinyuan Chemical Co., Ltd.	70,000,000.00	3.99
Subtotal	646,123,481.47	36.79

## 6. Other receivables

### (1) Details

Items	Closing balance	Opening balance
Interest receivable		1,509,221.92
Other receivables	5,673,706,439.05	4,079,985,629.36
Total	5,673,706,439.05	4,081,494,851.28

### (2) Other receivables

#### 1) Details on categories

Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Receivables with provision made on an individual basis	51,633,286.06	0.87	51,633,286.06	100.00	
Receivables with provision made on a collective basis	5,862,651,271.83	99.13	188,944,832.78	3.22	5,673,706,439.05
Subtotal	5,914,284,557.89	100.00	240,578,118.84	4.07	5,673,706,439.05

(Continued)

Categories	Opening balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Receivables with provision made on an individual basis	51,645,786.06	1.20	51,645,786.06	100.00	
Receivables with provision made on a collective basis	4,242,119,369.85	98.80	162,133,740.49	3.82	4,079,985,629.36
Subtotal	4,295,265,155.91	100.00	213,779,526.55	4.98	4,081,485,629.36

#### 2) Other receivables with provision made on an individual basis

Debtors	Book balance	Provision for bad debts	Provision proportion (%)	Reasons for provision made
Lai Jixiang	14,711,521.29	14,711,521.29	100.00	Accounts are older and are not expected to be collected



Shandong Qingneng Power Group Co., Ltd.	13,181,169.57	13,181,169.57	100.00	The unit has been enforced twice and is still unable to make the payment
Joint Stock Company (Production)	4,033,815.62	4,033,815.62	100.00	Long account age, expected to be uncollectible
alarm	2,822,111.00	2,822,111.00	100.00	Accounts are older and are not expected to be collected
Song Ping	1,454,160.00	1,454,160.00	100.00	Accounts are older and are not expected to be collected
Gas Management Division	1,000,000.00	1,000,000.00	100.00	Accounts are older and are not expected to be collected
CREPE-MYRTLE LIMITED	500,000.00	500,000.00	100.00	The amount is not expected to be recovered
Shandong Shengguang Real Estate (Production)	300,000.00	300,000.00	100.00	Long account age, expected to be uncollectible
Jinan Nanjiao Thermal Power Plant	502,178.03	502,178.03	100.00	Accounts are older and are not expected to be collected
Jinan Development Zone Thermal Power Plant	855,914.00	855,914.00	100.00	Accounts are older and are not expected to be collected
Jinan Beijiao Thermal Power Plant	1,519,724.15	1,519,724.15	100.00	Accounts are older and are not expected to be collected
Jinan Licheng District Real Estate Development Management Company	307,126.18	307,126.18	100.00	Accounts are older and are not expected to be collected
POWERCHINA SEPCO1 Electric POWER Construction Co., Ltd.	857,508.88	857,508.88	100.00	Accounts are older and are not expected to be collected
Provincial Textile Industry Office- Regional	586,102.00	586,102.00	100.00	Accounts are older and are not expected to be collected
Provincial Chemical Office - Regional	794,270.40	794,270.40	100.00	Accounts are older and are not expected to be collected
Jinan Thermal Power Company Material Company	590,398.86	590,398.86	100.00	Accounts are older and are not expected to be collected
Jinan Water Industry Group Co., Ltd	961,500.00	961,500.00	100.00	Accounts are older and are not expected to be collected
other	6,655,786.08	6,655,786.08	100.00	Accounts are older and are not expected to be collected
Subtotal	51,633,286.06	51,633,286.06	100.00	

3) Other receivables with provision made on a collective basis

a. Details on categories

Categories	Closing balance				
	Book balance		Provision for bad debts		Carrying amount
	Amount	% to total	Amount	Provision proportion (%)	
Portfolio grouped with government funds receivable	3,255,907,671.20	55.54			3,255,907,671.20
Portfolio grouped with cash pledge receivable	356,398,840.11	6.08			356,398,840.11
Portfolio grouped with Related party	3,627,312.45	0.06			3,627,312.45
Portfolio grouped with Large state-owned enterprises receivable	537,274,081.83	9.16			537,274,081.83
Portfolio grouped with ages	1,709,443,366.24	29.16	188,944,832.78	11.05	1,520,498,533.46
Total	5,862,651,271.83	100.00	188,944,832.78	3.22	5,673,706,439.05

b. Other receivables with provision made on a collective basis using age analysis method

Ages	Closing balance
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	Book balance	Provision for bad debts	Provision proportion (%)
Within 1 year	1,419,451,676.16	85,331,584.73	6.01
1-2 years	194,559,336.51	19,455,933.66	10.00
2-3 years	7,205,787.14	1,445,622.43	20.06
3-4 years	3,232,963.12	1,261,398.61	39.02
4-5 years	7,250,405.31	3,707,095.36	51.13
Over 5 years	77,743,198.00	77,743,197.99	100.00
Subtotal	1,709,443,366.24	188,944,832.78	11.05

4) Details of the top 5 debtors with largest balances

Debtors	Book balance	Proportion to the total balance of other receivables (%)	Nature of receivables	Provision for bad debts
Jinan Municipal Bureau of Finance	2,885,286,376.19	48.79	Policy based loss subsidies and subsidies for replacing coal with gas	
Jinan Dongxin Thermal Power Co., Ltd.	1,261,695,151.31	21.33	Borrowing, paying social security and provident fund on behalf of others	75,583,449.74
Shandong Shengfeng Cold Chain Logistics Co., Ltd.	154,500,000.00	2.61	Margin and entrusted investment interest	15,225,000.00
Jinan Shanghe County Government	146,014,175.72	2.47	Engineering advance payment	
China Huarong Asset Management Co., Ltd.	116,940,000.00	1.98	Deposit	
Subtotal	4,564,435,703.22	77.18		90,808,449.74

7. Inventories

Items	Closing balance		
	Book balance	Provision for write-down	Carrying amount
Materials in transit	2,087,606.23		2,087,606.23
Raw materials	634,446,124.74	5,333,598.38	629,112,526.36
Work in process	24,238,868.11		24,238,868.11
Goods on hand	461,336,503.23	2,461,558.73	458,874,944.50
Goods dispatched	22,393,095.02	1,281,320.54	21,111,774.48
Materials on consignment for further processing	14,198,623.62		14,198,623.62
Turnover materials	8,184,342.74		8,184,342.74
Cost to fulfill a contract	2,066,944,435.75		2,066,944,435.75
Total	3,233,829,599.44	9,076,477.65	3,224,753,121.79

(Continued)

Items	Opening balance
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	Book balance	Provision for write-down	Carrying amount
Materials in transit	716,986.88		716,986.88
Raw materials	484,408,676.68		484,408,676.68
Work in process	4,209,826.74		4,209,826.74
Goods on hand	311,782,355.22		311,782,355.22
Goods dispatched	1,948,319.91		1,948,319.91
Materials on consignment for further processing	19,978,210.06		19,978,210.06
Turnover materials	15,747,621.86		15,747,621.86
Cost to fulfill a contract	1,377,799,007.65		1,377,799,007.65
Total	2,216,591,005.00		2,216,591,005.00

#### 8. Contract assets

Items	Closing balance			Opening balance		
	Book balance	Provision for impairment	Carrying amount	Book balance	Provision for impairment	Carrying amount
Project funds	543,105,607.58		543,105,607.58	219,646,563.01		219,646,563.01
Equipment sales funds	35,963,399.87		35,963,399.87			
Warranty deposit	7,564,997.45	2,304,905.04	5,260,092.41			
Technical service funds	72,043.00		72,043.00			
Total	586,706,047.90	2,304,905.04	584,401,142.86	219,646,563.01		219,646,563.01

#### 9. Other current assets

Items	Closing balance	Opening balance
VAT input tax to be deducted and verified	243,654,478.36	622,860,360.17
Prepaid enterprise income tax	6,612,198.41	20,802,603.17
Prepaid VAT	2,107,214.23	16,267,504.76
Prepaid additional tax	2,141.17	1,967,375.89
Others	4,017.69	33,394.50
Total	252,380,049.86	661,931,238.49

#### 10. Debt investments

Items	Closing balance				
	Initial cost	Interest adjustment	Interest accrued	Provision for impairment	Carrying amount
Rizhao East Port City Construction Investment Co.	400,000,000.00		9,609,098.54		409,609,098.54



Items	Closing balance				
	Initial cost	Interest adjustment	Interest accrued	Provision for impairment	Carrying amount
LTD					
Shandong Jizhong Energy Investment Co. LTD	300,000,000.00		19,500,000.00		319,500,000.00
Total	700,000,000.00		29,109,098.54		729,109,098.54

(Continued)

Items	Opening balance				
	Initial cost	Interest adjustment	Interest accrued	Provision for impairment	Carrying amount
Rizhao East Port City Construction Investment Co. LTD	400,000,000.00		6,497,777.72		406,497,777.72
Shandong Jizhong Energy Investment Co. LTD	300,000,000.00				300,000,000.00
Total	700,000,000.00		6,497,777.72		706,497,777.72

## 11. Long-term equity investments

### (1) Categories

Items	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Investments in other companies	1,073,516.16	1,073,516.16	
Investments in associates	574,688,881.43		574,688,881.43
Total	575,762,397.59	1,073,516.16	574,688,881.43

(Continued)

Items	Opening balance		
	Book balance	Provision for impairment	Carrying amount
Investments in other companies	1,073,516.16	1,073,516.16	
Investments in associates	196,022,041.44		196,022,041.44
Total	197,095,557.60	1,073,516.16	196,022,041.44

### (2) Details

Investees	Opening balance	Increase/Decrease
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		Investments increased	Investments decreased	Investment income recognized under equity method	Adjustment in other comprehen sive income
Jinan Chengjian Hotel	533,516.16				
Jinan Chengjian Advertising Company	540,000.00				
Huadian Jinan Zhangqiu Thermal Power Co., Ltd.	17,700,000.00				
Shandong Sinanda Energy Development Co., Ltd.	8,039,901.82			783,217.19	
Shandong Qidi Jineng Environmenta l Protection Technology Co., Ltd.	96,522,481.07			17,191,348.87	
Shandong Languangnen g Gas Co., Ltd.	20,516,148.61			-218,732.30	
Shensi Yitu (Beijing) Technology Co., Ltd.				152,115.16	
Shandong Jihua Sanquan Project Management Co., Ltd.	1,617,130.79			299,148.55	
Shandong Greenland Huabao Thermal Power Energy Co., Ltd.	7,023,179.42			220,079.49	
Shandong Jihua Derun Gas Co., Ltd.		40,000,000.00			
Shandong Lugang Natural Gas Co., Ltd.	29,652,294.70			13,384,266.30	



Investees	Opening balance	Increase/Decrease			
		Investments increased	Investments decreased	Investment income recognized under equity method	Adjustment in other comprehensive income
Yangxin Hong Kong & China Gas Company Limited	9,385,162.83			3,055,250.00	
Shandong Airport Smart Energy Development Co., Ltd.	4,591,613.02			-750,239.61	
Taian Zhuojia Public Works Co., Ltd.	599,129.18				
Shandong Yicheng Creative Design Co., Ltd	375,000.00				
Shandong Gangtong Construction Engineering Co., Ltd.		300,000,000.00		4,213,326.58	
Subtotal	197,095,557.60	340,000,000.00		38,329,780.23	

(Continued)

Investees	Increase/Decrease				Closing balance	Closing balance of provision for impairment
	Changes in other equity	Cash dividend/ Profit declared for distribution	Provision for impairment	Others		
Jinan Chengjian Hotel					533,516.16	533,516.16
Jinan Chengjian Advertising Company					540,000.00	540,000.00
Huadian Jinan Zhangqiu Thermal Power Co., Ltd.					17,700,000.00	
Shandong Sinanda Energy Development Co., Ltd.					8,823,119.01	
Shandong Qidi Jineng Environmental					113,713,829.94	



Investees	Increase/Decrease				Closing balance	Closing balance of provision for impairment
	Changes in other equity	Cash dividend/ Profit declared for distribution	Provision for impairment	Others		
Protection Technology Co., Ltd.						
Shandong Languangneng Gas Co., Ltd.					20,297,416.31	
Shensi Yitu (Beijing) Technology Co., Ltd.				1,669,059.76	1,821,174.92	
Shandong Jihua Sanquan Project Management Co., Ltd.					1,916,279.34	
Shandong Greenland Huabao Thermal Power Energy Co., Ltd.					7,243,258.91	
Shandong Jihua Derun Gas Co., Ltd.					40,000,000.00	
Shandong Lugang Natural Gas Co., Ltd.					43,036,561.00	
Yangxin Hong Kong & China Gas Company Limited		1,332,000.00			11,108,412.83	
Shandong Airport Smart Energy Development Co., Ltd.					3,841,373.41	
Taian Zhuojia Public Works Co., Ltd.					599,129.18	
Shandong Yicheng Creative Design Co., Ltd					375,000.00	
Shandong Gangtong Construction Engineering Co., Ltd.					304,213,326.58	
Subtotal		1,332,000.00		1,669,059.76	575,762,397.59	1,073,516.16



12. Other equity instrument investments

Items	Closing balance	Opening balance
Jinan Heguang New Energy Investment Partnership(L.P.)	10,000,000.00	10,000,000.00
Shandong Mingke Jiayang Environmental Protection Engineering Co. LTD	5,000,000.00	5,000,000.00
Towngas Telecom (Shandong) Company Limited	3,960,000.00	3,960,000.00
Jinan New Kinetic Energy AI Venture Capital Partnership (Limited Partnership)	3,011,572.73	
Beijing Shuguang Yitong Technology Co., Ltd.	1,355,191.86	
Shanghai Zhumu Medical Technology Co., Ltd.	1,203,217.16	
Shandong Gangran Economic and Trade Co., Ltd.	500,000.00	500,000.00
Total	25,029,981.75	19,460,000.00

13. Other non-current financial assets

Items	Closing balance	Opening balance
Financial assets classified as at fair value through profit or loss	228,522,031.63	235,139,266.37
Including: Equity instrument investments	228,522,031.63	235,139,266.37
Total	228,522,031.63	235,139,266.37

14. Investment property

Book balance

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	35,528,916.89			35,528,916.89
Land use right	7,362,878.28			7,362,878.28
Subtotal	42,891,795.17			42,891,795.17

Accumulated depreciation and amortization

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	2,711,709.72	1,162,161.31		3,873,871.03
Land use right				
Subtotal	2,711,709.72	1,162,161.31		3,873,871.03

Carrying amount

Items	Opening balance	Closing balance
Buildings and structures	32,817,207.17	31,655,045.86
Land use right	7,362,878.28	7,362,878.28
Subtotal	40,180,085.45	39,017,924.14

15. Fixed assets

(1) Details



Items	Closing balance	Opening balance
Fixed assets	19,837,488,747.49	17,328,223,661.75
Disposal of fixed assets	-9,724,122.75	-6,212,413.47
Total	19,827,764,624.74	17,322,011,248.28

(2) Fixed assets

1) Details

Book balance

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	3,821,480,576.88	537,430,385.86	5,765,788.64	4,353,145,174.10
General equipment	4,880,444,752.23	1,067,039,373.59	69,656,311.49	5,877,827,814.33
Special equipment	15,067,679,835.73	2,135,476,657.71	2,345,912.99	17,200,810,580.45
Transport facilities	155,874,122.96	26,674,801.99	7,528,250.36	175,020,674.59
other equipment	196,605,348.24	80,673,540.44	2,766,621.03	274,512,267.65
Subtotal	24,122,084,636.04	3,847,294,759.59	88,062,884.51	27,881,316,511.12

Accumulated depreciation

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	824,193,161.36	173,500,727.16	4,320,021.74	993,373,866.78
General equipment	1,881,211,676.81	453,994,236.42	39,861,985.96	2,295,343,927.27
Special equipment	3,896,224,093.11	602,042,352.06	1,758,941.83	4,496,507,503.34
Transport facilities	88,984,588.22	20,976,961.06	5,524,494.87	104,437,054.41
other equipment	103,247,454.79	52,808,694.58	1,890,737.54	154,165,411.83
Subtotal	6,793,860,974.29	1,303,322,971.28	53,356,181.94	8,043,827,763.63

Provision for impairment

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures				
General equipment				
Special equipment				
Transport facilities				
other equipment				
Subtotal				

Carrying amount

Items	Opening balance	Closing balance
Buildings and structures	2,997,287,415.52	3,359,771,307.32



General equipment	2,999,233,075.42	3,582,483,887.06
Special equipment	11,171,455,742.62	12,704,303,077.11
Transport facilities	66,889,534.74	70,583,620.18
other equipment	93,357,893.45	120,346,855.82
Total	17,328,223,661.75	19,837,488,747.49

2) Operating leased fixed assets

Items	Closing book value
Buildings and structures	61,608,998.03
Total	61,608,998.03

(3) Disposal of fixed assets

Items	Closing balance	Opening balance
Disposal of fixed assets	-9,724,122.75	-6,212,413.47
Total	-9,724,122.75	-6,212,413.47

16. Construction in progress

(1) Details

Items	Closing balance	Opening balance
Construction in progress	6,392,799,845.27	6,023,682,922.77
Construction materials	421,643,757.16	384,038,182.34
Total	6,814,443,602.43	6,407,721,105.11

(2) Construction in progress

1) Details

Projects	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Gas supply infrastructure and pipeline network engineering	2,574,837,309.91		2,574,837,309.91
Heating infrastructure and pipe network engineering	3,483,770,765.62		3,483,770,765.62
Buildings and appurtenances	140,031,070.98		140,031,070.98
Photovoltaic engineering projects	49,382,585.67		49,382,585.67
Others	144,778,113.09		144,778,113.09
Total	6,392,799,845.27		6,392,799,845.27

(Continued)

Projects	Opening balance		
	Book balance	Provision for impairment	Carrying amount
Gas supply infrastructure and pipeline network engineering	2,995,500,710.28		2,995,500,710.28



Projects	Opening balance		
	Book balance	Provision for impairment	Carrying amount
Heating infrastructure and pipe network engineering	2,434,095,010.80		2,434,095,010.80
Buildings and appurtenances	409,874,460.94		409,874,460.94
Photovoltaic engineering projects			
Others	184,212,740.75		184,212,740.75
Total	6,023,682,922.77		6,023,682,922.77

2) Changes in significant projects

Projects	Opening balance	Increase	Transferred to fixed assets	Other decreases	Closing balance
Panwang Road Long Pipeline Network Project		413,377,095.16			413,377,095.16
Jinan Thermoelectric North Heat Source Plant Preparation Project	345,009,666.67	39,970,885.55			384,980,552.22
Jinan Nancofan LNG Peak Shaving Reserve Station (Phase II)	258,960,741.22	52,606,477.34			311,567,218.56
Jinan Ganghua Gas Comprehensive Dispatching Command Center	279,504,955.72	15,572,504.25			295,077,459.97
Shandong Jihua Gas Co., Ltd. southern suburban natural gas operation control emergency repair comprehensive base construction project	169,094,718.37	50,770,400.00			219,865,118.37
Sewage Source Heat Pump Heating and Cooling Project (AFD)	20,148,408.49	118,476,299.97			138,624,708.46
ADB Project Central Business District Regional Energy Project, Southern Energy Center Phase 1 Main Project	87,750,584.57	42,044,138.68			129,794,723.25
Century Avenue long-distance pipeline network Century Avenue section		119,643,362.74			119,643,362.74
Pilot Zone Bridge Group Gas Heat Source Plant Project	85,268,552.85	11,334,929.06			96,603,481.91
Jiyangmen Station to Huanghe Township valve chamber high-pressure pipeline project	86,716,208.62	9,371,999.89			96,088,208.51
Jinan Thermal Power Co., Ltd. digital heating control center construction project	41,541,505.07	42,439,285.38			83,980,790.45
Jiyang to Shanghe high-pressure natural gas project	65,117,527.85	739,210.96			65,856,738.81
High Pressure Natural Gas North Ring Network Pipeline Project (Sangzidian to Sungeng	36,721,090.22	17,396,019.12			54,117,109.34



Projects	Opening balance	Increase	Transferred to fixed assets	Other decreases	Closing balance
Section)					
Xiquan Lu pressure regulation and peak shaving station project	47,018,766.82	4,120,551.25			51,139,318.07
Yongsan Relay Pumping Station		48,207,056.41			48,207,056.41
Project in the southwest area of the urban area	46,263,814.04				46,263,814.04
Chunxuan section of the Century Avenue long pipeline network		43,070,121.80			43,070,121.80
Preliminary cost of Jiyangmen Station and supporting pipelines	25,866,318.11	13,530,436.19			39,396,754.30
Caofan to Ganggou high-pressure natural gas pipeline project	37,523,395.41	1,500,372.12			39,023,767.53
Sun Geng to Jiyang high-pressure natural gas pipeline project	34,064,954.90	4,933,522.70			38,998,477.60
Yinfeng East District 8 Enterprise Park Office Building	29,546,916.08	5,425,983.04			34,972,899.12
South Ring Expressway (Manzizhuang) to Zhonggong (Beihou Village) high-pressure natural gas pipeline project	33,696,984.10	52,905.10			33,749,889.20
Nanxinzhuang West Road sub-high pressure and medium voltage project.	31,292,414.45	1,582,264.96			32,874,679.41
Project of Institute of Microbiology, Qilu Research Institute	345,566.04	25,462,108.11			25,807,674.15
Longquan Avenue East Extension Heat Power Pipe Network Project		25,455,184.35			25,455,184.35
Jinan Economic Development Zone Supporting Municipal Heating Pipe Network Project (Ping'an South Section Heat Power Pipeline Project)	846,115.93	23,918,966.54			24,765,082.47
Steel City "low-carbon" waste heat clean heating project	1,323,521.09	95,051,667.35	96,331,370.10		43,818.34
Northern suburban blue charcoal hot water boiler heating project	235,120,610.83	48,223,243.78	283,343,854.61		
Tangwangshan Road East Extension (Shiji East Road to Puxue Road) line hot water pipe network		26,391,401.22	26,391,401.22		
Subtotal	1,998,743,337.45	1,300,668,393.02	406,066,625.93		2,893,345,104.54

3) The capitalization amount of the borrowing expenses for the current period is 30,481,252.96 yuan.

(3) Construction materials



Items	Closing balance	Opening balance
Special materials	407,800,571.20	357,893,468.39
Special equipment	13,630,693.39	25,340,146.99
Others	212,492.57	804,566.96
Subtotal	421,643,757.16	384,038,182.34

#### 17. Right-of-use assets

##### Book balance

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	89,474,537.03	68,019,593.89	4,722,605.90	152,771,525.02
Land	10,822,347.57		1,711,101.64	9,111,245.93
Special equipment	2,257,522.13	27,504,313.16		29,761,835.29
Subtotal	102,554,406.73	95,523,907.05	6,433,707.54	191,644,606.24

##### Accumulated depreciation and amortization

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	13,821,196.47	26,046,214.65	2,551,454.38	37,315,956.74
Land	5,490,746.30	1,030,451.80	513,330.49	6,007,867.61
Special equipment	1,651,928.64	5,669,822.25	1,150,257.04	6,171,493.85
Subtotal	20,963,871.41	32,746,488.70	4,215,041.91	49,495,318.20

##### Carrying amount

Items	Opening balance	Closing balance
Buildings and structures	75,653,340.56	115,455,568.28
Land	5,331,601.27	3,103,378.32
Special equipment	605,593.49	23,590,341.44
Total	81,590,535.32	142,149,288.04

#### 18. Intangible assets

##### Book balance

Items	Opening balance	Increase	Decrease	Closing balance
Land use right	1,040,319,381.84	52,947,311.58	15,894,330.20	1,077,372,363.22
Software	131,128,358.92	104,703,975.80	756,747.98	235,075,586.74
Copyright	800.00	8,155,761.79		8,156,561.79
Patent right	263,296.20	13,786,266.43		14,049,562.63
Others	173,727.44	18,960,514.20		19,134,241.64
Subtotal	1,171,885,564.40	198,553,829.80	16,651,078.18	1,353,788,316.02

##### Accumulated amortization

Items	Opening balance	Increase	Decrease	Closing balance
Land use right	168,521,852.00	28,613,721.40	124,984.90	197,010,588.50



Items	Opening balance	Increase	Decrease	Closing balance
Software	72,239,040.56	54,809,746.67	701,771.91	126,347,015.32
Copyright	213.44	3,281,114.02		3,281,327.46
Patent right	48,859.69	3,917,147.32		3,966,007.01
Others	2,895.46	45,139.78		48,035.24
Subtotal	240,812,861.15	90,666,869.19	826,756.81	330,652,973.53
Provision for impairment				
Items	Opening balance	Increase	Decrease	Closing balance
Land use right				
Software				
Copyright		3,900,000.00		3,900,000.00
Patent right				
Others				
Subtotal		3,900,000.00		3,900,000.00
Carrying amount				
Items	Opening balance			Closing balance
Land use right	871,797,529.84			880,361,774.72
Software	58,889,318.36			108,728,571.42
Copyright	586.56			975,234.33
Patent right	214,436.51			10,083,555.62
Others	170,831.98			19,086,206.40
Subtotal	931,072,703.25			1,019,235,342.49

#### 19. Goodwill

Investees or events resulting in goodwill	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Synthesis Electronic Technology Co., Ltd.	287,720,225.01		287,720,225.01
Shandong Hetong Information Technology Co., Ltd.	38,830,799.98		38,830,799.98
Shandong Yitong Engineering Technology Service Co., Ltd.	9,805,288.66		9,805,288.66
Shandong Taishan Construction Development Group Co., Ltd.	9,000,000.00		9,000,000.00
Qilu Construction Engineering Construction Development Group Co. LTD	25,679,334.67		25,679,334.67
Shandong Jixuan Energy Co., Ltd.	5,028,610.99		5,028,610.99
Shensi Langfang (Fujian) Information Technology Co., Ltd.	19,608,105.72	19,608,105.72	
Yinnuowei Technology (Tianjin) Co., Ltd.	157,599,064.34	157,599,064.34	
Total	553,271,429.37	177,207,170.06	376,064,259.31

(Continued)

Investees or events resulting in goodwill	Opening balance
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	Book balance	Provision for impairment	Carrying amount
Synthesis Electronic Technology Co., Ltd.			
Shandong Hetong Information Technology Co., Ltd.	38,830,799.98		38,830,799.98
Shandong Yitong Engineering Technology Service Co., Ltd.	9,805,288.66		9,805,288.66
Shandong Taishan Construction Development Group Co., Ltd.	9,000,000.00		9,000,000.00
Qilu Construction Engineering Construction Development Group Co. LTD	25,679,334.67		25,679,334.67
Shandong Jixuan Energy Co., Ltd.	5,028,610.99		5,028,610.99
Shensi Langfang (Fujian) Information Technology Co., Ltd.			
Yinnuowei Technology (Tianjin) Co., Ltd.			
Total	88,344,034.30		88,344,034.30

## 20. Long-term prepayments

Items	Opening balance	Increase	Amortization	Other decreases	Closing balance
Engineering transformation	448,093,065.97	284,972,236.87	34,615,149.90		698,450,152.94
House renovation cost	374,620,604.26	72,388,476.60	77,492,255.21		369,516,825.65
Building energy-saving renovation and maintenance	58,098,898.65	173,823,715.37	6,545,608.98		225,377,005.04
Overhaul costs	6,501,092.84	1,634,300.00	674,418.83		7,460,974.01
Other deferred expenses	6,203,434.68	456,964.90	5,111,640.40		1,548,759.18
Total	893,517,096.40	533,275,693.74	124,439,073.32		1,302,353,716.82

## 21. Deferred tax assets and deferred tax liabilities

### (1) Deferred tax assets

Items	Closing balance		Opening balance	
	Deductible temporary difference	Deferred tax assets	Deductible temporary difference	Deferred tax assets
Provision for impairment of assets	114,650,974.53	22,094,945.75	24,586,544.40	6,025,151.28
Provision for impairment of inventory	9,076,477.65	1,361,471.65		
Difference in depreciation and amortization of usage rights assets	1,583,239.40	395,809.85	1,683,940.92	420,985.23
Deductible losses	40,798,544.74	6,119,781.72	56,121,077.56	14,030,269.39
Unrealized internal sales gains and losses	1,774,365.60	266,154.84		
Estimated liabilities	4,642,783.25	696,417.49		
Deferred income	376,511.66	56,476.75		
Total	172,902,896.83	30,991,058.05	82,391,562.88	20,476,405.90

### (2) Deferred tax liabilities



Items	Closing balance		Opening balance	
	Taxable temporary difference	Deferred tax liabilities	Taxable temporary difference	Deferred tax liabilities
Changes in fair value of other non current financial assets	53,083,308.43	13,270,827.11	44,639,266.36	11,159,816.59
Valuation and appreciation of assets in the merger of enterprises not under the same control	7,115,485.60	1,067,322.84		
Depreciation and amortization tax on used assets will vary	185,738.28	46,434.57	1,823,435.88	455,858.97
Total	60,384,532.31	14,384,584.52	46,462,702.24	11,615,675.56

## 22. Other non-current assets

Items	Closing balance	Opening balance
Expired entrusted loan	8,620,000.00	8,620,000.00
Purchase of long-term assets	96,788,614.20	116,937,798.00
Unexpired warranty deposit (contract assets)	9,162,191.83	
Construction funds for the household waste incineration power generation project in Mashan, Changqing	3,980,636.41	
Prepaid gas heat pump payment	46,828,600.00	46,828,600.00
Total	165,380,042.44	172,386,398.00

## 23. Short-term borrowings

### (1) Details

Items	Closing balance	Opening balance
Credit borrowings	722,102,502.96	830,335,229.22
Guaranteed borrowings	640,053,578.15	580,743,785.43
Pledged borrowings	50,000,000.00	60,349,000.00
Accrued interest	681,557.08	592,762.25
Total	1,412,837,638.19	1,472,020,776.90

### (2) Credit borrowings

Loan unit	Loan banks or other financial institutions	Borrowing balance
Jinan Thermal Co., Ltd.	Bank of Communications Shandong Branch	100,000,000.00
Jinan Thermal Co., Ltd.	Bank of Communications Shandong Branch	9,994,667.96
Jinan Thermal Co., Ltd.	Bank of China Jinan Huaiyin Branch	60,000,000.00
Jinan Energy Investment Holding Group Co., Ltd.	Jinan Sunshine New Road Sub Branch of China CITIC Bank Co., Ltd.	1,902,293.19
Jinan Energy Investment Holding Group Co., Ltd.	Jinan Sunshine New Road Sub Branch of China CITIC Bank Co., Ltd.	3,523,587.11



Jinan Energy Investment Holding Group Co., Ltd.	Jinan Sunshine New Road Sub Branch of China CITIC Bank Co., Ltd.	2,168,239.70
Jinan Energy Investment Holding Group Co., Ltd.	China Minsheng Bank Co., Ltd. Jinan Branch	5,005,881.94
Jinan Energy Investment Holding Group Co., Ltd.	China Minsheng Bank Co., Ltd. Jinan Branch	40,045,222.22
Synthesis Electronic Technology Co., Ltd.	Jinan Branch of Bank of Beijing Co., Ltd.	6,718,387.50
Synthesis Electronic Technology Co., Ltd.	Industrial Bank Co., Ltd.	10,078,378.06
Jinan Hesheng Thermal Power Co., Ltd.	Shandong Zhangqiu Rural Commercial Bank business Department	10,000,000.00
Jinan Yuquan Biological Power Generation Co., Ltd.	Jinan Branch of Bank of Qingdao Co., Ltd.	49,000,000.00
Jinan Yuquan Biological Power Generation Co., Ltd.	Jinan Branch of China CITIC Bank Co., Ltd.	10,000,000.00
Shandong Hetong Information Technology Co., Ltd.	Industrial Bank Co., Ltd.	10,000,000.00
Shandong Hetong Information Technology Co., Ltd.	Jinan High Tech Sub Branch of Bank of Beijing Co., Ltd.	10,000,000.00
Jinan Heat Power Engineering Company	Jinan Branch of China Construction Bank Co., Ltd	100,000,000.00
Jinan Thermoelectricity Co., Ltd.	Jinan Branch of China CITIC Bank Co., Ltd.	50,000,000.00
Jinan Thermoelectricity Co., Ltd.	Shandong Branch of Bank of Communications Co., Ltd.	30,000,000.00
Jinan Lantian Heat Co., Ltd.	Qilu Bank Co., Ltd., Shunnan Sub-branch	5,000,000.00
Jinan Lantian Heat Co., Ltd.	Qilu Bank Co., Ltd., Shunnan Sub-branch	5,000,000.00
Shandong Panva Gas Co., Ltd.	Bank of Communications Co., Ltd.	34,548,405.28
Jinan Ganghua Gas Co., Ltd.	Jinan Branch of Bank of China Limited	169,117,440.00
Total		722,102,502.96

(3) Guaranteed borrowings

Loan unit	Loan banks or other financial institutions	Borrowing balance	Guarantee
Jinan Thermal Co., Ltd.	Agricultural Bank of China, Jinan Heping Branch	114,000,000.00	Jinan Thermal Co., Ltd.
Jinan Energy Construction Development Group Co., Ltd.	Jinan Luokou Sub Branch of Industrial Bank Co., Ltd.	13,769,300.00	Jinan Thermal Co., Ltd.
Jinan He An Natural Gas Peak Adjustment Storage and Distribution Co., Ltd.	China Minsheng Banking Co., Ltd.	74,924,874.80	Jinan Thermal Co., Ltd.



Jinan He An Natural Gas Peak Adjustment Storage and Distribution Co., Ltd.	Jinan Branch of Bank of China Limited	9,995,570.20	Jinan Thermal Co., Ltd.
Jinan Energy Investment Holding Group Co., Ltd.	Jinan Sunshine New Road Sub Branch of China CITIC Bank Co., Ltd.	4,675,636.43	Jinan Thermal Co., Ltd.
Jinan Energy Investment Holding Group Co., Ltd.	Jinan Sunshine New Road Sub Branch of China CITIC Bank Co., Ltd.	6,958,175.90	Jinan Thermal Co., Ltd.
Jinan Energy Investment Holding Group Co., Ltd.	Jinan Sunshine New Road Sub Branch of China CITIC Bank Co., Ltd.	4,244,987.89	Jinan Thermal Co., Ltd.
Jinan Energy Investment Holding Group Co., Ltd.	Jinan Sunshine New Road Sub Branch of China CITIC Bank Co., Ltd.	939,103.45	Jinan Thermal Co., Ltd.
Shensi Xuhui Medical Information Technology Co., Ltd.	Jinan Shuanglong Sub Branch of Qilu Bank Co., Ltd.	9,012,250.00	Synthesis Electronic Technology Co., Ltd.
Shensi Xuhui Medical Information Technology Co., Ltd.	Jinan Branch of Bank of Beijing Co., Ltd.	10,012,500.00	Synthesis Electronic Technology Co., Ltd.
Shensi Xuhui Medical Information Technology Co., Ltd.	Industrial Bank Co., Ltd.	20,026,583.34	Synthesis Electronic Technology Co., Ltd.
Jinan Hesheng Thermal Power Co., Ltd.	Jinan Zhangqiu Sub Branch of China CITIC Bank Co., Ltd.	40,000,000.00	Jinan Thermal Co., Ltd.
Jinan Hesheng Thermal Power Co., Ltd.	Jinan Zhangqiu Sub Branch of Bank of Qingdao Co., Ltd.	10,000,000.00	Jinan Thermal Co., Ltd.
Shandong Hetong Information Technology Co., Ltd.	Jinan Huaiyin Government Affairs Center Sub Branch of Qilu Bank Co., Ltd.	10,000,000.00	Jinan Energy Investment Holding Group Co., Ltd.
Shandong Sunshine Power Co., Ltd.	Laiwu Zhujiang Village Bank Co., Ltd. Niuquan Sub-branch	4,500,000.00	Wang Zhanbin, Song Yan, Wang Peng, Liu Xue, Laiwu District, Jinan City, Sunshine Straw Recycling Professional Cooperative
Shandong Sunshine Power Co., Ltd.	Laiwu Branch of Bank of Qingdao Co., Ltd.	10,000,000.00	Jinan Energy Investment Holding Group Co., Ltd.



Shandong Sunshine Power Co., Ltd.	Laiwu Branch of Postal Savings Bank of China Limited	2,000,000.00	Song Yan, Wang Zhanbin
Jinan Heat Power Engineering Company	Jinan Branch of Bank of China Limited	102,389,203.14	Jinan Thermoelectricity Co., Ltd.
Jinan Heat Power Engineering Company	Agricultural Bank of China Limited, Jinan Heping Sub-branch	80,000,000.00	Jinan Thermoelectricity Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	Hongkong Branch of Shinhan Bank (China) Co., Ltd.	112,605,393.00	Qingdao Branch of Shinhan Bank (China) Co., Ltd.
Total		640,053,578.15	

(4) Pledged borrowings

Loan unit	Loan banks or other financial institutions	Borrowing balance	Pledge
Jinan Hesheng Thermal Power Co., Ltd.	Postal Savings Bank of China	20,000,000.00	Heating business charge right
Shandong Hetong Information Technology Co., Ltd.	Jinan Rural Commercial Bank Gaoxin Sub-branch	10,000,000.00	Pledge of invention patent
Jinan Changqing Thermal Power Co., Ltd.	Postal Savings Bank of China	20,000,000.00	accounts receivable
Total		50,000,000.00	

24. Notes payable

Items	Closing balance	Opening balance
Bank acceptance	1,402,356,130.82	1,417,487,534.27
Letter of credit (LC)	1,588,415,190.06	1,091,700,000.00
Total	2,990,771,320.88	2,509,187,534.27

25. Accounts payable

(1) Details

Aging	Closing balance	Opening balance
Within 1 year	5,797,099,720.61	4,433,042,822.08
1-2year	1,522,044,222.25	992,626,636.16
2-3year	320,272,279.91	341,000,280.29
More than 3 years	528,259,307.26	525,022,698.83
Total	8,167,675,530.03	6,291,692,437.36

(2) Major creditor

Name of creditor	Closing balance
Shandong Yuxing Construction Co., Ltd.	120,081,653.36



Shaanxi Hongcheng Trading Co., Ltd.	114,504,489.12
Shandong Wanchangshun Environmental Protection Technology Co., Ltd.	113,312,705.68
Shandong Yitong Installation Co., Ltd.	99,777,915.26
Shaanxi Dongxinyuan Chemical Co., Ltd.	75,873,401.42
Total	523,550,164.84

#### 26. Advances received

Items	Closing balance	Opening balance
Advance collection of lease payment	6,219,158.91	3,305,220.09
Total	6,219,158.91	3,305,220.09

#### 27. Contract liabilities

Items	Closing balance	Opening balance
Advance payment for engineering projects	4,493,351,789.43	3,895,756,059.94
Pre-charge heating fee	2,248,181,337.30	2,669,649,743.59
Pre-charge gas fee	578,266,569.37	549,160,681.47
Other contract liabilities	62,358,937.82	69,477,475.40
Total	7,382,158,633.92	7,184,043,960.40

#### 28. Employee benefits payable

##### (1) Details

Items	Opening balance	Increase	Decrease	Closing balance
Short-term employee benefits	353,848,753.44	1,764,839,260.57	1,598,921,712.71	519,766,301.30
Post-employment benefits - defined contribution plan	33,094,199.82	247,839,477.86	241,532,245.93	39,401,431.75
Total	386,942,953.26	2,012,678,738.43	1,840,453,958.64	559,167,733.05

##### (2) Details of short-term employee benefits

Items	Opening balance	Increase	Decrease	Closing balance
Wage, bonus, allowance and subsidy	323,878,847.39	1,396,248,456.08	1,232,495,876.76	487,631,426.71
Employee welfare fund	357,937.00	100,165,566.48	99,302,165.11	1,221,338.37
Social insurance premium	9,873,838.13	101,875,068.02	108,515,547.32	3,233,358.83
Including: Medicare premium	9,842,414.96	95,638,905.44	102,469,574.79	3,011,745.61
Occupational injuries premium	31,423.17	6,079,265.60	5,893,356.62	217,332.15
Maternity premium		156,896.98	152,615.91	4,281.07
Housing provident fund	47,209.34	132,059,878.97	129,208,558.51	2,898,529.80



Items	Opening balance	Increase	Decrease	Closing balance
Trade union fund and employee education fund	19,653,149.31	33,641,903.61	28,558,888.77	24,736,164.15
Short-term paid leave	37,772.27	110,874.24	103,163.07	45,483.44
Others		737,513.17	737,513.17	
Total	353,848,753.44	1,764,839,260.57	1,598,921,712.71	519,766,301.30

(3) Details of defined contribution plan

Items	Opening balance	Increase	Decrease	Closing balance
Basic endowment insurance premium	1,190,034.20	174,700,978.22	169,632,284.59	6,258,727.83
Unemployment insurance premium	57,348.24	7,393,536.73	7,176,597.65	274,287.32
Supplementary endowment insurance		823,255.03	823,255.03	
Company annuity payment	962,017.90	57,956,936.58	56,019,078.33	2,899,876.15
Employee award and welfare fund	30,884,799.48	6,964,771.30	7,881,030.33	29,968,540.45
Total	33,094,199.82	247,839,477.86	241,532,245.93	39,401,431.75

29. Taxes and rates payable

Items	Closing balance	Opening balance
VAT	30,919,840.12	33,652,263.37
Urban maintenance and construction tax	1,177,120.33	614,842.17
Education surcharge	509,370.36	286,283.68
Local education surcharge	338,771.20	147,245.58
Local water conservancy construction fund	21,823.91	1,897.11
Enterprise income tax	50,326,785.64	28,616,852.56
Use tax of land	3,139,879.72	3,045,083.92
Resource taxes	528.00	16,143.00
Building taxes	4,619,574.56	4,470,990.55
Individual income tax withheld for tax authorities	1,867,891.12	673,343.82
Stamp duty	3,485,886.54	3,386,776.96
Environmental protection tax	164,697.63	386,592.12
Others		85,789.39
Total	96,572,169.13	75,384,104.23

30. Other payables

(1) Details

Items	Closing balance	Opening balance
Interest payable	6,966,537.86	4,729,378.21



Items	Closing balance	Opening balance
Dividend payable	99,714,311.17	65,046,292.39
Other payables	3,176,984,491.68	3,751,585,200.35
Total	3,283,665,340.71	3,821,360,870.95

(2) Interest payable

Items	Closing balance	Opening balance
Interest on corporate borrowing	6,966,537.86	4,729,378.21
Total	6,966,537.86	4,729,378.21

(3) Dividend payable

Items	Closing balance	Opening balance
Hong Kong China Gas (Jinan) Limited	97,581,876.03	62,913,857.25
Qingdao Jicheng Electronics Co., Ltd	2,132,435.14	2,132,435.14
Total	99,714,311.17	65,046,292.39

(4) Other payables

1) Aging the account

Aging	Closing balance	Opening balance
Within 1 year	742,272,073.21	1,275,643,101.96
1-2year	388,652,902.28	362,376,059.60
2-3year	221,693,675.01	483,401,613.59
More than 3 years	1,824,365,841.18	1,630,164,425.20
Total	3,176,984,491.68	3,751,585,200.35

2) Major creditor

Name of creditor	Closing balance
Jinan Municipal Finance Bureau	286,595,816.26
Shandong Shensi Technology Investment Co., Ltd.	47,386,375.68
Jinan Xiqu Construction Investment Co., Ltd.	46,760,038.92
Shandong Sunshine Thermal Power Co., Ltd.	45,759,526.04
Jinan Zhongbo Real Estate Co., Ltd.	36,415,842.86
Total	462,917,599.76

31. Non-current liabilities due within one year

Items	Closing balance	Opening balance
Long-term borrowings due within one year	221,537,736.11	237,270,605.74
Bonds payable due within one year	20,613,698.63	
Long-term payables due within one year	400,833,868.09	70,368,831.40
Lease liabilities due within one year	33,205,781.77	10,179,332.27



Total	676,191,084.60	317,818,769.41
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### 32. Other current liabilities

Items	Closing balance	Opening balance
One-year bond payable and interest	900,776,712.33	
The amount of tax to be transferred	182,415,035.44	266,473,671.57
Unmatured bank acceptance bill is endorsed	4,779,840.00	
Unmatured commercial acceptance bill is endorsed	17,513,951.53	16,106,608.52
Total	1,105,485,539.30	282,580,280.09

### 33. Long-term borrowings

#### (1) Details

Items	Closing balance	Opening balance
Credit borrowings	1,092,961,943.93	1,395,021,954.19
Mortgaged borrowings	8,092,359.62	43,415,770.62
Guaranteed borrowings	3,167,734,034.12	1,922,483,051.04
Pledged borrowings	19,601,780.12	25,773,780.12
Total	4,288,390,117.79	3,386,694,555.97

#### (2) Credit borrowings

Loan unit	Loan banks or other financial institutions	Borrowing balance
This company	China Development Bank	18,000,000.00
Jinan Energy Investment Holding Group Co., Ltd.	Lixia Sub Branch of Qilu Bank Co., Ltd.	18,500,000.00
Jinan Energy Investment Holding Group Co., Ltd.	Lixia Sub Branch of Qilu Bank Co., Ltd.	15,229,057.59
Jinan Energy Investment Holding Group Co., Ltd.	Lixia Sub Branch of Qilu Bank Co., Ltd.	9,250,000.00
Jinan Energy Investment Holding Group Co., Ltd.	Lixia Sub Branch of Qilu Bank Co., Ltd.	1,167,753.93
Jinan Energy Investment Holding Group Co., Ltd.	Lixia Sub Branch of Qilu Bank Co., Ltd.	12,635,320.86
Jinan Energy Investment Holding Group Co., Ltd.	Lixia Sub Branch of Qilu Bank Co., Ltd.	4,625,000.00
Jinan Thermoelectricity Co., Ltd.	Jinan Rural Commercial Bank Tianqiao Sub-branch	46,540,000.00
Jinan Thermoelectricity Co., Ltd.	Bank of Communications Shandong Branch Business Department	20,137,597.88
Jinan Thermoelectricity Co., Ltd.	Asian development bank	169,841,439.82
Shandong Panva Gas Co., Ltd.	Jinan Shungeng Sub Branch of Bank of Beijing Co., Ltd.	154,169,500.00
Shandong Panva Gas Co., Ltd.	Xi'an Branch of Kunlun Bank	59,408,000.00



Shandong Panva Gas Co., Ltd.	Huaqiao Yongheng Bank (China) Co., Ltd. Qingdao Branch	163,584,331.99
Shandong Jihua Gangrun Gas Co., Ltd.	Xi'an Branch of Kunlun Bank	118,687,750.00
Shandong Jihua Gangrun Gas Co., Ltd.	China Merchants Bank Co., Ltd.	8,943,633.46
Jinan Pipeline Gas Company	China Construction Bank Corporation	40,233,009.55
Jinan Thermal Co., Ltd.	Shandong Branch of Bank of Communications Co., Ltd.	85,500,000.00
Jinan Energy Construction Development Group Co., Ltd.	The French development agency	146,509,548.85
Total		1,092,961,943.93

(3)Mortgaged borrowings

Loan unit	Loan banks or other financial institutions	Borrowing balance	Pledge
Jinan Energy Construction Development Group Co., Ltd.	China Everbright Bank Company Limited	1,792,359.62	Equipment
Shandong Hetong Information Technology Co., Ltd.	Jinan Rural Commercial Bank Co., Ltd. Gaoxin Sub-branch	6,300,000.00	Land use right (Lu 2022) Jinan City Real estate Right No.0035178
		8,092,359.62	

(4)Guaranteed borrowings

Loan unit	Loan banks or other financial institutions	Borrowing balance	Guarantee
This company	China Development Bank Corporation	1,000,000,000.00	Jinan Thermoelectricity Co., Ltd
Jinan Thermal Co., Ltd.	The French development agency	136,085,218.63	Shandong Provincial Finance Department
Jinan Thermal Co., Ltd.	Industrial and Commercial Bank of China Limited	15,617,700.00	Jinan Thermoelectricity Co., Ltd.
Jinan Thermal Co., Ltd.	Asian development bank	592,924,690.18	Shandong Provincial Finance Department
Jinan Hesheng Thermal Power Co., Ltd.	Industrial and Commercial Bank of China Limited Zhangqiu Sub-branch	241,170,526.32	Jinan Energy Investment Holding Group Co., Ltd.
Shandong Hetong Information Technology Co., Ltd.	Bank of China Limited	8,500,000.00	Jinan Energy Investment Holding Group Co., Ltd.
Jinan Energy and Environmental Protection Technology Co., Ltd.	Jinan Branch of China CITIC Bank Co., Ltd.	176,280,000.00	Jinan Energy Investment Holding Group Co., Ltd.



Jinan Energy and Environmental Protection Technology Co., Ltd.	China Development Bank Corporation	93,000,000.00	Jinan Energy Investment Holding Group Co., Ltd.
Jinan Hesheng Thermal Power Co., Ltd.	Huaxia Bank Co., Ltd., Jinan Huaiyin Sub-branch	112,870,529.48	Jinan Thermoelectricity Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	European Investment Bank	174,476,136.02	Jinan Finance Bureau
Jinan Thermoelectricity Co., Ltd.	Bank of China Corporation Limited, Jinan Changqing Sub-branch	1,081,757.50	Jinan Thermal Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	Industrial and Commercial Bank of China Limited Jinan China Sub-branch	473,625,028.60	Jinan Thermal Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	China Merchants Bank Co., Ltd., Jinan Branch Business Department	65,323,246.35	Jinan Thermal Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	Huaxia Bank Co., Ltd., Jinan Huaiyin Sub-branch	48,653,163.24	Jinan Thermal Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	Qilu Bank, Jinan Jianshe Road Sub-branch	3,290,687.44	Jinan Thermal Co., Ltd.
Shandong Jixuan Energy Co., Ltd.	Bank of Communications Shandong Branch Business Department	24,835,350.36	Jinan Thermal Co., Ltd.
Total		3,167,734,034.12	

(5) Pledged borrowings

Loan unit	Loan banks or other financial institutions	Borrowing balance	Pledge
Jinan Energy Construction Development Group Co., Ltd.	Jinan Licheng Sub Branch of Bank of Communications Co., Ltd.	19,601,780.12	Heating energy station revenue right
Total		19,601,780.12	

34. Bonds payable

Items	Closing balance	Issuing date	Maturity	Amount outstanding
Principal of the first phase of the 2022 medium-term notes of Jinan Energy Group Co., LTD	800,000,000.00	2022/3/21	5 years	800,000,000.00
Total	800,000,000.00			800,000,000.00

35. Lease liabilities

Items	Closing balance	Opening balance
Lease liabilities	95,537,569.49	85,340,043.48



Leasing liabilities do not recognized financing fees	-8,054,693.29	-14,596,742.67
Total	87,482,876.20	70,743,300.81

### 36. Long-term payables

#### (1) Details

Items	Closing balance	Opening balance
Long-term payables	4,461,539,718.94	3,176,013,647.74
Special payables	1,108,916,925.12	1,763,199,206.09
Total	5,570,456,644.06	4,939,212,853.83

#### (2) Long-term payables

Items	Closing balance	Opening balance
To manage the cost of Chinese personnel placement	6,325,369.36	6,421,517.16
Bank of Communications Financial Leasing Co., Ltd.	116,786,940.35	188,149,898.54
Industrial Financial Leasing Co., Ltd	500,000,000.00	
Shanghai Xinhua Financial Leasing Co., LTD	42,000,000.00	
Zhuojin (China) Finance Leasing Co., Ltd	56,000,000.00	
Jinan Finance Bureau	3,315,000,000.00	2,309,000,000.00
Pudong Financial Leasing Co., Ltd.	393,632,242.71	424,113,000.00
Haier Financial Leasing Co. Ltd.		26,254,598.96
Guoying Financial Leasing (Shenzhen) Co., Ltd. Shandong branch	1,377,710.04	9,053,233.08
Zhongli International Leasing Co. Ltd.	1,417,456.48	4,021,400.00
China Clean Development Mechanism Fund Management Center (Government-Private Capital Cooperation Center, Ministry of Finance)	29,000,000.00	29,000,000.00
Jinan City Investment Group Co. LTD		180,000,000.00
Total	4,461,539,718.94	3,176,013,647.74

#### (3) Special payables

Items	Opening balance	Increase	Decrease	Closing balance
Supporting construction cost	1,485,819,078.32	982,276,588.09	1,540,267,749.13	927,827,917.28
Environmental protection and energy saving	1,081,537.00		1,081,537.00	
Existing residential energy-saving renovation projects	22,668,582.93		22,668,582.93	
Three supply and one industry project	391,000.00		391,000.00	
Self-management station maintenance and transformation project	22,600,000.00		22,600,000.00	
The Central Business District project	10,000,000.00			10,000,000.00



Items	Opening balance	Increase	Decrease	Closing balance
Special funds for heating projects in southwest area	50,000,000.00		50,000,000.00	
Municipal special funds for haze and pollution control budget indicators	5,962,100.00			5,962,100.00
Jinan West District Construction and Investment Co., LTD. (supporting fee)	154,000,000.00			154,000,000.00
Western heat source coal-water slurry boiler waste heat recovery subsidies		10,000,000.00		10,000,000.00
Jiaomiao LNG gas storage base	9,550,000.00		9,550,000.00	
Others	1,126,907.84			1,126,907.84
Subtotal	1,763,199,206.09	992,276,588.09	1,646,558,869.06	1,108,916,925.12

### 37. Provisions

Items	Closing balance	Opening balance
Product quality security deposit	4,642,783.25	
Total	4,642,783.25	

### 38. Deferred income

#### (1) Details

Items	Opening balance	Increase	Decrease	Closing balance
Public subsidy	826,777,275.83	264,944,981.75	57,252,849.75	1,034,469,407.83
Total	826,777,275.83	264,944,981.75	57,252,849.75	1,034,469,407.83

#### (2) Details of government subsidies

Items	Opening balance	Increase	Amount included into profit or loss/offsetting relevant cost	Decrease	Closing balance	Related to assets/income
The supporting renovation project of heating function transfer of Jinan dormitory area	193,891,790.57		6,732,353.84		187,159,436.73	Related to assets
Existing residential building skills renovation project	1,218,000.00	22,668,582.93			23,886,582.93	Related to assets
Three supply and one industry	129,287,303.07	-238,794.87	4,468,149.29		124,580,358.91	Related to assets
Self-management station maintenance and transformation project	133,025,333.33	168,922,000.00	16,450,733.34		285,496,599.99	Related to assets
Project of A4 and A5 plots of Ping An Central Business District	6,024,266.04				6,024,266.04	Related to assets



Environmental protection and energy conservation projects		1,081,537.00			1,081,537.00	Related to assets
Distributed photovoltaic power generation project	453,334.03		56,666.67		396,667.36	Related to assets
Shandong University (Xinglongshan) boiler elimination project	420,000.00		60,000.00		360,000.00	Related to assets
Shandong University (Xinglong Mountain) Air pollution prevention and control project	4,200,000.00		600,000.00		3,600,000.00	Related to assets
Shandong University (Xinglong Mountain) Environmental Protection project	2,100,000.00		300,000.00		1,800,000.00	Related to assets
Water purification project two plant environmental protection project	8,890,000.00		1,270,000.00		7,620,000.00	Related to assets
Sewage source heat pump heating project	15,760,000.00				15,760,000.00	Related to assets
Shandong University Mountain (Baotu Spring, Qianfoshan) gas boiler low nitrogen transformation project	4,672,000.00		584,000.00		4,088,000.00	Related to assets
Municipal Public Utilities Bureau charging station (pile) project	9,000,000.00				9,000,000.00	Related to assets
NanCaofan LNG peak storage and distribution station project	121,850,000.00				121,850,000.00	Related to assets
Water pollution prevention and control project	12,035,400.00				12,035,400.00	Related to assets
Boiler flue gas renovation project	4,257,600.16		266,100.00		3,991,500.16	Related to assets
Ultra-low emission projects	675,742.50		42,455.04		633,287.46	Related to assets
Cao Fan project government special loan interest discount interest		1,512,075.19			1,512,075.19	Related to assets
Pilot project for clean heating in winter	19,730,122.25		2,848,421.41		16,881,700.84	Related to assets
Hot spring Garden project of High-tech Zone (supporting return)	5,996,982.32		186,988.18		5,809,994.14	Related to assets
2019-2020 heating season centralized gas for coal power for coal project	5,000,000.00				5,000,000.00	Related to assets



Shanghe County existing building energy-saving renovation project	20,813,535.00		1,040,676.72		19,772,858.28	Related to assets
Shanghe heat source plant internal gas boiler construction project	34,212,653.00				34,212,653.00	Related to assets
Shanghe County urban heating pipe network construction project	9,000,000.00				9,000,000.00	Related to assets
Shanghe old residential area heating facilities renovation project	24,000,000.00				24,000,000.00	Related to assets
Yinfeng Kindergarten heating project	186,140.16		10,341.12		175,799.04	Related to assets
West district sewage and other projects		49,844,737.76	3,332,988.63		46,511,749.13	Related to assets
Special funds for promoting ecological progress are derived from the central government budget	3,818,594.81				3,818,594.81	Related to assets
Renovation of coal-fired boilers in the built-up areas	9,375,000.24		889,999.92		8,485,000.32	Related to assets
Enterprise development and transformation project	29,500,000.00		5,042,000.00		24,458,000.00	Related to income
Liquefied gas storage tank plant relocation project	7,991,633.46		1,295,692.83		6,695,940.63	Related to income
Intelligent service robot research and development and industrialization project		8,126,768.32	920,247.42		7,206,520.90	Related to income
Research project of intelligent information system for multiple languages		15,079.42	0.18		15,079.24	Related to income
Research on anti-noise speech recognition technology and its application to intelligent terminal		390,591.03	134,494.44		256,096.59	Related to income
131 Talent project		23,975.38	2,639.55		21,335.83	Related to income
Big data intelligent technology and its application in equipment cloud manufacturing demonstration		9,272,000.00			9,272,000.00	Related to income
Active health big data to support the cloud platform research and development		412,000.00			412,000.00	Related to income



Reserve talent subsidy fund		84,000.00			84,000.00	Related to income
Demonstration project and industrial application of hospital intelligent service construction based on non-inductive medical treatment		1,000,000.00			1,000,000.00	Related to income
Early screening and visualization of lung tumors based on imaging omics		300,000.00			300,000.00	Related to income
Technical subsidies		565,333.77	445,333.49		120,000.28	Related to income
Heating subsidies	9,125,000.00		9,125,000.00			Related to income
Stable post subsidies	266,844.89	965,095.82	1,147,567.68		84,373.03	Related to income
<b>Total</b>	<b>826,777,275.83</b>	<b>264,944,981.75</b>	<b>57,252,849.75</b>		<b>1,034,469,407.83</b>	

### 39. Share capital

#### (1) Details

Name of investor	Opening balance	Increase	Decrease	Closing balance
The State-owned Assets Supervision and Administration Commission of the Jinan Municipal People's Government	8,007,254,363.83	12,000,000.00		8,019,254,363.83
<b>Total</b>	<b>8,007,254,363.83</b>	<b>12,000,000.00</b>		<b>8,019,254,363.83</b>

#### (2) Other instructions

The State-owned Assets Supervision and Administration Commission of Jinan Municipal People's Government invested 12.00 million yuan to Jinan Energy Group Co., Ltd., in the form of special fund for the integration of heating and gas supply-HERP project.

### 40. Capital reserves

#### (1) Details

Items	Opening balance	Increase	Decrease	Closing balance
Other capital reserve	3,736,981,623.22	1,854,032,893.69		5,591,014,516.91
<b>Total</b>	<b>3,736,981,623.22</b>	<b>1,854,032,893.69</b>		<b>5,591,014,516.91</b>

#### (2) Other instructions

The increase of capital reserve in this period is mainly due to the pipe network construction matching fee returned by the government.



41. Special reserve

Items	Opening balance	Increase	Decrease	Closing balance
Work safety fund	4,903,893.66	57,910,444.96	45,321,634.05	17,492,704.57
Total	4,903,893.66	57,910,444.96	45,321,634.05	17,492,704.57

42. Undistributed profit

(1) Details

Items	Current period cumulative	Preceding period comparative
Balance before adjustment at the end of preceding period	-604,242,572.61	-244,479,773.60
Add: Increase due to adjustment (or less: decrease)	158,000,270.13	115,533,126.99
Opening balance after adjustment	-446,242,302.48	-128,946,646.61
Add: Net profit attributable to owners of the parent company	-411,532,283.44	-314,244,463.67
Others	-3,440,308.14	-3,051,192.20
Closing balance	-861,214,894.06	-446,242,302.48

(2) Details of increase or decrease due to adjustment

Due to the important early error correction, the impact on the undistributed profit at the beginning of the period is 158,000,270.13 yuan. See note 11(1) Early error correction for details.

(II) Notes to items of the consolidated income statement

1. Operating revenue/Operating cost

(1) Details

Items	Current period cumulative		Preceding period comparative	
	Revenue	Cost	Revenue	Cost
Main operations	11,096,209,635.22	11,513,287,708.84	9,918,905,503.34	10,388,945,910.77
Other operations	1,170,462,367.67	872,982,500.06	767,210,358.20	578,924,891.15
Total	12,266,672,002.89	12,386,270,208.90	10,686,115,861.54	10,967,870,801.92

(2) Breakdown of revenue

Items	Current period cumulative	Preceding period comparative
Heating sector business	4,143,874,634.68	3,941,528,649.88
Business related to gas supply sector	2,880,449,454.26	2,436,981,951.30
Engineering related business	4,071,885,546.28	3,540,394,902.16
Subtotal	11,096,209,635.22	9,918,905,503.34

(3) Breakdown of cost



Items	Current period cumulative	Preceding period comparative
Heating sector business	5,897,920,803.25	5,201,992,098.46
Business related to gas supply sector	2,832,388,987.86	2,225,650,536.29
Engineering related business	2,782,977,917.73	2,961,303,276.02
Subtotal	11,513,287,708.84	10,388,945,910.77

## 2. Taxes and surcharges

Items	Current period cumulative	Preceding period comparative
Urban maintenance and construction tax	3,958,178.98	2,222,079.47
Education surcharge	2,903,412.90	1,558,170.69
Environmental protection tax	2,941,442.30	2,869,622.40
Stamp duty	11,656,364.05	8,335,704.05
Housing property tax	16,713,779.26	9,856,185.55
Land use tax	14,613,496.91	10,835,092.81
Vehicle and vessel use tax	451,709.55	309,209.00
Others	578,766.89	192,895.79
Total	53,817,150.84	36,178,959.76

## 3. Selling expenses

Items	Current period cumulative	Preceding period comparative
Staff salaries	271,907,853.76	202,819,091.34
Office expenses	4,352,209.30	3,918,034.00
Depreciation and amortization	25,610,882.77	11,782,025.78
Repair charges	60,839,905.00	53,582,219.33
Vehicle fee	3,658,776.87	2,192,293.86
Advertising cost	1,392,181.78	2,699,838.89
Technical service fee	11,083,941.31	1,209,091.45
Others	37,158,050.66	31,525,748.21
Total	416,003,801.45	309,728,342.86

## 4. Administrative expenses

Items	Current period cumulative	Preceding period comparative
Staff salaries	806,028,435.79	578,341,109.70
Office expenses	20,574,090.10	16,059,691.50
Depreciation and amortization	149,775,946.55	95,447,574.29



Items	Current period cumulative	Preceding period comparative
Repair charges	24,746,846.01	25,127,196.76
Hire the intermediary agency fee	51,239,848.50	29,245,286.57
Vehicle fee	10,546,186.46	9,834,427.70
Publicity fee and enterprise culture construction	6,306,043.22	7,525,993.64
Technical service fee	25,805,772.71	21,212,345.97
Others	104,846,565.44	87,691,457.61
Total	1,199,869,734.78	870,485,083.74

#### 5. R&D expenses

Items	Current period cumulative	Preceding period comparative
Staff salaries	58,844,159.39	17,686,753.97
Depreciation cost	5,808,438.46	135,044.56
Direct input cost	2,302,436.02	4,275,862.86
Others	7,961,798.18	3,765,652.10
Total	74,916,832.05	25,863,313.49

#### 6. Financial expenses

Items	Current period cumulative	Preceding period comparative
Interest expenses	367,845,497.03	198,411,727.97
Minus: interest income	129,993,816.70	109,965,942.54
Net exchange loss	12,823,276.65	-51,418,152.58
Service charges	36,955,686.05	41,087,420.52
Others	622,194.94	10,852,921.61
Total	288,252,837.97	88,967,974.98

#### 7. Other income

##### (1) Details

Items	Current period cumulative	Preceding period comparative
Government grants related to assets	39,139,874.16	40,822,165.03
Government grants related to income	1,601,002,263.60	1,430,761,732.06
Debt restructuring earnings	115,611.24	
Total	1,640,257,749.00	1,471,583,897.09

##### (2) Details of government subsidies related to assets

Items	Current period cumulative	Preceding period comparative
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Items	Current period cumulative	Preceding period comparative
Maintenance and transformation of the self-management station	16,450,733.34	2,254,666.67
The supporting renovation project of heating function transfer in the dormitory area of Jinan Steel Group	6,732,353.84	
Three supply and one industry project	4,468,149.29	13,465,795.60
Subsidies for winter clean heating pilot projects	2,848,421.41	10,244,931.08
Water purification project two plant environmental protection project	1,270,000.00	
Shanghe County renovated existing buildings in 2018	1,040,676.72	
Subsidies for the renovation of coal-fired boilers	889,999.92	370,908.13
Shandong University (Xinglong Mountain) Air pollution prevention and control project	600,000.00	
Shandong University Mountain (Baotu Spring, Qianfoshan) gas boiler low nitrogen transformation project	584,000.00	
Shandong University (Xinglong Mountain) Environmental Protection project	300,000.00	
Boiler flue gas renovation project	266,100.00	
High-tech zone hot spring garden project large supporting facilities return	186,988.18	
Shandong University (Xinglongshan) boiler elimination project	60,000.00	
Photovoltaic project	56,666.67	56,666.66
Ultra-low emission projects	42,455.04	
Heating subsidy for Yinfeng Kindergarten project	10,341.12	
Gas project		12,000,000.00
Heating project		2,429,196.89
West district sewage and other projects	3,332,988.63	
Total	39,139,874.16	40,822,165.03

(3) Details of government subsidies related to revenue

Items	Current period cumulative	Preceding period comparative
Policy-based loss subsidies	1,540,477,902.36	944,646,239.34
Stable post subsidies	4,820,690.97	774,524.94
The VAT is refunded immediately	18,501,514.32	4,695,886.78
Clean heating subsidies	12,017,546.00	
Support special funds	1,673,587.38	
Individual income tax handling fee refund	277,804.27	
Heating subsidies	11,125,000.00	235,885,683.33
Industrial policy award and subsidy bonus	1,182,632.88	



Items	Current period cumulative	Preceding period comparative
Ma hillside workers resettlement subsidies	1,295,692.83	1,632,026.92
Enterprise development and transformation subsidies	5,042,000.00	3,520,000.00
Financial discount interest	684,200.00	1,424,200.00
Technical transformation reward	1,198,000.00	
Two integration subsidies	300,000.00	
Intelligent service robot research and development and industrialization project	920,247.42	
RESEARCH and development subsidy	507,800.00	
Subsidies for the development of public utilities		60,000,000.00
Subsidies for replacing coal with gas and electricity		34,899,836.00
Provincial subsidy funds		40,780,000.00
Demolition compensation		100,000,000.00
Others	977,645.17	2,503,334.75
Total	1,601,002,263.60	1,430,761,732.06

#### 8. Investment income

Items	Current period cumulative	Preceding period comparative
Investment income from long-term equity investments under equity method	38,329,780.22	19,075,279.07
Investment income from disposal of long-term equity investments	2,643,636.99	39,987.58
Dividend income derived from other equity instrument investments during the holding period	386,000.00	
Interest income obtained from the debt investment during the holding period	45,322,306.13	
Total	86,681,723.34	19,115,266.65

#### 9. Changes in the fair value of the earnings

Items	Current period cumulative	Preceding period comparative
Changes in the fair value of other non-current financial assets	8,444,042.06	44,639,266.37
Total	8,444,042.06	44,639,266.37

#### 10. Credit impairment loss

Items	Current period cumulative	Preceding period comparative
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Items	Current period cumulative	Preceding period comparative
Bad debts	-36,218,230.93	-134,432,848.20
Total	-36,218,230.93	-134,432,848.20

#### 11. Assets impairment loss

Items	Current period cumulative	Preceding period comparative
Inventory write-down loss	-5,382,069.18	3,707,353.13
Impairment losses on contract assets	-926,457.82	
Impairment loss of long-term equity investment		-1,073,516.16
Impairment loss of fixed assets	-151,115.31	
Impairment loss of engineering materials		-818,528.69
Goodwill impairment loss	-69,257,170.06	
Total	-75,716,812.37	1,815,308.28

#### 12. Gains on asset disposal

Items	Current period cumulative	Preceding period comparative
Gains on disposal of fixed assets	444,190.95	-1,646,578.05
Gains on disposal of intangible assets	249,762.69	24,413.58
Gains and losses arising from the exchange of non-monetary assets	338,764.88	
Total	1,032,718.52	-1,622,164.47

#### 13. Non-operating revenue

##### (1) Details

Items	Current period cumulative	Preceding period comparative
Government grants [Note]	969,918.59	9,167,817.00
Default fine revenue	4,230,202.41	824,446.72
Fund with no access to pay	14,963,870.88	17,003,193.59
Gains on the destruction of non-current assets	2,933,941.68	1,298,409.10
Compensation for removal		136,327.75
Others	4,285,232.05	3,963,487.31
Total	27,383,165.61	32,393,681.47

##### (2) Details of government subsidies

Items	Current period cumulative	Preceding period comparative
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Items	Current period cumulative	Preceding period comparative
Special funds for industrial policy in Lixia District		5,809,200.00
Property tax, land use tax reduction	682,070.23	
Enterprise on the regulation of warehousing reward	107,500.00	
Subsidies will be provided on behalf of workers		1,521,000.00
Party organization work funds subsidies	104,200.00	
Others	76,148.36	1,837,617.00
Total	969,918.59	9,167,817.00

#### 14. Non-operating expenditures

Items	Current period cumulative	Preceding period comparative
Losses on damage or retirement of non-current assets	2,046,972.48	15,954,930.80
Epidemic prevention expenditure	2,059,373.58	
Donation expenditures	1,496,923.28	293,161.80
Litigation compensation	1,125,936.33	313,324.19
Default fine expenditure	176,698.32	802,369.82
Overdue fine	77,573.33	1,270.14
Others	1,260,207.90	4,366,793.51
Total	8,243,685.22	21,731,850.26

#### 15. Income tax expenses

Items	Current period cumulative	Preceding period comparative
Current period income tax expenses	90,970,904.71	118,212,443.57
Deferred income tax expenses	8,384,282.07	11,531,020.42
Total	99,355,186.78	129,743,463.99

### (III) Notes to items of the consolidated cash flow statement

#### 1. Supplementary information to the cash flow statement

Supplementary information	Current period cumulative	Preceding period comparative
(1) Reconciliation of net profit to cash flows from operating activities:		
Net profit	-608,193,079.87	-330,961,522.27
Add: Provision for assets impairment	111,935,043.30	132,617,539.92



Supplementary information	Current period cumulative	Preceding period comparative
Depreciation of fixed assets, oil and gas assets, productive biological assets	1,059,901,742.54	1,273,298,305.47
Depreciation of right-of-use assets	29,928,158.70	9,558,751.64
Amortization of intangible assets	46,849,719.93	36,299,325.66
Amortization of long-term prepayments	124,439,073.32	79,411,041.75
Losses on disposal of fixed assets, intangible assets and other long-term assets (Less: gains)	-1,032,718.52	1,622,164.47
Fixed assets retirement loss (Less: gains)	-886,969.20	14,656,521.70
Losses on changes in fair value (Less: gains)	-8,444,042.06	-44,639,266.37
Financial expenses (Less: gains)	380,668,773.68	146,993,575.39
Investment losses (Less: gains)	-86,681,723.34	19,115,266.65
Decrease of deferred tax assets (Less: increase)	6,815,581.76	-20,037,893.61
Increase of deferred tax liabilities (Less: decrease)	1,568,700.31	13,291,245.44
Decrease of inventories (Less: increase)	-845,082,398.54	-660,686,953.77
Decrease of operating receivables (Less: increase)	2,279,591,066.40	-3,546,309,764.68
Increase of operating payables (Less: decrease)	-3,345,219,608.21	3,460,772,856.01
Others	12,544,474.77	-25,002,736.66
Net cash flows from operating activities	-841,298,205.03	559,998,456.74
(2) Significant investing and financing activities not related to cash receipts and payments:		
Conversion of debt into capital		
Convertible bonds due within one year		
Fixed assets leased in under finance leases		
(3) Net changes in cash and cash equivalents:		
Cash at the end of the period	6,888,618,525.72	6,485,702,855.21
Less: Cash at the beginning of the period	6,485,702,855.21	5,836,949,412.05
Add: Cash equivalents at the end of the period		
Less: Cash equivalents at the beginning of the period		
Net increase of cash and cash equivalents	402,915,670.51	648,753,443.16

2. Net cash payments for acquisition of subsidiaries in the current period

Items	Current period cumulative
Cash and cash equivalents paid in the current period as consideration for business combination in the current period	326,280,000.00
Including: Jinan Changqing Thermal Power Co., Ltd.	
Jinan West Zone Sewage Treatment Factory	
Synthesis Electronic Technology Co., Ltd.	326,280,000.00



Items	Current period cumulative
Less: Cash and cash equivalents held by subsidiaries at the acquisition date	364,877,905.62
Including: Jinan Changqing Thermal Power Co., Ltd.	58,022,952.57
Jinan West Zone Sewage Treatment Factory	730,646.94
Synthesis Electronic Technology Co., Ltd.	306,124,306.11
Net cash payments for acquisition of subsidiaries in the current period	-38,597,905.62

Note: The net cash received by the subsidiary is negative in the consolidated cash flow statement in connection with the investment activities.

### 3. Net cash receipts from disposal of subsidiaries in the current period

Items	Current period cumulative
Cash and cash equivalents received in the current period for subsidiary disposal in the current period	200,300.00
Including: Shandong Jihua Derun Gas Co., Ltd.	200,300.00
Less: Cash and cash equivalents held by subsidiaries at the loss-of-control date	1,218,520.20
Including: Shandong Jihua Derun Gas Co., Ltd.	1,218,520.20
Net cash receipts from disposal of subsidiaries in the current period	-1,018,220.20

Note: The net cash received by the disposal subsidiary is negative in the consolidated cash flow statement for other cash payments related to investment activities.

### 4. Composition of cash and cash equivalents

Items	Closing balance	December 31, 2021
1) Cash	6,888,618,525.72	6,485,702,855.21
Including: Cash on hand	61,659.44	48,865.13
Cash in bank on demand for payment	6,877,150,765.12	6,466,262,019.05
Other cash and bank balances on demand for payment	11,406,101.16	19,391,971.03
2) Cash equivalents		
Including: Bond investments maturing within three months		
3) Cash and cash equivalents at the end of the period	6,888,618,525.72	6,485,702,855.21
Including: Cash and cash equivalents of parent company or subsidiaries with use restrictions		

Description of monetary funds not included in cash and cash equivalents:

The monetary funds held by the parent company and the subsidiaries of the group that do not belong to cash and cash equivalents mainly use restricted bank acceptance bills and loans, construction labor deposit, letter of guarantee margin, time deposits that cannot be withdrawn at any time, litigation frozen funds and maintenance funds, etc.

#### (V) Others

##### 1. Assets with title or use right restrictions



Items	Closing carrying amount	Reasons for restrictions
Cash and bank balances	621,008,167.58	<p>1. Jinan Thermal Co., Ltd. and its subsidiaries have a special fund for the project of RMB 32,593.30 yuan, a special account house sale payment and maintenance fund RMB 6,915,532.11 yuan, a banker's acceptance deposit of RMB 101,198,995.40 yuan, a construction labor wage guarantee RMB of 5,479,954.78 yuan, and a letter of guarantee deposit of RMB 396,100.00 yuan.</p> <p>2. Jinan Energy Investment Holding Group Co., Ltd. and its subsidiaries were frozen in litigation of RMB 24,453,999.77 yuan, RMB 29,451,360.66 yuan for bankers' acceptances, RMB 2,102,882.40 yuan for migrant workers, RMB 3,116,754.11 yuan for letter of guarantee, RMB 21,000,000.00 yuan for letters of credit, and RMB 10,000,000.00 yuan for other restricted funds.</p> <p>3. Jinan Heat Power Engineering Company and its subsidiaries have a banker's acceptance deposit of RMB 128,661,520.11 yuan, a house sale and maintenance fund account of RMB 2,721,146.47 yuan, a letter of guarantee of RMB 1,053,213.60 yuan and a reclamation deposit of RMB 1,472,279.49 yuan. Other restricted funds amounted to RMB 6,145,722.27 yuan.</p> <p>4. Jinan Thermoelectricity Co., Ltd. and its subsidiaries a special account house sale payment and maintenance fund RMB 11,546,908.19 yuan, the banker's acceptance deposit was 8,680,000.00 yuan, the guarantee was RMB 3,001,000.00 yuan, the loan deposit was RMB 60,000,000.00 yuan, and the labor guarantee was RMB 1,293,688.26 yuan.</p> <p>5. Shandong Panva Gas Co., Ltd. and its subsidiaries have a banker's acceptance draft of RMB 1,916,220.01yua, a performance bond of RMB 3,903,213.48 yuan and a letter of guarantee of RMB 600,000.00 yuan.</p> <p>6. Jinan Ganghua Gas Co., Ltd. and its subsidiaries could not withdraw at any time with time deposits of RMB 53,407,250.00 yuan, bankers' acceptance deposits of RMB 112,251,178.20 yuan, migrant workers deposits of RMB 1,279,108.92 yuan and performance bonds of RMB 3,926,286.66 yuan.</p> <p>7. Jinan Gas Company sales and maintenance fund account RMB 7,094,855.64 yuan, Jinan Pipeline Gas Company sales and maintenance fund account RMB 7,906,403.75 yuan.</p>
Fixed assets	36,929,164.69	<p>1. Jinan Energy Construction Development Group Co., Ltd. signed a loan contract with Jinan Branch of China Everbright Bank Co., Ltd. on February 4, 2020, and the two parties agreed to use the coal-fired boiler replacement project equipment (three sets of heating energy stations) of Xinglongshan Campus of Shandong University as collateral, with a book value of RMB 21,612,966.07 yuan.</p> <p>2. Jinan Yuquan Biological Power Generation Co., Ltd. used its ownership of the houses and buildings held as collateral to guarantee the loan contract between Jinan Energy and Environmental Protection Technology Co., Ltd. and China Development Bank Shandong Branch, with a</p>



		book value of RMB 15,316,198.62 yuan.
Intangible assets	19,878,270.03	1. Jinan Yuquan Biological Power Generation Co., Ltd. used its land use right as collateral to guarantee the loan contract between Jinan Energy and Environmental Protection Technology Co., Ltd. and China Development Bank Shandong Branch, with a book value of RMB 10,778,220.03 yuan. 2. Shandong Hetong Information Technology Co., Ltd. set up a mortgage on the land use right with the number Lu (2022) Jinan Real Estate No. 0035178, to guarantee the "Fixed Asset Loan Contract" signed with the high-tech branch of Jinan Rural Commercial Bank Co., Ltd., with a book value of RMB 9,100,050.00 yuan.
Patent right		Shandong Hetong Information Technology Co., Ltd. set up a pledge with the list of rights numbered 2022-0533 to guarantee the "Working Capital Revolving Loan Contract" signed with the high-tech branch of Jinan Rural Commercial Bank Co., Ltd.
Heating energy station revenue right		In order to complete the construction of the high-pressure outer ring pipeline project in western Jinan, Jinan Energy Construction Development Group Co., Ltd. and Shandong Branch of Bank of Communications Co., Ltd. signed a loan contract and a mortgage contract, and the two parties agreed that Shandong Branch of Bank of Communications Co., Ltd. would lend 127.58 million yuan to Jinan Energy Construction Development Group Co., Ltd., and Jinan Energy Construction Development Group Co., Ltd. would provide guarantee for the loan with the right to Jinan natural gas high-pressure outer ring pipeline pipeline transmission and distribution operation income.
Heat supply income right		Jinan Changqing Thermal Power Co., Ltd. shall open a "special account for heat supply income rights" at the Jinan Changqing District Branch of Postal Savings Bank of China Co., Ltd. to guarantee the loan contract signed by it with the Jinan Changqing District Branch of Postal Savings Bank of China Co., Ltd. On December 30, 2019, Jinan Hesheng Thermal Power Co., Ltd. signed a loan contract with Zhangqiu Branch of Postal Savings Bank of China. As of December 31, 2022, the balance of borrowings was 20 million yuan. The loan is pledged by the heat supply income right of Jinan Hesheng Thermal Power Co., Ltd.
Total	677,815,602.30	

## 2. Monetary items in foreign currencies

Items	Closing balance in foreign currencies	Exchange rate	RMB equivalent at the end of the period
Cash and bank balances	39,672,983.01	6.9646	276,306,457.47
Including: USD	39,672,983.01	6.9646	276,306,457.47
Short-term borrowings	15,170,000.00	7.4229	112,605,393.00
Including: EUR	15,170,000.00	7.4229	112,605,393.00



Long-term borrowings	155,305,574.70	7.4229	1,152,817,750.44
Including: EUR	155,305,574.70	7.4229	1,152,817,750.44
Bonds payable	100,000,000.00	6.9646	696,460,000.00
Including: USD	100,000,000.00	6.9646	696,460,000.00
Long-term equity investments	48,802,200.00		325,547,701.08
Including: USD	39,120,000.00	6.6607	260,566,584.00
Including: USD	9,682,200.00	6.7114	64,981,117.08

### 3. Government grants

#### (1) Details

##### 1) Government subsidies related to assets

##### Total method

Items	Opening balance	Increase	Amount included into profit or loss/offsetting relevant cost	Closing balance	This period of amortization Report the project
The supporting renovation project of heating function transfer of Jinan dormitory area	193,891,790.57		6,732,353.84	187,159,436.73	Other income
Existing residential building skills renovation project	1,218,000.00	22,668,582.93		23,886,582.93	
Three supply and one industry	129,287,303.07	-238,794.87	4,468,149.29	124,580,358.91	Other income
Self-management station maintenance and transformation project	133,025,333.33	168,922,000.00	16,450,733.34	285,496,599.99	Other income
Project of A4 and A5 plots of Ping An Central Business District	6,024,266.04			6,024,266.04	
Environmental protection and energy conservation projects		1,081,537.00		1,081,537.00	
Distributed photovoltaic power generation project	453,334.03		56,666.67	396,667.36	Other income
Shandong University (Xinglongshan) boiler elimination project	420,000.00		60,000.00	360,000.00	Other income
Shandong University (Xinglong Mountain) Air pollution prevention and control project	4,200,000.00		600,000.00	3,600,000.00	Other income
Shandong University (Xinglong Mountain) Environmental	2,100,000.00		300,000.00	1,800,000.00	Other income



Protection project					
Water purification project two plant environmental protection project	8,890,000.00		1,270,000.00	7,620,000.00	Other income
Sewage source heat pump heating project	15,760,000.00			15,760,000.00	
Shandong University Mountain (Baotu Spring, Qianfoshan) gas boiler low nitrogen transformation project	4,672,000.00		584,000.00	4,088,000.00	Other income
Municipal Public Utilities Bureau charging station (pile) project	9,000,000.00			9,000,000.00	
NanCaofan LNG peak storage and distribution station project	121,850,000.00			121,850,000.00	
Water pollution prevention and control project	12,035,400.00			12,035,400.00	
Boiler flue gas renovation project	4,257,600.16		266,100.00	3,991,500.16	Other income
Ultra-low emission projects	675,742.50		42,455.04	633,287.46	Other income
Cao Fan project government special loan interest discount interest		1,512,075.19		1,512,075.19	
Pilot project for clean heating in winter	19,730,122.25		2,848,421.41	16,881,700.84	Other income
Hot spring Garden project of High-tech Zone (supporting return)	5,996,982.32		186,988.18	5,809,994.14	Other income
2019-2020 heating season centralized gas for coal power for coal project	5,000,000.00			5,000,000.00	
Shanghe County existing building energy-saving renovation project	20,813,535.00		1,040,676.72	19,772,858.28	Other income
Shanghe heat source plant internal gas boiler construction project	34,212,653.00			34,212,653.00	
Shanghe County urban heating pipe network construction project	9,000,000.00			9,000,000.00	
Shanghe old residential area heating facilities renovation project	24,000,000.00			24,000,000.00	
Yinfeng Kindergarten heating	186,140.16		10,341.12	175,799.04	Other income



project					
West district sewage and other projects		49,844,737.76	3,332,988.63	46,511,749.13	Other income
Special funds for promoting ecological progress are derived from the central government budget	3,818,594.81			3,818,594.81	
Renovation of coal-fired boilers in the built-up areas	9,375,000.24		889,999.92	8,485,000.32	Other income
Total	779,893,797.48	243,790,138.01	39,139,874.16	984,544,061.33	Other income

2) Government subsidies related to earnings and used to compensate the company for related costs or losses in the future period

Items	Opening balance	Increase	Amount included into profit or loss/offsetting relevant cost	Decrease	Closing balance	This period of amortization Report the project
Enterprise development and transformation project	29,500,000.00		5,042,000.00		24,458,000.00	Other income
Liquefied gas storage tank plant relocation project	7,991,633.46		1,295,692.83		6,695,940.63	Other income
Intelligent service robot research and development and industrialization project		8,126,768.32	920,247.42		7,206,520.90	Other income
Research project of intelligent information system for multiple languages		15,079.42	0.18		15,079.24	Other income
Research on anti-noise speech recognition technology and its application to intelligent terminal		390,591.03	134,494.44		256,096.59	Other income
131 Talent project		23,975.38	2,639.55		21,335.83	Other income
Big data intelligent technology and its application in equipment cloud manufacturing demonstration		9,272,000.00			9,272,000.00	
Active health big data to support the cloud platform research and development		412,000.00			412,000.00	
Reserve talent subsidy fund		84,000.00			84,000.00	



Demonstration project and industrial application of hospital intelligent service construction based on non-inductive medical treatment		1,000,000.00			1,000,000.00	
Early screening and visualization of lung tumors based on imaging omics		300,000.00			300,000.00	
Technical subsidies		565,333.77	445,333.49		120,000.28	Other income
Stable post subsidies	266,844.89	965,095.82	1,147,567.68		84,373.03	Other income
Heating subsidies	9,125,000.00		9,125,000.00			Other income
<b>Total</b>	<b>46,883,478.35</b>	<b>21,154,843.74</b>	<b>18,112,975.59</b>		<b>49,925,346.50</b>	

3) Government subsidies related to earnings that compensate the company for related costs, expenses or losses that have been incurred

Items	Amount	Presentation	Illustrate
Central heating enterprises in the heating season postpone the municipal financial subsidy funds for heat supply	205,011.00	Other benefits	
Policy loss subsidies	1,540,477,902.36	Other benefits	
Job stabilization subsidy	3,673,123.29	Other benefits	
VAT is levied and refunded	18,501,514.32	Other benefits	
Clean heating subsidies	12,017,546.00	Other benefits	
Support special funds	1,228,253.89	Other benefits	
Individual tax handling fee refund	277,804.27	Other benefits	
Heating subsidies	2,000,000.00	Other benefits	
Industrial Policy Award Supplementary Bonus	1,182,632.88	Other benefits	
Received supplementary funds for diesel truck elimination awards	1,600.00	Other benefits	
Received funds from the High-tech Management Committee to help enterprises bail out policies	50,000.00	Other benefits	
Fiscal discounts	684,200.00	Other benefits	
Green Development Award Fund	200,000.00	Other benefits	
Technological retrofit rewards	1,198,000.00	Other benefits	
Subsidies for the integration of industrialization and industrialization	300,000.00	Other benefits	
2019 provincial science and technology innovation development funds	20,400.00	Other benefits	
R&D subsidies	507,800.00	Other benefits	



Tianjin Postdoctoral Innovation Practice Station Station Subsidy	150,000.00	Other benefits	
Responding to the epidemic to help enterprises bail out funds	100,000.00	Other benefits	
Intelligent industry subsidy in Tianjin Binhai High-tech Industrial Development Zone	100,000.00	Other benefits	
One-time job expansion subsidy	13,500.00	Other benefits	
Receive incentive funds to encourage the innovation and development of enterprises	50,000.00	Non-operating income	
Enterprise up-regulation warehousing incentives	107,500.00	Non-operating income	
Unemployment Dynamics Monitoring Grant	2,400.00	Non-operating income	
Job expansion grant	3,000.00	Non-operating income	
Real estate tax and land use tax exemptions	682,070.23	Non-operating income	
Employment subsidies	20,748.36	Non-operating income	
Subsidies for Party organization work	104,200.00	Non-operating income	
Subtotal	1,583,859,206.60		

(2) The amount of government subsidy included in profit or loss for the current period is RMB 1,641,112,056.35 yuan.

## VI. Changes in the consolidation scope

1. Compared to 2021, In 2022 new scope into the merger company has Jinan West Zone Sewage Treatment Factory, Jinan Changqing Thermal Power Co., Ltd., Jinan Zhongyou New Energy Co., LTD, Jinan High Tech Energy Co., Ltd., Jinan Gangcheng Nenghuan Photovoltaic Co., Ltd., Jinan Shanghe Nenghuan Photovoltaic New Energy Co., Ltd., Jinan Energy Investment and AoXin Energy Development Co., Ltd., Jinan Heyu New Energy Technology Co., Ltd., Beijing Heneng Energy Co., Ltd., Synthesis Electronic Technology Co., Ltd., Shensi Xuhui Medical Information Technology Co., Ltd., Shensi Langfang (Fujian) Information Technology Co., Ltd., Shensi Investment Management (Jinan) Co., Ltd., Jinan Baihu Enterprise Management Consulting Partnership (limited Partnership), Yinnuwei Technology (Tianjin) Co., Ltd., Shensi Computer Vision Technology (Jinan) Co., Ltd., Shensi Computer Vision Technology (Guiyang) Co., Ltd., Shensi Intelligent Technology Co., Ltd., Shandong Shenghong Investment Development Co., Ltd., Shandong Shengtong Economic and Trade Co., Ltd., Shandong Nengtong Construction Engineering Co., Ltd., Shandong Guotong Construction Engineering Co., Ltd., Jinan Dongcheng New Energy Co., Ltd., Jinan Huitong New Energy Co., Ltd., Jinan Smart City Operation Service Co., Ltd., Jineng New Energy (Yuyao) Co., Ltd..

Among, Jinan West Zone Sewage Treatment Factory, Jinan Changqing Thermal Power Co., Ltd. is due to an increase in gratuitous transfers under non-common control. Synthesis Electronic Technology Co., Ltd., Shensi Xuhui Medical Information Technology Co., Ltd., Shensi Langfang (Fujian) Information Technology Co., Ltd., Shensi Investment Management (Jinan) Co., Ltd.,



Jinan Baihu Enterprise Management Consulting Partnership (limited Partnership), Yinnuowei Technology (Tianjin) Co., Ltd., Shensi Computer Vision Technology (Jinan) Co., Ltd., Shensi Computer Vision Technology (Guiyang) Co., Ltd., Shensi Intelligent Technology Co., Ltd. is due to the increase in business combinations under non-common control. Other companies were newly established.

2. Compared with 2021, Shandong Jihua Derun Gas Co., Ltd. will no longer be included in the scope of merger in 2022.

## VII. Scope of business consolidation, consolidated financial statements and interests in other entities

### (I) Subsidiaries included in the scope of consolidation during the reporting period

#### 1. Basic information

Serial number	Name of subsidiary	Level	Main business	Share capital (ten thousand yuan)	Proportion of shareholding (%)
1	Jinan Thermal Co., Ltd.	2	Heating, heating projects	60,000.00	100.00
2	Jinan Herong Trading Co., Ltd.	3	Sales of engineering materials	3,000.00	100.00
3	Jinan Energy Construction Development Group Co., Ltd.	3	Heating engineering, heating, sales of natural gas	15,000.00	100.00
4	Jinan Huaneng Natural Gas Co., Ltd.	4	Sales of natural gas	1,140.00	60.18
5	Shandong Jineng Pipeline Gas Co., Ltd.	3	Heating engineering, heating	1,000.00	50.00
6	Jinan Hemaoy Energy Heating Co., Ltd.	3	Heating business	1,000.00	100.00
7	Jinan Ganghua Gas Energy Co., Ltd.	3	Heating, heating projects	5,000.00	100.00
8	Jinan Baijiang Liquefied Gas Co., Ltd.	3	Sales of natural gas	7,635.00	100.00
9	Jinan Dongsheng Thermal Power Co., Ltd.	3	Heating, heating projects	2,500.00	60.00
10	Shandong Huguang Smart Energy Technology Co., Ltd.	3	management service	3,300.00	100.00
11	Jinan Heshun Sports Culture Development Co., Ltd.	3	Sports and conference services	500.00	100.00
12	Jinan Hetai Heating Co., Ltd.	3	Heating business		100.00
13	Jinan He An Natural Gas Peak Adjustment Storage and Distribution Co., Ltd.	3	Heating business	1,000.00	100.00
14	Jinan Hezhi Thermal Power Co., Ltd.	3	Heating business		100.00
15	Jinan Hekang Thermal Power Co., Ltd.	3	Heating business		100.00
16	Jinan Hezhong Thermal Power Co., Ltd.	3	Heating business		100.00
17	Jinan Heyong Thermal Power Co., Ltd.	3	Heating business		100.00
18	Jinan Heli Thermal Power Co., Ltd.	3	Heating business		100.00
19	Jinan He'an Thermal Power Co., Ltd.	3	Heating business		100.00
20	Jinan Hedao Thermal Power Co., Ltd.	3	Heating business		100.00
21	Jinan Heyi Thermal Power	3	Heating business		100.00



	Co., Ltd.				
22	Jinan Thermolectricity Co., Ltd.	2	Electricity and heat production and supply industry	95,000.00	100.00
23	Jinan Lantian Heat Co., Ltd.	3	Other manufacturing	1,000.00	100.00
24	Jinan Nanjiao Thermolectricity Life Service Centre	3	Civil engineering and construction industry	30.00	100.00
25	Jinan Lantian Thermal Power Property Management Co., Ltd.	3	Wholesale business	3,774.36	100.00
26	Jinan Lantian Engineering Consulting Co., Ltd.	3	Professional and technical services industry	100.00	100.00
27	Jinan Beijiao Thermal Power Factory Multipurpose Utilization Branch Factory	3	Non-metallic mineral products industry	1,480.00	100.00
28	Shandong Jixuan Energy Co., Ltd.	3	Electricity and heat production and supply industry	8,985.50	100.00
29	Anshun Quanan Thermal Power Co., Ltd.	3	Electricity and heat production and supply	325.00	65.00
30	Jinan Xinneng Energy Co., Ltd.	3	Electricity and heat production and supply		100.00
31	Jinan Heren Thermal Power Co., Ltd.	3	Electricity and heat production and supply		100.00
32	Jinan Hexin Thermal Power Co., Ltd.	3	Electricity and heat production and supply		100.00
33	Jinan Heat Power Engineering Company	2	Civil engineering and construction industry	25,000.00	100.00
34	Shandong Taishan Construction Engineering Development Group Co., Ltd.	3	Other construction industry is not listed	10,000.00	51.00
35	Zaozhuang Shengyuan Thermal Power Co., Ltd.	3	Electricity and heat production and supply industry	3,000.00	51.00
36	Jinan Huitong Thermal Company	3	Civil engineering and construction industry	21,606.00	51.16
37	Jinan Thermal Design Institute	3	Professional and technical services industry	3,500.00	100.00
38	Jinan South Suburb Thermolectricity & Heat Engineering Center	3	Civil engineering and construction industry	27,950.00	51.13
39	Qilu Construction Development Group Co., Ltd.	3	Other construction industry is not listed	9,143.00	51.00
40	Jinan Construction Industry Development Center	3	Real estate leasing operation	1,060.00	100.00
41	Jinan Litong Engineering Management Co., Ltd.	3	Engineering management services		100.00
42	Shandong Shenghong Investment Development Co., Ltd.	3	Wholesale and Retail	5,150.00	51.00
43	Shandong Shengtong Economic and Trade Co., Ltd.	3	Wholesale and Retail		100.00
44	Shandong Nengtong Construction Engineering Co., Ltd.	3	Civil engineering and construction industry	26,229.18	100.00
45	Shandong Guotong Construction Engineering Co., Ltd.	3	Architectural decoration, decoration and other construction industries	6,498.11	100.00
46	Jinan Energy Investment Holding Group Co., Ltd.	2	Electricity, heat, gas and water production and supply industries	54,500.00	100.00
47	Shandong Ruiguan Power Heating Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	3,000.00	100.00



48	Shandong Dehe Geothermal Development Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	5,000.00	100.00
49	Shandong Ochsner New Energy Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	2,040.80	51.00
50	Jinan Energy and Environmental Protection Technology Co., Ltd.	3	Scientific research and technology services industry	10,000.00	100.00
51	Jinan Hehong Regional Energy Co., Ltd.	3	Electricity, heat, gas and water production and supply industries		100.00
52	Jinan Hesheng Thermal Power Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	29,093.14	51.56
53	Jinan Shanghe Hengtai Heating Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	21,666.00	70.00
54	Jinan Jiyang Xincheng Heating Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	14,684.73	50.98
55	Jinan Yuquan Biological Power Generation Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	6,000.00	100.00
56	Shandong Jilai New Energy Co., Ltd.	3	Leasing and business services industries	1,000.00	100.00
57	Shandong Hetong Information Technology Co., Ltd.	3	Manufacturing industry	5,529.52	45.61
58	Jinan Queshan Thermal Power Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	3,100.00	100.00
59	Jinan Hefeng Trading Co., Ltd.	3	Wholesale and Retail	1,000.00	100.00
60	Shandong Hecheng Energy Technology Co., Ltd.	3	Scientific research and technology services industry	325.00	51.00
61	Jinan Hegang Energy Co., Ltd.	3	Scientific research and technology services industry	1,360.00	80.00
62	Jinan Helixin Material Co., Ltd.	3	Scientific research and technology services industry	5,000.00	63.42
63	Jinan Herui Operation Management Co., Ltd.	3	Leasing and business services industries	50.00	100.00
64	Shandong Sunshine Power Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	8,000.00	51.00
65	Shandong Heyida Construction Management Co., Ltd.	3	Scientific research and technology services industry	200.00	65.00
66	Jinan West Zone Sewage Treatment Factory	3	Water conservancy, environment and public facilities management industry	300.00	100.00
67	Jinan Changqing Thermal Power Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	2,000.00	100.00
68	Jinan Zhongyou New Energy Co., LTD	3	Electricity, heat, gas and water production and supply industries	195.00	65.00
69	Jinan High Tech Energy Co., Ltd.	3	Electricity, heat, gas and water production and supply industries	6,590.45	100.00
70	Jinan Gangcheng Nenghuan Photovoltaic Co., Ltd.	3	Photovoltaic equipment and components manufacturing	13,280.85	100.00
71	Jinan Shanghe Nenghuan Photovoltaic New Energy Co., Ltd.	3	Photovoltaic equipment and components manufacturing	9,997.71	100.00
72	Jinan Energy Investment and AoXin Energy Development Co., Ltd.	3	Electricity, heat, gas and water production and supply industries		51.00
73	Jinan Heyu New Energy Technology Co., Ltd.	3	Scientific research and technology services industry		51.00
74	Beijing Heneng Energy Co., Ltd.	3	Electricity, heat, gas and water production and supply industries		51.00
75	Synthesis Electronic Technology Co., Ltd.	4	Information transmission, software, and information technology services	19,704.09	11.40



76	Jineng New Energy (Yuyao) Co., Ltd.	4	Electricity, heat, gas and water production and supply industries		100.00
77	Shensi Xuhui Medical Information Technology Co., Ltd.	5	Research and development	3,840.63	11.40
78	Shensi Langfang (Fujian) Information Technology Co., Ltd.	5	Research and development, development, production and manufacturing	1,301.00	7.52
79	Shensi Investment Management (Jinan) Co., Ltd.	5	investment management		11.40
80	Yinnuowei Technology (Tianjin) Co., Ltd.	5	Research and development, development, production and manufacturing	1,000.00	7.55
81	Shensi Computer Vision Technology (Jinan) Co., Ltd.	5	Research and development, sales and service		11.40
82	Shensi Computer Vision Technology (Guiyang) Co., Ltd.	5	Information transmission, software, and information technology services	8.25	11.40
83	Shensi Intelligent Technology Co., Ltd.	5	Software development, production and manufacturing	50.00	11.40
84	Jinan Baihu Enterprise Management Consulting Partnership (limited Partnership)	6	Management Consulting		6.54
85	Jinan Dongcheng New Energy Co., Ltd.	3	Electricity and heat production and supply industry		60.00
86	Shandong Panva Gas Co., Ltd.	2	Sales of natural gas	70,000.00	51.00
87	Jinan Huatong Fuel Gas Engineering Co., Ltd.	3	Gas equipment installation, sales and maintenance	2,659.00	77.59
88	Jinan Zhongyuan Natural Gas Development Co., Ltd.	3	Gas equipment installation, sales and maintenance	1,000.00	64.00
89	Jinan Anxintai Gas Engineering Design Co., Ltd.	3	Gas engineering design	100.00	100.00
90	Jinan Baijiang Gas Co., Ltd.	3	Pipeline natural gas, artificial gas, LPG, CNG, LNG operation	10,000.00	100.00
91	Shandong Jihua Gangrun Gas Co., Ltd.	3	Gas production and supply	24,360.00	78.82
92	Jinan Huamo Thermal Power Energy Co., Ltd.	3	Heating project construction and operation	1,000.00	51.00
93	Shandong Jihua Runchang Gas Co., Ltd.	3	Construction, development and operation of pipeline fuel gas	10,600.00	60.00
94	Shandong Jihua Comfortable Home Technology Service Co., Ltd.	3	Technology services	500.00	100.00
95	Shandong Jihua City Service Co., Ltd.	3	Property management	100.00	100.00
96	Jinan Ganghua Gas Co., Ltd.	2	Sales of natural gas	70,000.00	51.00
97	Jinan Ganghua Antong Gas Co., Ltd.	3	Gas supply	2,518.00	100.00
98	Jinan Pipeline Coal Gas Installation Engineering Office	3	Engineering construction	2,197.72	100.00
99	Jinan Ganghua Wantong Gas Engineering Design Co., Ltd.	3	Engineering design	301.10	100.00
100	Jinan Ganghua Quantong Transport Co., Ltd.	3	Gas management	1,510.00	100.00
101	Shandong Ganghua Jicheng Energy Service Co., Ltd.	3	Operation service	1,000.00	51.00



102	Jinan Ganghua Quantong Binhe Natural Gas Co., Ltd.	3	CNG sell	800.00	51.00
103	Shandong Yitong Engineering Technology Service Co., Ltd.	3	Technical consulting services	301.00	100.00
104	Jinan Ganghua Pingan Tong New Energy Technology Co., Ltd.	3	Installation and sale of fuel-gas combustion appliances	500.00	100.00
105	Jinan Huitong New Energy Co., Ltd.	3	Research and development of emerging energy technologies		26.01
106	Jinan Waire Jinji Heating Co., Ltd.	2	Design of gas, heat supply and power supply projects	5,000.00	51.00
107	Jinan Gas Company	2	Maintenance of gas equipment	2,621.74	100.00
108	Jinan Pipeline Gas Company	2	Gas supply	7,290.00	100.00
109	Jinan Municipal Guangming Street Lamps Engineering Division	2	Urban and road lighting works and maintenance	2,100.00	100.00
110	Guoneng Environmental Protection Investment Group Co., Limited	2		66.18	100.00
111	Jinan Smart City Operation Service Co., Ltd.	2			100.00

Note: Jinan Hezhi Thermal Power Co., Ltd., Jinan Hekang Thermal Power Co., Ltd., Jinan Hezhong Thermal Power Co., Ltd., Jinan Heyong Thermal Power Co., Ltd., Jinan Heli Thermal Power Co., Ltd., Jinan He'an Thermal Power Co., Ltd., Jinan Hedao Thermal Power Co., Ltd., Jinan Heyi Thermal Power Co., Ltd., Jinan Litong Engineering Management Co., Ltd., Jinan Xinneng Energy Co., Ltd., Jinan Heren Thermal Power Co., Ltd., Jinan Hexin Thermal Power Co., Ltd. Jinan Energy Investment and AoXin Energy Development Co., Ltd., Jinan Heyu New Energy Technology Co., Ltd., Jineng New Energy (Yuyao) Co., Ltd., Beijing Heneng Energy Co., Ltd., Shensi Investment Management (Jinan) Co., Ltd., Shensi Investment Management (Jinan) Co., Ltd., Jinan Baihu Enterprise Management Consulting Partnership (limited Partnership), Jinan Dongcheng New Energy Co., Ltd., Jinan Huitong New Energy Co., Ltd. and Jinan Smart City Operation Service Co., Ltd. has not yet actually operated

## 2. Other instructions

### 1) Note that the shareholding ratio in the subsidiary is different from the voting right ratio

When calculating the proportion of the equity of the subsidiary directly controlled by the Company, it is calculated according to the proportion of the subsidiary equity directly held by the Company multiplied by the proportion of the subsidiary equity controlled by the directly controlled subsidiary.

### 2) The basis for holding half or less of the voting rights but still controlling the invested entity

On April 22, 2022, Synthesis Electronic Technology Co., Ltd., the controlling shareholder of Shandong Shensi Technology Investment Co., Ltd. and Jinan Energy and Environmental Protection Technology Co., Ltd. Signed the share transfer agreement, Jinan Energy and Environmental Protection Technology Co., Ltd. Transfer Shandong Shensi Technology Investment Co., Ltd., held by Synthesis Electronic Technology Co., Ltd., 22,455,912.00 shares, accounting for 11.40% of the total equity. On the same day, Shandong Shensi Technology Investment Co., Ltd. and Jinan Energy and Environmental Protection Technology Co., Ltd. Signed the voting commission agreement, Shandong Shensi Technology Investment Co., Ltd. Will its Synthesis



Electronic Technology Co., Ltd. 10,252,872.00 shares (5.20% of the total equity) the corresponding voting rights to Jinan Energy and Environmental Protection Technology Co., Ltd. After the completion of share transfer and voting rights, Jinan Energy and Environmental Protection Technology Co., Ltd. will hold 16.60% of the voting rights of the shares of Synthesis Electronic Technology Co., Ltd., and the voting rights held by Shandong Shensi Technology Investment Co., Ltd. will be reduced to 11.22%, and Jinan Energy and Environmental Protection Technology Co., Ltd. will become the controlling shareholder of the company.

On June 24, 2022, Shenzhen Stock Exchange issued the confirmation of share transfer for the above share transfer. According to the confirmation of share transfer registration issued by China Securities Registration and Clearing Corporation Limited on July 8, 2022, the registration of share transfer has been completed. By July 2022, the share purchase price of RMB 326,280,000.00 has been paid. Jinan Energy and Environmental Protection Technology Co., Ltd. has achieved actual control over Synthesis Electronic Technology Co., Ltd. since July, and has been included in the scope of merger since July.

(II) rights and interests in Joint ventures and associates of the Company

See notes to the financial statement v. (11) Item notes of the consolidated balance sheet 11. (2) Details of investment in associated enterprises.

#### VIII. Related party relationships and transactions

(I) Related party relationships

Related parties	Relationships with the Company
Shandong Lugang Natural Gas Co., Ltd.	Associates
Shandong Greenland Huabao Thermal Power Energy Co., Ltd.	Associates
Shandong Jihua Sanquan Project Management Co., Ltd.	Associates
Shandong Languangneng Gas Co., Ltd.	Associates

(II) Transactions of related parties

1. Purchase of goods

Related parties	Current period cumulative
Shandong Lugang Natural Gas Co., Ltd.	10,331,911.53
Shandong Jihua Sanquan Project Management Co., Ltd.	245,504.15
Subtotal	10,577,415.68

2. Selling the goods

Related parties	Current period cumulative
Shandong Greenland Huabao Thermal Power Energy Co., Ltd.	16,135,075.86
Subtotal	16,135,075.86

3. Accounts receivable and payable payable by related parties

(1) Payment receivable from related parties

Capital of Account	Related parties	Closing balance
--------------------	-----------------	-----------------



		Book balance	Provision for impairment
Advances paid	Shandong Lugang Natural Gas Co., Ltd.	83,037.35	
Subtotal		83,037.35	
Other receivables	Shandong Jihua Sanquan Project Management Co., Ltd.	44,017.72	
Other receivables	Shandong Languangneng Gas Co., Ltd.	3,583,294.73	
Subtotal		3,627,312.45	

(2) Payment payable to related parties

Capital of Account	Related parties	Closing balance
Accounts payable	Shandong Jihua Sanquan Project Management Co., Ltd.	259,234.70
Subtotal		259,234.70
Contract liabilities	Shandong Greenland Huabao Thermal Power Energy Co., Ltd.	999,429.75
Subtotal		999,429.75

4. Accept labor services

Related parties	Closing balance
Shandong Jihua Sanquan Project Management Co., Ltd.	245,504.15
Subtotal	245,504.15

5. Rental situation

Related parties	Closing balance
Shandong Jihua Sanquan Project Management Co., Ltd.	44,313.47
Subtotal	44,313.47

6. Lending of funds

Related parties	Opening balance	Increase	Decrease	Closing balance
Shandong Languangneng Gas Co., Ltd.	3,583,294.73			3,583,294.73
Subtotal	3,583,294.73			3,583,294.73

**IX. Commitments and contingencies**

(I) Significant commitments

As of the balance sheet date, the Company has no material commitments that need to be disclosed.

(II) Contingencies

1. Contingent liabilities incurred by providing debt guarantees for other entities and the financial effect

Guarantee matters provided by Jinan Yuquan Biological Power Generation Co., Ltd. for non-related parties.



Sponsored Parties	Financial institutions granting borrowings	Amount guaranteed (ten thousand yuan)	Maturity date
Qingdao Qiquan Biomass Power Generation Co., Ltd.	Industrial and Commercial Bank of China Limited, Laixi Sub-branch	11,000.00	2026/11/20
Total		11,000.00	

On May 2, 2017, the Laixi Branch of Industrial and Commercial Bank of China Co., Ltd. signed a fixed asset loan contract with Qingdao Qiquan Biomass Power Generation Co., Ltd., with a loan amount of 110.00 million yuan and a loan period of 10 years.

The loan is guaranteed by Jinan Qiquan Thermal Power Co., Ltd., Jinan Yuquan Biological Power Generation Co., Ltd., Shandong Yuncheng Qiquan Biological Power Generation Co., Ltd., Guizhou Jinqian Mass Power Generation Co., Ltd., Dong Jingbo, Dong Tongxi, Guo Ruizhong, Ma Wende and Jiao Peixun, and provides mortgage guarantee for the land use right and steam turbine, boiler, generator and other equipment under the name of Qingdao Qiquan Biomass Power Generation Co., Ltd. located in Wangcheng Street, Laixi City. Provide pledge guarantee for the existing and future renewable energy power generation subsidies of Qingdao Qiquan Biomass Power Generation Co., Ltd., the existing and future electricity receivables, and the electricity receivables that will be incurred under the future electricity purchase and sale contract signed with the State Grid Shandong Electric Power Company Qingdao Power Supply Company. Qingdao Qiquan Biomass Power Generation Co., Ltd. only repaid 44.00 million yuan in installment repayment plan stipulated in the loan contract, and after November 20, 2021, Qingdao Qiquan Biomass Power Generation Co., Ltd. did not repay the loan in accordance with the agreed repayment plan, and as of August 25, 2022, it owed 66.00 million yuan in loan principal and 843,040.00 yuan in interest, which constitutes a breach of contract. The Laixi branch of Industrial and Commercial Bank of China Co., Ltd. defended its legitimate rights and interests and sued the Laixi Municipal People's Court of Shandong Province.

Laixi Municipal People's Court of Shandong Province after review, make a ruling: freeze Qingdao Qiquan Biomass Power Generation Co., Ltd., Jinan Qiquan Thermal Power Co., Ltd., Jinan Yuquan Biological Power Generation Co., Ltd., Shandong Yuncheng Qiquan Biological Power Generation Co., Ltd., Guizhou Jinqian Mass Power Generation Co., Ltd., Dong Jingbo, Dong Tongxi, Guo Ruizhong, Ma Wende and Jiao Penxun bank deposit 68.0000 million yuan or seizure of the property of the same value. Jinan Yuquan Biological Power Generation Co., Ltd. was frozen bank deposits of 5,436,500 yuan.

#### **X. Matters after the balance sheet date**

As of the date of approval of the financial report, the Company has no material non-adjustment matters in the balance sheet date that need to be disclosed.

#### **Xi. Other matters**

(I) Correction of early accounting errors



Contents of accounting error correction	processing program	Names of financial statement items affected in each comparison period	Cumulative impact
Adjust the employee remuneration accrued across the period	In this period, the error was corrected by retrospective restatement method.	Employee benefits payable	32,506,605.73
		Operating cost	808,095.41
		Selling expenses	149,513.45
		Administrative expenses	479,676.10
		Undistributed profit	-32,506,605.73
Adjust cross period revenue and cost matters		Accounts receivable	3,797,693.88
		Other current assets	64,610,011.86
		Accounts payable	15,551,844.77
		Operating revenue	3,423,945.30
		Operating cost	15,100,411.31
		Undistributed profit	52,855,860.97
		According to the relevant documents and the unified accounting policy of Jinan Energy Group Co., Ltd., the large matching fee charged is transferred to the capital reserve accounting	Long-term payables
Deferred income			6,238,575.78
Capital reserve			191,958,513.46
Other income			-18,476,359.10
Net profit attributable to non-controlling shareholders	-6,746,552.69		
Undistributed profit	-70,279,887.43		
Minority equity	80,877,039.05		
The repeated account holding part of the estimated accounts payable in previous years will be reversed	Accounts payable	-129,739,563.65	
	Undistributed profit	129,739,563.65	
Adjust the difference between the settlement and payment of enterprise income tax and the provision of income tax	Other current assets	302.16	
	Taxes and surcharges payable	5,581,124.80	
	Income tax	5,580,822.64	
	Net profit attributable to non-controlling shareholders	-2,533,643.63	



	Undistributed profit	-3,047,179.01
	Minority equity	-2,533,643.63
Adjust and confirm the gains and losses from changes in fair value of fund investment and temporary differences in income tax	Other non-current financial assets	44,639,266.37
	Gains on changes in fair value	44,639,266.37
	Income tax	11,159,816.59
	Deferred tax liabilities	11,159,816.59
	Undistributed profit	33,479,449.78
	Accounts receivable	28,620,035.27
	Adjust the electricity price subsidy of the National Energy Administration	Taxes and surcharges payable
	Undistributed profit	25,327,564.84
Adjust and confirm the investment income that should be recognized for long-term equity investment by equity method	Long-term equity investments	11,550,504.91
	Investment income	11,550,504.91
	Undistributed profit	11,550,504.91
Adjust goodwill arising from the acquisition of subsidiaries	Goodwill	9,881,826.95
	Undistributed profit	9,881,826.95
Other previous error adjustments, such as adjusting the government special debt accounted for in long-term loans to long-term accounts payable and adjusting the purchase of long-term assets in prepayments to other non current assets	Advances paid	-46,828,600.00
	Other receivables	-6,497,777.72
	Other current assets	-22,646,995.94
	Debt investments	6,497,777.72
	Right-of-use assets	-323,198.02
	Long-term prepayments	-2,615,000.00
	Deferred tax assets	-81,188.81
	Other non-current assets	46,828,600.00
	Other payables	-2,615,000.00
	Taxes and surcharges payable	-22,647,355.94
	Long-term borrowings	-1,221,080,000.00
	Long-term payables	1,220,000,000.00
	Non-current liabilities due within one year	-323,198.02



		Taxes and surcharges	-360.00
		Undistributed profit	999,171.19

(II) Lease

1 The Company as the lessee

(1) Information on right-of-use assets is set out in Note v(I) 17 to this financial statement.

(2) The Company's accounting policies for short-term leases and leases of low-value assets are set out in Note 3 (XXIII) to these Financial Statements. The amounts of short-term lease expenses and low-value asset leasing expenses recognized in profit or loss for the current period are as follows:

Items	Number of current issues
Short-term rental fees	15,868,822.08
Low-value asset leasing fees (except short-term leases)	1,071,482.84
Total	16,940,304.92

(3) Current profit or loss and cash flow related to the lease.

Items	Number of current issues
Interest expense on lease liabilities	6,137,295.31
Variable lease payments that are included in profit or loss for the period and are not included in the measurement of lease liabilities	472,325.45
Total cash outflows associated with leases	38,180,904.63

2 The Company as the lessor

(1) Rental income

Items	Number of current issues
Rental income	41,955,294.22
Total	41,955,294.22

(2) Operating lease assets

Items	Number of current issues
Fixed asset	61,608,998.03
Investment real estate	147,164,750.00
Total	208,773,748.03

The operating leased fixed assets are described in Note 5(1) 15 to this financial statement.

**XII. Notes to items of parent company financial statements**



## (I) Notes to items of parent company balance sheet

## Long-term equity investments

## 1. Categories

Items	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Investments in subsidiaries	8,098,800,766.31		8,098,800,766.31
Total	8,098,800,766.31		8,098,800,766.31

(Continued)

Items	Opening balance		
	Book balance	Provision for impairment	Carrying amount
Investments in subsidiaries	8,098,800,766.31		8,098,800,766.31
Total	8,098,800,766.31		8,098,800,766.31

## 2. Details

Investees	Opening balance	Increase	decreases
Jinan Thermal Power Group Co. LTD	2,204,320,475.47		
Jinan Pipeline Gas Co. LTD	276,796,741.60		
Jinan City Gas Co. LTD	223,697,922.99		
Jinan Thermoelectric Group Co. LTD	2,105,560,931.27		
Jinan Energy Investment Holding Co. LTD	503,915,025.28		
Jinan Energy Investment Holding Co. LTD	312,188,081.57		
Shandong Jihua Gas Co. LTD	1,187,363,475.35		
Jinan Ganghua Gas Co. LTD	1,255,045,042.45		
Jinan City Lighting Engineering Co., LTD	29,913,070.33		
Total	8,098,800,766.31		

(Continued)

Investees	Closing balance	Provision for impairment in the current period	Closing balance of Provision for impairment
Jinan Thermal Power Group Co. LTD	2,204,320,475.47		
Jinan Pipeline Gas Co. LTD	276,796,741.60		
Jinan City Gas Co. LTD	223,697,922.99		
Jinan Thermoelectric Group Co. LTD	2,105,560,931.27		
Jinan Energy Investment Holding Co. LTD	503,915,025.28		
Jinan Energy Investment Holding Co. LTD	312,188,081.57		



Investees	Closing balance	Provision for impairment in the current period	Closing balance of Provision for impairment
Shandong Jihua Gas Co. LTD	1,187,363,475.35		
Jinan Ganghua Gas Co. LTD	1,255,045,042.45		
Jinan City Lighting Engineering Co., LTD	29,913,070.33		
Total	8,098,800,766.31		

(II) Notes to items of the parent company income statement

1. Investment income

Items	Current period cumulative	Preceding period comparative
Dividend distribution from long-term equity investments under cost method	53,083,039.95	65,000,000.00
Total	53,083,039.95	65,000,000.00



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## Auditor's Report

PCCPAAR SHANDONG [2023] No. 353

To the Shareholders of Jinan Energy Group Co., Ltd.:

### I. Audit Opinion

We have audited the accompanying financial statements of Jinan Energy Group Co., Ltd.(the "Company"), which comprise the consolidated income statements, the consolidated cash flow statements for the years then ended, and the consolidated and parent company balance sheets as at December 31, 2021, the consolidated and parent company income statements, the consolidated and parent company cash flow statements for the year then ended, as well as notes to financial statements.

In our opinion, the attached financial statements present fairly, in all material respects, of its simulated consolidated financial performance and its cash flows for the years then ended and the financial position of the consolidated and parent company as at December 31, 2021, and of the consolidated financial performance and cash flows for the year then ended in accordance with China Accounting Standards for Business Enterprises and basis of preparation as described in Section II of notes to financial statements.

### II. Basis for Audit Opinion

We conducted our audit in accordance with China Standards on Auditing. Our responsibilities under those standards are further described in the Certified Public Accountant's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company in accordance with the China Code of Ethics for Certified Public Accountants, and we have fulfilled other ethical responsibilities. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



### **III. Responsibilities of the Management and Those Charged with Governance for the Financial Statements**

The Management is responsible for preparing and presenting fairly the financial statements in accordance with China Accounting Standards for Business Enterprises, as well as designing, implementing and maintaining internal control relevant to the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Company's financial reporting process.

### **IV. Certified Public Accountant's Responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with China Standards on Auditing will always detect a material misstatement when it exists. Misstatement can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

We exercise professional judgment and maintain professional skepticism throughout the audit performed in accordance with China Standards on Auditing. We also:

(I) Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion,



forgery, intentional omissions, misrepresentations, or the override of internal control.

(II) Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.

(III) Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Management.

(IV) Conclude on the appropriateness of the Management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

(V) Evaluate the overall presentation, structure and content of the financial statements, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

(VI) Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain sole responsibility for our audit opinion.

We communicate with those charged with governance regarding the planned audit scope, time schedule and significant audit findings, including any deficiencies in internal control of concern that we identify during our audit.

#### **V. Preparation Basis and Usage Restriction**

We draw the attention of statement users to the basis of preparation as described in section II of notes to financial consolidated statements. This report is only for financing purposes, not for other purposes.



This paragraph does not affect the audit opinion issued.



Chinese Certified Public Accountant  
(Engagement Partner)




Chinese Certified Public Accountant



Date of Report: April 7, 2023

The auditor's report and the accompanying financial statements are English translations of the Chinese auditor's report and statutory financial statements prepared under accounting principles and practices generally accepted in the People's Republic of China. These financial statements are not intended to present the financial position and financial performance and cash flows in accordance with accounting principles and practices generally accepted in other countries and jurisdictions. In case the English version does not conform to the Chinese version, the Chinese version prevails.



  
**Jinan Energy Group Co., Ltd.**  
**Consolidated balance sheet as at December 31, 2021**  
*(Expressed in Renminbi Yuan)*

Assets	Note No.	Closing balance	Opening balance
<b>Current assets:</b>			
Cash and bank balances	1	7,452,116,972.40	6,214,582,375.46
Settlement funds			
Loans to other banks			
Held-for-trading financial assets			
Derivative financial assets			
Notes receivable	2	43,516,118.98	58,832,886.69
Accounts receivable	3	1,368,559,052.18	849,627,938.13
Receivables financing	4	99,532,870.69	
Advances paid	5	1,631,139,920.72	1,002,061,241.92
Premiums receivable			
Reinsurance accounts receivable			
Reinsurance reserve receivable			
Other receivables	6	4,087,992,629.00	2,687,854,848.20
Financial assets under reverse repo			
Inventories	7	2,216,591,005.00	1,784,648,257.46
Contract assets	8	219,646,563.01	
Assets held for sale			
Non-current assets due within one year	9	4,535,584.48	
Other current assets	10	619,967,920.41	603,687,266.54
Total current assets		17,743,598,636.87	13,201,294,814.40
<b>Non-current assets:</b>			
Loans and advances			
Debt investments	11	700,000,000.00	
Other debt investments			
Long-term receivables	12	10,168,682.98	
Long-term equity investments	13	184,471,536.52	252,150,331.58
Available-for-sale financial assets			19,960,000.00
Other equity instrument investments	14	19,460,000.00	
Other non-current financial assets	15	190,500,000.00	
Investment property	16	40,180,085.45	41,342,246.76
Fixed assets	17	17,322,011,248.28	14,485,864,452.31
Construction in progress	18	6,407,721,105.11	5,881,374,194.41
Productive biological assets			
Oil & gas assets			
Right-of-use assets	19	81,913,733.34	
Intangible assets	20	931,072,703.25	659,225,321.12
Development expenditures			
Goodwill	21	78,462,207.34	23,833,899.64
Long-term prepayments	22	896,132,096.40	357,041,671.55
Deferred tax assets	23	20,557,594.71	22,249,156.61
Other non-current assets	24	125,557,798.00	453,389,873.80
Total non-current assets		27,008,208,791.38	22,196,431,147.78
<b>Total assets</b>		<b>44,751,807,428.25</b>	<b>35,397,725,962.18</b>

Legal representative:



Officer in charge of accounting: 张琦

Head of accounting department:

董林强



Jinan Energy Group Co., Ltd.

Consolidated balance sheet as at December 31, 2021 (continued)

(Expressed in Renminbi Yuan)

Liabilities & Equity	Note No.	Closing balance	Opening balance
<b>Current liabilities:</b>			
Short-term borrowings	25	1,472,020,776.90	392,573,456.46
Central bank loans			
Loans from other banks			
Held-for-trading financial liabilities			
Derivative financial liabilities			
Notes payable	26	2,509,187,534.27	1,035,697,514.51
Accounts payable	27	6,408,495,156.24	4,766,521,599.13
Advances received	28	3,305,220.09	6,301,261,547.78
Contract liabilities	29	7,184,043,960.40	
Financial liabilities under repo			
Absorbing deposit and interbank deposit			
Deposit for agency security transaction			
Deposit for agency security underwriting			
Employee benefits payable	30	354,436,347.53	273,134,452.07
Taxes and rates payable	31	89,157,864.94	51,950,368.06
Other payables	32	3,821,360,870.95	4,143,558,750.34
Handling fee and commission payable			
Reinsurance accounts payable			
Liabilities held for sale			
Non-current liabilities due within one year	33	318,141,967.42	115,856,483.23
Other current liabilities	34	282,580,280.09	
Total current liabilities		22,442,729,978.83	17,080,554,171.58
<b>Non-current liabilities:</b>			
Insurance policy reserve			
Long-term borrowings	35	4,607,774,555.97	3,868,940,943.85
Bonds payable			
Including: Preferred shares			
Perpetual bonds			
Lease liabilities	36	70,743,300.81	-
Long-term payables	37	3,928,007,094.69	3,539,554,670.76
Long-term employee benefits payable			
Provisions			
Deferred income	38	820,538,700.05	543,702,129.58
Deferred tax liabilities	39	455,858.97	-
Other non-current liabilities			
Total non-current liabilities		9,427,519,510.49	7,952,197,744.19
Total liabilities		31,870,249,489.32	25,032,751,915.77
<b>Equity:</b>			
Share capital			
Other equity instruments			
Including: Preferred shares			
Perpetual bonds			
Capital reserve			
Less: Treasury shares			
Other comprehensive income			
Special reserve			
Surplus reserve			
General risk reserve			
Undistributed profit			
Total equity attributable to the parent company		10,932,070,074.67	8,987,557,400.07
Non-controlling interest		1,949,487,864.26	1,377,416,646.34
Total equity		12,881,557,938.93	10,364,974,046.41
Total liabilities & equity		44,751,807,428.25	35,397,725,962.18

Legal representative:




Officer in charge of accounting:

张琦

Head of accounting department:

董林强




**Jinan Energy Group Co., Ltd.**  
**Parent company balance sheet as at December 31, 2021**  
*(Expressed in Renminbi Yuan)*

Assets	Note No.	Closing balance	Opening balance
<b>Current assets:</b>			
Cash and bank balances		35,135,260.04	58,974,156.51
Held-for-trading financial assets			
Derivative financial assets			
Notes receivable			
Accounts receivable			
Receivables financing			
Advances paid			
Other receivables		447,939.47	23,935.15
Inventories			
Contract assets			
Assets held for sale			
Non-current assets due within one year			
Other current assets		473,239.67	124,622.38
Total current assets		36,056,439.18	59,122,714.04
<b>Non-current assets:</b>			
Debt investments			
Other debt investments			
Long-term receivables			
Long-term equity investments	1	8,098,800,766.31	7,997,254,363.83
Other equity instrument investments			
Other non-current financial assets			
Investment property			
Fixed assets		806,282.61	872,006.99
Construction in progress			
Productive biological assets			
Oil & gas assets			
Right-of-use assets			
Intangible assets		92,972.38	
Development expenditures			
Goodwill			
Long-term prepayments			
Deferred tax assets			
Other non-current assets			
Total non-current assets		8,099,700,021.30	7,998,126,370.82
<b>Total assets</b>		<b>8,135,756,460.48</b>	<b>8,057,249,084.86</b>

Legal representative:



Officer in charge of accounting: 张琦

Head of accounting department:



Jinan Energy Group Co., Ltd.

Parent company balance sheet as at December 31, 2021 (continued)

(Expressed in Renminbi Yuan)

Liabilities & Equity	Note No.	Closing balance	Opening balance
<b>Current liabilities:</b>			
Short-term borrowings			
Held-for-trading financial liabilities			
Derivative financial liabilities			
Notes payable			
Accounts payable		69,198.46	10,000.00
Advances received			
Contract liabilities			
Employee benefits payable		4,041,729.15	8,007.00
Taxes and rates payable		25,698.89	10,615.53
Other payables		623,917.22	33,424,133.13
Liabilities held for sale			
Non-current liabilities due within one year			
Other current liabilities			
<b>Total current liabilities</b>		<b>4,760,543.72</b>	<b>33,452,755.66</b>
<b>Non-current liabilities:</b>			
Long-term borrowings			
Bonds payable			
Including: Preferred shares			
Perpetual bonds			
Lease liabilities			
Long-term payables			
Long-term employee benefits payable			
Provisions			
Deferred income			
Deferred tax liabilities			
Other non-current liabilities			
<b>Total non-current liabilities</b>			
<b>Total liabilities</b>		<b>4,760,543.72</b>	<b>33,452,755.66</b>
<b>Equity:</b>			
Share capital		8,007,254,363.83	7,997,254,363.83
Other equity instruments			
Including: Preferred shares			
Perpetual bonds			
Capital reserve		56,546,402.48	
Less: Treasury shares			
Other comprehensive income			
Special reserve			
Surplus reserve			
Undistributed profit		67,195,150.45	26,541,965.37
<b>Total equity</b>		<b>8,130,995,916.76</b>	<b>8,023,796,329.20</b>
<b>Total liabilities &amp; equity</b>		<b>8,135,756,460.48</b>	<b>8,057,249,084.86</b>

Legal representative:






Officer in charge of accounting:

Head of accounting department:



**Jinan Energy Group Co., Ltd.**  
**Consolidated income statement for the year ended December 31, 2021**  
*(Expressed in Renminbi Yuan)*

Items	Note No.	Current period cumulative	Preceding period comparative
I. Total operating revenue		10,682,691,916.24	9,925,413,853.33
Including: Operating revenue	1	10,682,691,916.24	9,925,413,853.33
Interest income			
Premiums earned			
Revenue from handling charges and commission			
II. Total operating cost		12,282,557,140.48	10,260,025,864.80
Including: Operating cost	1	10,951,962,295.20	9,127,954,974.65
Interest expenses			
Handling charges and commission expenditures			
Surrender value			
Net payment of insurance claims			
Net provision of insurance policy reserve			
Premium bonus expenditures			
Reinsurance expenses			
Taxes and surcharges	2	36,179,319.76	33,947,603.59
Selling expenses	3	309,578,829.41	268,910,714.30
Administrative expenses	4	870,005,407.64	759,158,612.45
R&D expenses	5	25,863,313.49	2,189,823.77
Financial expenses	6	88,967,974.98	67,864,136.04
Including: Interest expenses		198,411,727.97	134,005,822.96
Interest income		109,965,942.54	92,586,819.18
Add: Other income	7	1,490,060,256.19	259,402,026.90
Investment income (or less: losses)	8	7,564,761.74	7,764,977.33
Including: Investment income from associates and joint ventures		7,524,774.16	-2,052,438.78
Gains from derecognition of financial assets at amortized cost		39,987.58	6,705,249.54
Gains on foreign exchange (or less: losses)			
Gains on net exposure to hedging risk (or less: losses)			
Gains on changes in fair value (or less: losses)			
Credit impairment loss	9	-134,432,848.20	-
Assets impairment loss	10	1,815,308.28	-15,345,169.40
Gains on asset disposal (or less: losses)	11	-1,622,164.47	563,650.99
III. Operating profit (or less: losses)		-236,479,910.70	-82,226,525.65
Add: Non-operating revenue	12	32,393,681.47	54,466,472.60
Less: Non-operating expenditures	13	21,731,850.26	17,168,876.47
IV. Profit before tax (or less: total loss)		-225,818,079.49	-44,928,929.52
Less: Income tax expenses	14	113,002,824.76	85,521,310.28
V. Net profit (or less: net loss)		-338,820,904.25	-130,450,239.80
(I) Categorized by the continuity of operations			
1. Net profit from continuing operations (or less: net loss)		-338,820,904.25	-130,450,239.80
2. Net profit from discontinued operations (or less: net loss)			
(II) Categorized by the portion of equity ownership			
1. Net profit attributable to owners of parent company (or less: net loss)		-331,384,041.97	-188,799,944.68
2. Net profit attributable to non-controlling shareholders (or less: net loss)		-7,436,862.28	58,349,704.88
VI. Other comprehensive income after tax			
Items attributable to the owners of the parent company			
(I) Not to be reclassified subsequently to profit or loss			
1. Remeasurements of the net defined benefit plan			
2. Items under equity method that will not be reclassified to profit or loss			
3. Changes in fair value of other equity instrument investments			
4. Changes in fair value of own credit risk			
5. Others			
(II) To be reclassified subsequently to profit or loss			
1. Items under equity method that may be reclassified to profit or loss			
2. Changes in fair value of other debt investments			
3. Profit or loss from reclassification of financial assets into other comprehensive income			
4. Provision for credit impairment of other debt investments			
5. Cash flow hedging reserve			
6. Translation reserve			
7. Others			
Items attributable to non-controlling shareholders			
VII. Total comprehensive income		-338,820,904.25	-130,450,239.80
Items attributable to the owners of the parent company		-331,384,041.97	-188,799,944.68
Items attributable to non-controlling shareholders		-7,436,862.28	58,349,704.88
VIII. Earnings per share (EPS):			
(I) Basic EPS (yuan per share)			
(II) Diluted EPS (yuan per share)			

Legal representative:  Officer in charge of accounting:  Head of accounting department: 



Huan Energy Group Co., Ltd.

Parent company income statement for the year ended December 31, 2021

(Expressed in Renminbi Yuan)

Items	Note No.	Current period cumulative	Preceding period comparative
I. Operating revenue			
Less: Operating cost			
Taxes and surcharges		3,206.00	1,851.20
Selling expenses			
Administrative expenses		24,499,625.24	3,481,169.66
R&D expenses			
Financial expenses		-252,106.62	-84,984.89
Including: Interest expenses			
Interest income		253,598.62	85,061.89
Add: Other income		3,909.70	
Investment income (or less: losses)	1	65,000,000.00	30,000,000.00
Including: Investment income from associates and joint ventures			
Gains from derecognition of financial assets at amortized cost			
Gains on net exposure to hedging risk (or less: losses)			
Gains on changes in fair value (or less: losses)			
Credit impairment loss			
Assets impairment loss			
Gains on asset disposal (or less: losses)			
II. Operating profit (or less: losses)		40,753,185.08	26,601,964.03
Add: Non-operating revenue			1.34
Less: Non-operating expenditures		100,000.00	60,000.00
III. Profit before tax (or less: total loss)		40,653,185.08	26,541,965.37
Less: Income tax expenses			
IV. Net profit (or less: net loss)		40,653,185.08	26,541,965.37
(I) Net profit from continuing operations (or less: net loss)		40,653,185.08	26,541,965.37
(II) Net profit from discontinued operations (or less: net loss)			
V. Other comprehensive income after tax			
(I) Not to be reclassified subsequently to profit or loss			
1. Remeasurements of the net defined benefit plan			
2. Items under equity method that will not be reclassified to profit or loss			
3. Changes in fair value of other equity instrument investments			
4. Changes in fair value of own credit risk			
5. Others			
(II) To be reclassified subsequently to profit or loss			
1. Items under equity method that may be reclassified to profit or loss			
2. Changes in fair value of other debt investments			
3. Profit or loss from reclassification of financial assets into other comprehensive income			
4. Provision for credit impairment of other debt investments			
5. Cash flow hedging reserve			
6. Translation reserve			
7. Others			
VI. Total comprehensive income		40,653,185.08	26,541,965.37
VII. Earnings per share (EPS):			
(I) Basic EPS (yuan per share)			
(II) Diluted EPS (yuan per share)			

Legal representative:



Officer in charge of accounting:

张琦

Head of accounting department:

董林强



Jinan Energy Group Co., Ltd.  
Consolidated cash-flow statement for the year ended December 31, 2021  
(Expressed in Renminbi Yuan)

Items	Note No.	Current period cumulative	Preceding period comparative
<b>I. Cash flows from operating activities:</b>			
Cash receipts from sale of goods or rendering of services		10,404,704,552.95	10,135,737,045.89
Net increase of client deposit and interbank deposit			
Net increase of central bank loans			
Net increase of loans from other financial institutions			
Cash receipts from original insurance contract premium			
Net cash receipts from reinsurance			
Net increase of policy-holder deposit and investment			
Cash receipts from interest, handling charges and commission			
Net increase of loans from others			
Net increase of repurchase			
Net cash receipts from agency security transaction			
Receipts of tax refund		300,677,438.34	129,928,395.16
Other cash receipts related to operating activities		1,777,202,879.42	1,789,084,381.32
Subtotal of cash inflows from operating activities		12,482,584,870.71	12,054,749,822.37
Cash payments for goods purchased and services received		8,753,754,075.82	9,017,038,940.63
Net increase of loans and advances to clients			
Net increase of central bank deposit and interbank deposit			
Cash payments for insurance indemnities of original insurance contracts			
Net increase of loans to others			
Cash payments for interest, handling charges and commission			
Cash payments for policy bonus			
Cash paid to and on behalf of employees		1,484,163,852.10	1,239,758,235.79
Cash payments for taxes and rates		206,297,238.04	158,979,165.64
Other cash payments related to operating activities		1,544,818,686.67	1,075,916,930.25
Subtotal of cash outflows from operating activities		11,989,033,852.62	11,491,693,272.31
Net cash flows from operating activities		493,551,018.09	563,056,550.06
<b>II. Cash flows from investing activities:</b>			
Cash receipts from withdrawal of investments		9,783,103.19	303,131,089.99
Cash receipts from investment income		1,061,187.58	3,213,768.41
Net cash receipts from the disposal of fixed assets, intangible assets and other long-term assets		4,105,075.04	39,747,476.04
Net cash receipts from the disposal of subsidiaries & other business units			
Other cash receipts related to investing activities		125,500,519.45	518,277,120.57
Subtotal of cash inflows from investing activities		140,449,885.26	864,369,455.01
Cash payments for the acquisition of fixed assets, intangible assets and other long-term assets		3,340,177,183.83	3,340,076,423.62
Cash payments for investments		186,317,600.00	301,329,102.20
Net increase of pledged borrowings			
Net cash payments for the acquisition of subsidiaries & other business units		3,731,336.70	43,826,522.06
Other cash payments related to investing activities		591,152,246.88	746,040,654.50
Subtotal of cash outflows from investing activities		4,121,378,367.41	4,431,272,702.38
Net cash flows from investing activities		-3,980,928,482.15	-3,566,903,247.37
<b>III. Cash flows from financing activities:</b>			
Cash receipts from absorbing investments		38,760,000.00	71,860,000.00
Including: Cash received by subsidiaries from non-controlling shareholders as investments		18,760,000.00	
Cash receipts from borrowings		4,021,570,134.63	2,221,877,284.44
Other cash receipts related to financing activities		2,308,396,404.67	1,668,701,257.51
Subtotal of cash inflows from financing activities		6,368,726,539.30	3,962,438,541.95
Cash payments for the repayment of borrowings		1,675,522,271.02	869,825,765.37
Cash payments for distribution of dividends or profits and for interest expenses		194,870,060.08	152,960,152.83
Including: Cash paid by subsidiaries to non-controlling shareholders as dividend or profit			
Other cash payments related to financing activities		277,955,360.23	681,963,558.37
Subtotal of cash outflows from financing activities		2,148,347,691.33	1,704,749,476.57
Net cash flows from financing activities		4,220,378,847.97	2,257,689,065.38
<b>IV. Effect of foreign exchange rate changes on cash &amp; cash equivalents</b>			
		29,767,590.66	
<b>V. Net increase in cash and cash equivalents</b>			
		762,768,974.56	-746,157,631.93
Add: Opening balance of cash and cash equivalents		5,825,720,081.07	6,571,877,713.00
<b>VI. Closing balance of cash and cash equivalents</b>			
		6,588,489,055.63	5,825,720,081.07

Legal representative:



Officer in charge of accounting:

张琦

Head of accounting department:

董林强



Jinan Energy Group Co., Ltd.

Parent company cash flow statement for the year ended December 31, 2021

(Expressed in Renminbi Yuan)

Items	Note No.	Current period cumulative	Preceding period comparative
<b>I. Cash flows from operating activities:</b>			
Cash receipts from sale of goods and rendering of services			
Receipts of tax refund			
Other cash receipts related to operating activities	4,514,315,480.35	33,424,134.47	
Subtotal of cash inflows from operating activities	4,514,315,480.35	33,424,134.47	
Cash payments for goods purchased and services received			
Cash paid to and on behalf of employees	13,368,312.92	2,860,164.19	
Cash payments for taxes and rates	3,672.26	795.87	
Other cash payments related to operating activities	4,554,601,467.93	617,912.57	
Subtotal of cash outflows from operating activities	4,567,973,453.11	3,478,872.63	
Net cash flows from operating activities	-53,657,972.76	29,945,261.84	
<b>II. Cash flows from investing activities:</b>			
Cash receipts from withdrawal of investments			
Cash receipts from investment income	65,000,000.00	30,000,000.00	
Net cash receipts from the disposal of fixed assets, intangible assets and other long-term assets			
Net cash receipts from the disposal of subsidiaries & other business units			
Other cash receipts related to investing activities			
Subtotal of cash inflows from investing activities	65,000,000.00	30,000,000.00	
Cash payments for the acquisition of fixed assets, intangible assets and other long-term assets	180,923.71	971,105.33	
Cash payments for investments			
Net cash payments for the acquisition of subsidiaries & other business units	45,000,000.00		
Other cash payments related to investing activities			
Subtotal of cash outflows from investing activities	45,180,923.71	971,105.33	
Net cash flows from investing activities	19,819,076.29	29,028,894.67	
<b>III. Cash flows from financing activities:</b>			
Cash receipts from absorbing investments	10,000,000.00		
Cash receipts from borrowings			
Other cash receipts related to financing activities			
Subtotal of cash inflows from financing activities	10,000,000.00		
Cash payments for the repayment of borrowings			
Cash payments for distribution of dividends or profits and for interest expenses			
Other cash payments related to financing activities			
Subtotal of cash outflows from financing activities			
Net cash flows from financing activities	10,000,000.00		
<b>IV. Effect of foreign exchange rate changes on cash and cash equivalents</b>			
V. Net increase in cash and cash equivalents		-23,838,896.47	58,974,156.51
Add: Opening balance of cash and cash equivalents		58,974,156.51	
VI. Closing balance of cash and cash equivalents		35,135,260.04	58,974,156.51

Legal representative:



Officer in charge of accounting:

张琦

Head of accounting department:

董林强



## **Jinan Energy Group Co., Ltd.**

### **Notes to Financial Statements**

For the year ended December 31, 2021

Monetary unit: RMB Yuan

#### **I. Company profile**

Jinan Energy Group Co., Ltd. (the “Company”) was registered at Jinan Market Supervision Bureau on July 23, 2020 and headquartered in No.3, Jiefang East Road, Lixia District, Jinan City. The Company currently holds a business license with unified social credit code of 91370100MA3TKR9T6T , with registered capital of 10 billion yuan. The legal representative of the company is Shiyang Pan. The company is a limited liability company (wholly state-owned).

The Company is mainly engaged in Heat production and supply; Pipeline gas supply, cooling, power generation; The operation of gas and hydrogen filling stations; Charging pile service; The design and construction of municipal public works; New energy technology research and development; Comprehensive energy use and services. (Except for projects subject to approval according to law, independently carry out business activities according to law with the business license) .

#### **II. Preparation basis of the financial statements**

Except for the following comparable data for the same period, namely the consolidated financial statements for 2020, which are simulated data, the accounting policies adopted by the Company in the consolidated financial statements comply with the relevant provisions of the Accounting Standards for business enterprises and are prepared on the basis of going concern. The consolidated financial statements truly and completely reflect the consolidated financial position, consolidated operating results and cash flows of the Company during the reporting period.

(I) In 2020, according to the Notice on the Establishment of Jinan Energy Group Co., Ltd. by integrating Jinan Heating Group Co., Ltd. and Jinan Thermal Power Co., Ltd. issued by State-owned Assets Supervision and Administration Commission of Jinan Municipal People's Government (No. 136 [ 2020 ] ). Jinan Energy Group Co., Ltd. was established by integrating Jinan Heating Group Co., Ltd., Jinan Thermal Power Co., Ltd., and Jinan Energy Construction and Development Group Co., Ltd.. After the integration, the investor of Jinan Heating Group Co., Ltd., Jinan Thermal Power Co., Ltd., Jinan Energy Construction and Development Group Co., Ltd. was changed into Jinan Energy Group Co., Ltd. The consolidated financial statements are based on the addition of subsidiaries by the Company and its subsidiaries in 2020 as a result of the business combination under the same control, assuming that the Company has completed the business combination under the same control as of January 1, 2020. The newly added subsidiaries in 2021 shall comply with the Accounting



Standards for Business Enterprises and relevant regulations.

(II) List of equity items

In view of the special purpose of the preparation of the simulated consolidated financial statements of the previous period, the owners' equity in this simulated consolidated financial statements is listed in terms of "total equity attributable to the parent company" and "non-controlling interest' equity" and no detailed items such as "paid-in capital", "capital reserves", "other comprehensive income", "surplus reserves" and "undistributed profit" will be listed. The consolidated financial statements exclude the consolidated statement of changes in owners' equity and the parent company's statement of changes in owners' equity.

**III. Significant accounting policies and estimates**

The financial statements have been prepared in accordance with the requirements of China Accounting Standards for Business Enterprises (CASBEs), and present truly and completely the financial position, financial performance and cash flows of the Company.

(I) Accounting period

The accounting year of the Company runs from January 1 to December 31 under the Gregorian calendar.

(II) Operating cycle

The Company has a relatively short operating cycle for its business, an asset or a liability is classified as current if it is expected to be realized or due within 12 months.

(III) Functional currency

The Company's functional currency is Renminbi (RMB) Yuan.

(IV) Accounting treatments of business combination under and not under common control

1. Accounting treatment of business combination under common control

Assets and liabilities arising from business combination are measured at carrying amount of the combined party included in the consolidated financial statements of the ultimate controlling party at the combination date. Difference between carrying amount of the equity of the combined party included in the consolidated financial statements of the ultimate controlling party and that of the combination consideration or total par value of shares issued is adjusted to capital reserve, if the balance of capital reserve is insufficient to offset, any excess is adjusted to retained earnings.

2. Accounting treatment of business combination not under common control

When combination cost is in excess of the fair value of identifiable net assets obtained from the acquiree at the acquisition date, the excess is recognized as goodwill; otherwise, the fair value of identifiable assets, liabilities and contingent liabilities, and the measurement of the combination cost are reviewed, then the difference is recognized in profit or loss.

(V) Compilation method of consolidated financial statements

The parent company brings all its controlled subsidiaries into the consolidation scope. The consolidated



financial statements are compiled by the parent company according to “CASBE 33 – Consolidated Financial Statements”, based on relevant information and the financial statements of the parent company and its subsidiaries.

(VI) Recognition criteria of cash and cash equivalents

Cash as presented in cash flow statement refers to cash on hand and deposit on demand for payment. Cash equivalents refer to short-term, highly liquid investments that can be readily converted to cash and that are subject to an insignificant risk of changes in value.

(VII) Foreign currency translation

1. Translation of transactions denominated in foreign currency

Transactions denominated in foreign currency are translated into RMB yuan at the spot exchange rate at the transaction date at initial recognition. At the balance sheet date, monetary items denominated in foreign currency are translated at the spot exchange rate at the balance sheet date with difference, except for those arising from the principal and interest of exclusive borrowings eligible for capitalization, included in profit or loss; non-cash items carried at historical costs are translated at the spot exchange rate at the transaction date, with the RMB amounts unchanged; non-cash items carried at fair value in foreign currency are translated at the spot exchange rate at the date when the fair value was determined, with difference included in profit or loss or other comprehensive income.

2. Translation of financial statements measured in foreign currency

The assets and liabilities in the balance sheet are translated into RMB at the spot exchange rate at the balance sheet date; the equity items, other than undistributed profit, are translated at the spot exchange rate at the transaction date; the revenues and expenses in the income statement are translated into RMB at the spot exchange rate at the transaction date. The difference arising from the aforementioned foreign currency translation is included in other comprehensive income.

(VIII) Financial instruments

1. Classification of financial assets and financial liabilities

Financial assets are classified into the following three categories when initially recognized: (1) financial assets at amortized cost; (2) financial assets at fair value through other comprehensive income; (3) financial assets at fair value through profit or loss.

Financial liabilities are classified into the following four categories when initially recognized: (1) financial liabilities at fair value through profit or loss; (2) financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies; (3) financial guarantee contracts not fall within the above categories (1) and (2), and commitments to provide a loan at a below-market interest rate, which do not fall within the above category (1); (4) financial liabilities at amortized cost.

2. Recognition criteria, measurement method and derecognition condition of financial assets and financial liabilities



(1) Recognition criteria and measurement method of financial assets and financial liabilities

When the Company becomes a party to a financial instrument, it is recognized as a financial asset or financial liability. The financial assets and financial liabilities initially recognized by the Company are measured at fair value; for the financial assets and liabilities at fair value through profit or loss, the transaction expenses thereof are directly included in profit or loss; for other categories of financial assets and financial liabilities, the transaction expenses thereof are included into the initially recognized amount. However, at initial recognition, for accounts receivable that do not contain a significant financing component or in circumstances where the Company does not consider the financing components in contracts within one year, they are measured at the transaction price in accordance with “CASBE 14 – Revenues”.

(2) Subsequent measurement of financial assets

1) Financial assets measured at amortized cost

The Company measures its financial assets at the amortized costs using effective interest method. Gains or losses on financial assets that are measured at amortized cost and are not part of hedging relationships shall be included into profit or loss when the financial assets are derecognized, reclassified, amortized using effective interest method or recognized with impairment loss.

2) Debt instrument investments at fair value through other comprehensive income

The Company measures its debt instrument investments at fair value. Interests, impairment gains or losses, and gains and losses on foreign exchange that calculated using effective interest method shall be included into profit or loss, while other gains or losses are included into other comprehensive income. Accumulated gains or losses that initially recognized as other comprehensive income should be transferred out into profit or loss when the financial assets are derecognized.

3) Equity instrument investments at fair value through other comprehensive income

The Company measures its equity instrument investments at fair value. Dividends obtained (other than those as part of investment cost recovery) shall be included into profit or loss, while other gains or losses are included into other comprehensive income. Accumulated gains or losses that initially recognized as other comprehensive income should be transferred out into retained earnings when the financial assets are derecognized.

4) Financial assets at fair value through profit or loss

The Company measures its financial assets at fair value. Gains or losses arising from changes in fair value (including interests and dividends) shall be included into profit or loss, except for financial assets that are part of hedging relationships.

(3) Subsequent measurement of financial liabilities

1) Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include held-for-trading financial liabilities (including derivatives that are liabilities) and financial liabilities designated as at fair value through profit or loss. The Company measures such kind of liabilities at fair value. The amount of changes in the fair value of the financial liabilities that are attributable to changes in the Company’s own credit risk shall be included into other



comprehensive income, unless such treatment would create or enlarge accounting mismatches in profit or loss. Other gains or losses on those financial liabilities (including interests, changes in fair value that are attributable to reasons other than changes in the Company's own credit risk) shall be included into profit or loss, except for financial liabilities that are part of hedging relationships. Accumulated gains or losses that originally recognized as other comprehensive income should be transferred out into retained earnings when the financial liabilities are derecognized.

2) Financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies

The Company measures its financial liabilities in accordance with "CASBE 23 – Transfer of Financial Assets".

3) Financial guarantee contracts not fall within the above categories 1) and 2), and commitments to provide a loan at a below-market interest rate, which do not fall within the above category 1)

The Company measures its financial liabilities at the higher of: a. the amount of loss allowances in accordance with impairment requirements of financial instruments; b. the amount initially recognized less the amount of accumulated amortization recognized in accordance with "CASBE 14 – Revenues".

4) Financial liabilities at amortized cost

The Company measures its financial liabilities at amortized cost using effective interest method. Gains or losses on financial liabilities that are measured at amortized cost and are not part of hedging relationships shall be included into profit or loss when the financial liabilities are derecognized and amortized using effective interest method.

(4) Derecognition of financial assets and financial liabilities

1) Financial assets are derecognized when:

a. the contractual rights to the cash flows from the financial assets expire; or

b. the financial assets have been transferred and the transfer qualifies for derecognition in accordance with "CASBE 23 – Transfer of Financial Assets".

2) Only when the underlying present obligations of a financial liability are relieved totally or partly may the financial liability be derecognized accordingly.

3. Recognition criteria and measurement method of financial assets transfer

Where the Company has transferred substantially all of the risks and rewards related to the ownership of the financial asset, it derecognizes the financial asset, and any right or liability arising from such transfer is recognized independently as an asset or a liability. If it retained substantially all of the risks and rewards related to the ownership of the financial asset, it continues recognizing the financial asset. Where the Company does not transfer or retain substantially all of the risks and rewards related to the ownership of a financial asset, it is dealt with according to the circumstances as follows respectively: (1) if the Company does not retain its control over the financial asset, it derecognizes the financial asset, and any right or liability arising from such transfer is recognized independently as an asset or a liability; (2) if the Company retains its control over the financial asset,



according to the extent of its continuing involvement in the transferred financial asset, it recognizes the related financial asset and recognizes the relevant liability accordingly.

If the transfer of an entire financial asset satisfies the conditions for derecognition, the difference between the amounts of the following two items is included in profit or loss: (1) the carrying amount of the transferred financial asset as of the date of derecognition; (2) the sum of consideration received from the transfer of the financial asset, and the accumulative amount of the changes of the fair value originally included in other comprehensive income proportionate to the transferred financial asset (financial assets transferred refer to debt instrument investments at fair value through other comprehensive income). If the transfer of financial asset partially satisfies the conditions to derecognition, the entire carrying amount of the transferred financial asset is, between the portion which is derecognized and the portion which is not, apportioned according to their respective relative fair value, and the difference between the amounts of the following two items is included into profit or loss: (1) the carrying amount of the portion which is derecognized; (2) the sum of consideration of the portion which is derecognized, and the portion of the accumulative amount of the changes in the fair value originally included in other comprehensive income which is corresponding to the portion which is derecognized (financial assets transferred refer to debt instrument investments at fair value through other comprehensive income).

#### 4. Fair value determination method of financial assets and liabilities

The Company uses valuation techniques that are appropriate in the circumstances and for which sufficient data and information are available to measure fair value. The inputs to valuation techniques used to measure fair value are arranged in the following hierarchy and used accordingly:

(1) Level 1 inputs are unadjusted quoted prices in active markets for identical assets or liabilities that the Company can access at the measurement date;

(2) Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 2 inputs include: quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or liability, for example, interest rates and yield curves observable at commonly quoted intervals; market-corroborated inputs;

(3) Level 3 inputs are unobservable inputs for the asset or liability. Level 3 inputs include interest rate that is not observable and cannot be corroborated by observable market data at commonly quoted intervals, historical volatility, future cash flows to be paid to fulfill the disposal obligation assumed in business combination, financial forecast developed using the Company's own data, etc.

#### 5. Impairment of financial instruments

##### (1) Measurement and accounting treatment

The Company, on the basis of expected credit loss, recognizes loss allowances of financial assets at amortized cost, debt instrument investments at fair value through other comprehensive income, contract assets, leases receivable, loan commitments other than financial liabilities at fair value through profit or loss, financial



guarantee contracts not belong to financial liabilities at fair value through profit or loss or financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies.

Expected credit losses refer to the weighted average of credit losses with the respective risks of a default occurring as the weights. Credit loss refers to the difference between all contractual cash flows that are due to the Company in accordance with the contract and all the cash flows that the Company expects to receive (i.e. all cash shortfalls), discounted at the original effective interest rate. Among which, purchased or originated credit-impaired financial assets are discounted at the credit-adjusted effective interest rate.

At the balance sheet date, the Company shall only recognize the cumulative changes in the lifetime expected credit losses since initial recognition as a loss allowance for purchased or originated credit-impaired financial assets.

For accounts receivable and contract assets resulting from transactions regulated in “CASBE 14 – Revenues”, the Company chooses simplified approach to measure the loss allowance at an amount equal to lifetime expected credit losses.

For financial assets other than the above, on each balance sheet date, the Company shall assess whether the credit risk on the financial instrument has increased significantly since initial recognition. The Company shall measure the loss allowance for the financial instrument at an amount equal to the lifetime expected credit losses if the credit risk on that financial instrument has increased significantly since initial recognition; otherwise, the Company shall measure the loss allowance for that financial instrument at an amount equal to 12-month expected credit loss.

Considering reasonable and supportable forward-looking information, the Company compares the risk of a default occurring on the financial instrument as at the balance sheet date with the risk of a default occurring on the financial instrument as at the date of initial recognition, so as to assess whether the credit risk on the financial instrument has increased significantly since initial recognition.

The Company may assume that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument is determined to have relatively low credit risk at the balance sheet date.

The Company shall estimate expected credit risk and measure expected credit losses on an individual or a collective basis. When the Company adopts the collective basis, financial instruments are grouped with similar credit risk features.

The Company shall remeasure expected credit loss on each balance sheet date, and increased or reversed amounts of loss allowance arising therefrom shall be included into profit or loss as impairment losses or gains. For a financial asset measured at amortized cost, the loss allowance reduces the carrying amount of such financial asset presented in the balance sheet; for a debt investment measured at fair value through other comprehensive income, the loss allowance shall be recognized in other comprehensive income and shall not



reduce the carrying amount of such financial asset.

(2) Financial instruments with expected credit risk assessed on a collective basis and expected credit losses measured using three-stage model

Items	Basis for determination of portfolio	Method for measuring expected credit loss
Other receivables – Portfolio grouped with Related party	Nature of receivables	Based on historical credit loss experience, the current situation and the forecast of future economic conditions, the Company calculates expected credit loss through exposure at default and 12-month or lifetime expected credit loss rate.
Other receivables – Portfolio grouped with government funds receivable		
Other receivables – Portfolio grouped with petty cash receivable		
Other receivables – Portfolio grouped with Large state-owned enterprises receivable		
Other receivables – Portfolio grouped with ages	Ages	

(3) Accounts receivable and contract assets with expected credit losses measured on a collective basis using simplified approach

1) Specific portfolios and method for measuring expected credit loss

Items	Basis for determination of portfolio	Method for measuring expected credit loss
Bank acceptance receivable	Type of notes	Based on historical credit loss experience, the current situation and the forecast of future economic conditions, the Company calculates expected credit loss through exposure at default and lifetime expected credit loss rate.
Trade acceptance receivable		
Accounts receivable– Portfolio grouped with government funds receivable	Nature of receivables	Based on historical credit loss experience, the current situation and the forecast of future economic conditions, the Company prepares the comparison table of ages and lifetime expected credit loss rate of accounts receivable, so as to calculate expected credit loss.
Accounts receivable – Portfolio grouped with Large state-owned enterprises receivable		
Accounts receivable – Portfolio grouped with Related party		
Accounts receivable – Portfolio grouped with ages 1(Jinan Thermal Power Group Co. LTD , Jinan Thermoelectric Group Co. LTD)	Ages	Based on historical credit loss experience, the current situation and the forecast of future economic conditions, the Company prepares the comparison table of ages and lifetime expected credit loss rate of accounts receivable, so as to calculate expected credit loss.
Accounts receivable – Portfolio grouped with ages 2(Jinan Ganghua Gas Co. LTD, Shandong Jihua Gas Co. LTD)		
Accounts receivable – Portfolio grouped with ages 3(Other companies)		
Contract assets – Portfolio grouped with Nature of receivables	Nature of receivables	Based on historical credit loss experience, the current situation and the forecast of future economic conditions, the Company calculates expected credit loss through exposure at default and lifetime expected credit loss rate.

2) Accounts receivable – comparison table of ages and lifetime expected credit loss rate of portfolio grouped



with ages

Ages	Accounts receivable – Portfolio grouped with ages 1 Expected credit loss rate (%)	Accounts receivable – Portfolio grouped with ages 1 Expected credit loss rate (%)	Accounts receivable – Portfolio grouped with ages 1 Expected credit loss rate (%)
Within 1 year (inclusive, the same hereinafter)	5.00	1.00	5.00
1-2 years	10.00	10.00	10.00
2-3 years	20.00	20.00	20.00
3-4 years	30.00	30.00	50.00
4-5 years	50.00	40.00	80.00
Over 5 years	100.00	50.00	100.00

#### 6. Offsetting financial assets and financial liabilities

Financial assets and financial liabilities are presented separately in the balance sheet and are not offset. However, the Company offsets a financial asset and a financial liability and presents the net amount in the balance sheet when, and only when, the Company: (1) currently has a legally enforceable right to set off the recognized amounts; and (2) intends either to settle on a net basis, or to realize the asset and settle the liability simultaneously.

For a transfer of a financial asset that does not qualify for derecognition, the Company does not offset the transferred asset and the associated liability.

#### (IX) Contract costs

Assets related to contract costs include costs of obtaining a contract and costs to fulfil a contract.

The Company recognizes as an asset the incremental costs of obtaining a contract if those costs are expected to be recovered. The costs of obtaining a contract shall be included into profit or loss when incurred if the amortization period of the asset is one year or less.

If the costs incurred in fulfilling a contract are not within the scope of standards related to inventories, fixed assets or intangible assets, etc., the Company shall recognize the costs to fulfil a contract as an asset if all the following criteria are satisfied:

1. The costs relate directly to a contract or to an anticipated contract, including direct labor, direct materials, manufacturing overhead cost (or similar cost), cost that are explicitly chargeable to the customer under the contract, and other costs that are only related to the contract;
2. The costs enhance resources of the Company that will be used in satisfying performance obligations in the future; and
3. The costs are expected to be recovered.

An asset related to contract costs shall be amortized on a systematic basis that is consistent with related goods or services, with amortization included into profit or loss.



The Company shall make provision for impairment and recognize an impairment loss to the extent that the carrying amount of an asset related to contract costs exceeds the remaining amount of consideration that the Company expects to receive in exchange for the goods or services to which the asset relates less the costs expected to be incurred. The Company shall recognize a reversal of an impairment loss previously recognized in profit or loss when the impairment conditions no longer exist or have improved. The carrying amount of the asset after the reversal shall not exceed the amount that would have been determined on the reversal date if no provision for impairment had been made previously.

(X) Inventories

1. Classification of inventories

Inventories include finished goods or goods held for sale in the ordinary course of business, work in process in the process of production, materials, supplies etc. to be consumed in the production process or in the rendering of services.

2. Accounting method for dispatching inventories:

Inventories dispatched from storage are accounted for with specific identification method.

3. At the balance sheet date, inventories are measured at the lower of cost or net realizable value; provisions for inventory write-down are made on the excess of its cost over the net realizable value.

4. Perpetual inventory method is adopted.

5. Revolving materials are amortized with one-off method.

(XI) Long-term equity investments

1. Judgment of joint control and significant influence

Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control of these policies.

2. Determination of investment cost

(1) For business combination under common control, if the consideration of the combining party is that it makes payment in cash, transfers non-cash assets, assumes its liabilities or issues equity securities, on the date of combination, it regards the share of the carrying amount of the equity of the combined party included in the consolidated financial statements of the ultimate controlling party as the initial cost of the investment. The difference between the initial cost of the long-term equity investments and the carrying amount of the combination consideration paid or the par value of shares issued offsets capital reserve; if the balance of capital reserve is insufficient to offset, any excess is adjusted to retained earnings.

When long-term equity investments are obtained through business combination under common control achieved in stages, the Company determines whether it is a “bundled transaction”. If it is a “bundled transaction”, stages as a whole are considered as one transaction in accounting treatment. If it is not a “bundled



transaction”, on the date of combination, investment cost is initially recognized at the share of the carrying amount of net assets of the combined party included in the consolidated financial statements of the ultimate controlling party. The difference between the initial investment cost of long-term equity investments at the acquisition date and the carrying amount of the previously held long-term equity investments plus the carrying amount of the consideration paid for the newly acquired equity is adjusted to capital reserve; if the balance of capital reserve is insufficient to offset, any excess is adjusted to retained earnings.

(2) For business combination not under common control, investment cost is initially recognized at the acquisition-date fair value of considerations paid.

When long-term equity investments are obtained through business combination not under common control achieved in stages, the Company determines whether they are stand-alone financial statements or consolidated financial statements in accounting treatment:

1) In the case of stand-alone financial statements, investment cost is initially recognized at the carrying amount of the previously held long-term equity investments plus the carrying amount of the consideration paid for the newly acquired equity.

2) In the case of consolidated financial statements, the Company determines whether it is a “bundled transaction”. If it is a “bundled transaction”, stages as a whole are considered as one transaction in accounting treatment. If it is not a “bundled transaction”, the carrying amount of the acquirer’s previously held equity interest in the acquiree is remeasured at the acquisition-date fair value, and the difference between the fair value and the carrying amount is recognized in investment income; when the acquirer’s previously held equity interest in the acquiree involves other comprehensive income under equity method, the related other comprehensive income is reclassified as income for the acquisition period, excluding other comprehensive income arising from changes in net liabilities or assets from remeasurement of defined benefit plan of the acquiree.

(3) Long-term equity investments obtained through ways other than business combination: the initial cost of a long-term equity investment obtained by making payment in cash is the purchase cost which is actually paid; that obtained on the basis of issuing equity securities is the fair value of the equity securities issued; that obtained through debt restructuring is determined according to “CASBE 12 – Debt Restructuring”; and that obtained through non-cash assets exchange is determined according to “CASBE 7 – Non-cash Assets Exchange”.

### 3. Subsequent measurement and recognition method of profit or loss

For a long-term equity investment with control relationship, it is accounted for with cost method; for a long-term equity investment with joint control or significant influence relationship, it is accounted for with equity method.

### 4. Disposal of a subsidiary in stages resulting in the Company’s loss of control

#### (1) Stand-alone financial statements

The difference between the carrying amount of the disposed equity and the consideration obtained thereof is



recognized in profit or loss. If the disposal does not result in the Company's loss of significant influence or joint control, the remained equity is accounted for with equity method; however, if the disposal results in the Company's loss of control, joint control, or significant influence, the remained equity is accounted for according to "CASBE 22 – Financial Instruments: Recognition and Measurement".

(2) Consolidated financial statements

1) Disposal of a subsidiary in stages not qualified as "bundled transaction" resulting in the Company's loss of control

Before the Company's loss of control, the difference between the disposal consideration and the proportionate share of net assets in the disposed subsidiary from acquisition date or combination date to the disposal date is adjusted to capital reserve (capital premium), if the balance of capital reserve is insufficient to offset, any excess is adjusted to retained earnings.

When the Company loses control, the remained equity is remeasured at the loss-of-control-date fair value. The aggregated value of disposal consideration and the fair value of the remained equity, less the share of net assets in the disposed subsidiary held before the disposal from the acquisition date or combination date to the disposal date is recognized in investment income in the period when the Company loses control over such subsidiary, and meanwhile goodwill is offset correspondingly. Other comprehensive income related to equity investments in former subsidiary is reclassified as investment income upon the Company's loss of control.

2) Disposal of a subsidiary in stages qualified as "bundled transaction" resulting in the Company's loss of control

In case of "bundled transaction", stages as a whole are considered as one transaction resulting in loss of control in accounting treatment. However, before the Company loses control, the difference between the disposal consideration at each stage and the proportionate share of net assets in the disposed subsidiary is recognized as other comprehensive income at the consolidated financial statements and reclassified as profit or loss in the period when the Company loses control over such subsidiary.

5. Impairment test and Provision for bad debts

At the balance sheet date, provisions for impairment loss are made at the difference between the carrying amount and the recoverable amount when there is evidence indicating impairment loss.

(XII) Investment property

1. Investment property includes land use right of leased-out property and of property held for capital appreciation and buildings that have been leased out.

2. The initial measurement of investment property is based on its cost, and subsequent measurement is made using fair value model. The basis for the fair value measurement of investment real estate: accounting standards for enterprises stipulate that there is evidence that the fair value of investment real estate can be obtained continuously and reliably, and the fair value measurement model can be adopted. At the end of each year, the Company calculates the investment real estate according to the appraised value of the investment real estate listed in the asset value appraisal report issued by the third-party appraisal agency.



### (XIII) Fixed assets

#### 1. Recognition principles of fixed assets

Fixed assets are tangible assets held for use in the production of goods or rendering of services, for rental to others, or for administrative purposes, and expected to be used during more than one accounting year. Fixed assets are recognized if, and only if, it is probable that future economic benefits associated with the assets will flow to the Company and the cost of the assets can be measured reliably.

#### 2. Depreciation method of different categories of fixed assets

Categories	Depreciation method	Useful life (years)	Residual value proportion (%)	Annual depreciation rate (%)
Buildings and structures	Straight-line method	7.5-40	3-10	2.25-12.93
General equipment	Straight-line method	3-30	3-10	3.00-32.33
Special equipment	Straight-line method	5-30	3-10	3.00-19.40
Transport facilities	Straight-line method	1-10	3-10	9.00-97.00
Other equipment	Straight-line method	3-24	3-10	3.75-32.33

3. Provisions for impairment are made at the excess of carrying amount over the recoverable amount if there is objective evidence indicating impairment loss at the balance sheet date.

### (XIV) Construction in progress

1. Construction in progress is recognized if, and only if, it is probable that future economic benefits associated with the item will flow to the Company, and the cost of the item can be measured reliably. Construction in progress is measured at the actual cost incurred to reach its designed usable conditions.

2. Construction in progress is transferred into fixed assets at its actual cost when it reaches the designed usable conditions. When the auditing of the construction in progress was not finished while reaching the designed usable conditions, it is transferred to fixed assets using estimated value first, and then adjusted accordingly when the actual cost is settled, but the accumulated depreciation is not to be adjusted retrospectively.

3. At the balance sheet date, provisions for impairment loss are made at the difference between the carrying amount and the recoverable amount when there is evidence indicating impairment loss.

### (XV) Borrowing costs

#### 1. Recognition principle of borrowing costs capitalization

Where the borrowing costs incurred to the Company can be directly attributable to the acquisition and construction or production of assets eligible for capitalization, it is capitalized and included in the costs of relevant assets; other borrowing costs are recognized as expenses on the basis of the actual amount incurred, and are included in profit or loss.

#### 2. Borrowing costs capitalization period

(1) The borrowing costs are not capitalized unless the following requirements are all met: 1) the asset disbursements have already incurred; 2) the borrowing costs have already incurred; and 3) the acquisition and



construction or production activities which are necessary to prepare the asset for its intended use or sale have already started.

(2) Suspension of capitalization: where the acquisition and construction or production of a qualified asset is interrupted abnormally and the interruption period lasts for more than 3 months, the capitalization of the borrowing costs is suspended; the borrowing costs incurred during such period are recognized as expenses, and are included in profit or loss, till the acquisition and construction or production of the asset restarts.

(3) Ceasing of capitalization: when the qualified asset under acquisition and construction or production is ready for the intended use or sale, the capitalization of the borrowing costs is ceased.

### 3. Capitalization rate and capitalized amount of borrowing costs

For borrowings exclusively for the acquisition and construction or production of assets eligible for capitalization, the to-be-capitalized amount of interests is determined in light of the actual interest expenses incurred (including amortization of premium or discount based on effective interest method) of the special borrowings in the current period less the interest income on the unused borrowings as a deposit in the bank or as a temporary investment; where a general borrowing is used for the acquisition and construction or production of assets eligible for capitalization, the Company calculates and determines the to-be-capitalized amount of interests on the general borrowing by multiplying the weighted average asset disbursement of the part of the accumulative asset disbursements less the general borrowing by the capitalization rate of the general borrowing used.

### (XVI) Intangible assets

1. Intangible assets include land use right, patent right, non-patented technology, etc. The initial measurement of intangible assets is based on its cost.

2. For intangible assets with finite useful lives, their amortization amounts are amortized within their useful lives systematically and reasonably, if it is unable to determine the expected realization pattern reliably, intangible assets are amortized by the straight-line method with details as follows:

Items	Amortization period (years)
Land use right	50
Software	5
Copyright	10
Patent right	10

3. At the balance sheet date, provisions for impairment loss on intangible assets with finite useful life are made at the difference between the carrying amount and the recoverable amount when there is evidence indicating impairment loss. Impairment tests are performed on intangible assets with indefinite useful life and intangible assets not yet reaching the usable conditions, on annual basis, no matter there is evidence indicating impairment loss or not.

4. Expenditures on the research phase of an internal project are recognized as profit or loss when they are



incurred. An intangible asset arising from the development phase of an internal project is recognized if the Company can demonstrate all of the followings: (1) the technical feasibility of completing the intangible asset so that it will be available for use or sale; (2) its intention to complete the intangible asset and use or sell it; (3) how the intangible asset will generate probable future economic benefits, among other things, the Company can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset; (4) the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and (5) its ability to measure reliably the expenditure attributable to the intangible asset during its development.

(XVII) Long-term prepayments

Long-term prepayments are expenses that have been recognized but with amortization period over one year (excluding one year). They are recorded with actual cost, and evenly amortized within the beneficiary period or stipulated period. If items of long-term prepayments fail to be beneficial to the following accounting periods, residual values of such items are included in profit or loss.

(XVIII) Employee benefits

1. Employee benefits include short-term employee benefits, post-employment benefits, termination benefits and other long-term employee benefits.

2. Short-term employee benefits

The Company recognizes, in the accounting period in which an employee provides service, short-term employee benefits actually incurred as liabilities, with a corresponding charge to profit or loss or the cost of a relevant asset.

3. Post-employment benefits

The Company classifies post-employment benefit plans as either defined contribution plans or defined benefit plans.

(1) The Company recognizes in the accounting period in which an employee provides service the contribution payable to a defined contribution plan as a liability, with a corresponding charge to profit or loss or the cost of a relevant asset.

(2) Accounting treatment by the Company for defined benefit plan usually involves the following steps:

1) In accordance with the projected unit credit method, using unbiased and mutually compatible actuarial assumptions to estimate related demographic variables and financial variables, measure the obligations under the defined benefit plan, and determine the periods to which the obligations are attributed. Meanwhile, the Company discounts obligations under the defined benefit plan to determine the present value of the defined benefit plan obligations and the current service cost;

2) When a defined benefit plan has assets, the Company recognizes the deficit or surplus by deducting the fair value of defined benefit plan assets from the present value of the defined benefit plan obligation as a net defined benefit plan liability or net defined benefit plan asset. When a defined benefit plan has a surplus, the



Company measures the net defined benefit plan asset at the lower of the surplus in the defined benefit plan and the asset ceiling;

3) At the end of the period, the Company recognizes the following components of employee benefits cost arising from defined benefit plan: a. service cost; b. net interest on the net defined benefit plan liability (asset); and c. changes as a result of remeasurement of the net defined benefit liability (asset). Item a and item b are recognized in profit or loss or the cost of a relevant asset. Item c is recognized in other comprehensive income and is not to be reclassified subsequently to profit or loss. However, the Company may transfer those amounts recognized in other comprehensive income within equity.

#### 4. Termination benefits

Termination benefits provided to employees are recognized as an employee benefit liability for termination benefits, with a corresponding charge to profit or loss at the earlier of the following dates: (1) when the Company cannot unilaterally withdraw the offer of termination benefits because of an employment termination plan or a curtailment proposal; or (2) when the Company recognizes cost or expenses related to a restructuring that involves the payment of termination benefits.

#### 5. Other long-term employee benefits

When other long-term employee benefits provided to the employees satisfied the conditions for classifying as a defined contribution plan, those benefits are accounted for in accordance with the requirements relating to defined contribution plan, while other benefits are accounted for in accordance with the requirements relating to defined benefit plan. The Company recognizes the cost of employee benefits arising from other long-term employee benefits as the followings: (1) service cost; (2) net interest on the net liability or net assets of other long-term employee benefits; and (3) changes as a result of remeasurement of the net liability or net assets of other long-term employee benefits. As a practical expedient, the net total of the aforesaid amounts is recognized in profit or loss or included in the cost of a relevant asset.

#### (XIX) Provisions

1. Provisions are recognized when fulfilling the present obligations arising from contingencies such as providing guarantee for other parties, litigation, products quality guarantee, onerous contract, etc., may cause the outflow of the economic benefit and such obligations can be reliably measured.

2. The initial measurement of provisions is based on the best estimated expenditures required in fulfilling the present obligations, and its carrying amount is reviewed at the balance sheet date.

#### (XX) Revenue

##### 1. Revenue recognition principles

At contract inception, the Company shall assess the contracts and shall identify each performance obligation in the contracts, and determine whether the performance obligation should be satisfied over time or at a point in time.

The Company satisfies a performance obligation over time if one of the following criteria is met, otherwise, the



performance obligation is satisfied at a point in time: (1) the customer simultaneously receives and consumes the economic benefits provided by the Company's performance as the Company performs; (2) the customer can control goods as they are created by the Company's performance; (3) goods created during the Company's performance have irreplaceable uses and the Company has an enforceable right to the payments for performance completed to date during the whole contract period.

For each performance obligation satisfied over time, the Company shall recognize revenue over time by measuring the progress towards complete satisfaction of that performance obligation. In the circumstance that the progress cannot be measured reasonably, but the costs incurred in satisfying the performance obligation are expected to be recovered, the Company shall recognize revenue only to the extent of the costs incurred until it can reasonably measure the progress. For each performance obligation satisfied at a point in time, the Company shall recognize revenue at the time point that the customer obtains control of relevant goods or services. To determine whether the customer has obtained control of goods, the Company shall consider the following indications: (1) the Company has a present right to payments for the goods, i.e., the customer is presently obliged to pay for the goods; (2) the Company has transferred the legal title of the goods to the customer, i.e., the customer has legal title to the goods; (3) the Company has transferred physical possession of the goods to the customer, i.e., the customer has physically possessed the goods; (4) the Company has transferred significant risks and rewards of ownership of the goods to the customer, i.e., the customer has obtained significant risks and rewards of ownership of the goods; (5) the customer has accepted the goods; (6) other evidence indicating the customer has obtained control over the goods.

## 2. Revenue measurement principle

(1) Revenue is measured at the amount of the transaction price that is allocated to each performance obligation. The transaction price is the amount of consideration to which the Company expects to be entitled in exchange for transferring goods or services to a customer, excluding amounts collected on behalf of third parties and those expected to be refunded to the customer.

(2) If the consideration promised in a contract includes a variable amount, the Company shall confirm the best estimate of variable consideration at expected value or the most likely amount. However, the transaction price that includes the amount of variable consideration only to the extent that it is high probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

(3) In the circumstance that the contract contains a significant financing component, the Company shall determine the transaction price based on the price that a customer would have paid for if the customer had paid cash for obtaining control over those goods or services. The difference between the transaction price and the amount of promised consideration is amortized under effective interest method over contractual period. The effects of a significant financing component shall not be considered if the Company expects, at the contract inception, that the period between when the customer obtains control over goods or services and when the customer pays consideration will be one year or less.



(4) For contracts containing two or more performance obligations, the Company shall determine the stand-alone selling price at contract inception of the distinct good underlying each performance obligation and allocate the transaction price to each performance obligation on a relative stand-alone selling price basis.

### 3. Revenue recognition method

#### (1) Heating section services

Heating section services are a single performance obligation, which are performed within a certain period of time. The company recognizes the current income according to the heating days.

#### (2) Gas supply section services

Gas supply section services are performance obligations satisfied at a point in time. When the gas passes through the gas meter, the user gains control of the gas. The company recognizes revenue according to meter reading volume and monthly unit price.

#### (3) Engineering services

Engineering services are performance obligations satisfied over time. Revenue from construction services is recognized by the percentage of completion of the performance obligations, which is determined based on the proportion of the incurred costs to the estimated total costs. In the circumstance that the percentage of completion cannot be measured reasonably, but the incurred costs are expected to be recovered, the Company recognizes revenue only to the extent of the incurred costs until it can reasonably measure the percentage of completion.

### (XXI) Government grants

1. Government grants shall be recognized if, and only if, the following conditions are all met: (1) the Company will comply with the conditions attaching to the grants; (2) the grants will be received. Monetary government grants are measured at the amount received or receivable. Non-monetary government grants are measured at fair value, and can be measured at nominal amount in the circumstance that fair value cannot be assessed.

#### 2. Government grants related to assets

Government grants related to assets are government grants with which the Company purchases, constructs or otherwise acquires long-term assets under requirements of government. In the circumstances that there is no specific government requirement, the Company shall determine based on the primary condition to acquire the grants, and government grants related to assets are government grants whose primary condition is to construct or otherwise acquire long-term assets. They offset carrying amount of relevant assets, or they are recognized as deferred income. If recognized as deferred income, they are included in profit or loss on a systematic basis over the useful lives of the relevant assets. Those measured at notional amount are directly included into profit or loss. For assets sold, transferred, disposed or damaged within the useful lives, balance of unamortized deferred income is transferred into profit or loss of the period in which the disposal occurred.

#### 3. Government grants related to income

Government grants related to income are government grants other than those related to assets. For government grants that contain both parts related to assets and parts related to income, in which those two parts are blurred,



they are thus collectively classified as government grants related to income. For government grants related to income used for compensating the related future cost, expenses or losses, they are recognized as deferred income and included in profit or loss or used to offset relevant cost during the period in which the relevant cost, expenses or losses are recognized; for government grants related to income used for compensating the related cost, expenses or losses incurred to the Company, they are directly included in profit or loss or used to offset relevant cost.

4. Government grants related to the ordinary course of business shall be included into other income or used to offset relevant cost based on business nature, while those not related to the ordinary course of business shall be included into non-operating revenue or expenditures.

#### (XXII) Contract assets, contract liabilities

The Company presents contract assets or contract liabilities in the balance sheet based on the relationship between its performance obligations and customers' payments. Contract assets and contract liabilities under the same contract shall offset each other and be presented on a net basis.

The Company presents an unconditional right to consideration (i.e., only the passage of time is required before the consideration is due) as a receivable, and presents a right to consideration in exchange for goods that it has transferred to a customer (which is conditional on something other than the passage of time) as a contract asset.

The Company presents an obligation to transfer goods to a customer for which the Company has received consideration (or the amount is due) from the customer as a contract liability.

#### (XXIII) Leases

##### 1. The Company as lessee

At the commencement date, the Company recognizes a lease that has a lease term of 12 months or less as a short-term lease, which shall not contain a purchase option; the Company recognizes a lease as a lease of a low-value asset if the underlying asset is of low value when it is new. If the Company subleases an asset, or expects to sublease an asset, the head lease does not qualify as a lease of a low-value asset.

For all short-term leases and leases of low-value assets, lease payments are recognized as cost or profit or loss with straight-line method over the lease term.

Apart from the above-mentioned short-term leases and leases of low-value assets with simplified approach, the Company recognizes right-of-use assets and lease liabilities at the commencement date.

##### (1) Right-of-use assets

The right-of-use asset is measured at cost and the cost shall comprise: 1) the amount of the initial measurement of the lease liabilities; 2) any lease payments made at or before the commencement date, less any lease incentives received; 3) any initial direct costs incurred by the lessee; and 4) an estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease.



The Company depreciates the right-of-use asset using the straight-line method. If it is reasonable to be certain that the ownership of the underlying asset can be acquired by the end of the lease term, the Company depreciates the right-of-use asset from the commencement date to the end of the useful life of the underlying asset. Otherwise, the Company depreciates the right-of-use asset from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term.

At the balance sheet date, provisions for impairment loss are made at the difference between the carrying amount and the recoverable amount when there is evidence indicating impairment loss.

#### (2) Lease liabilities

At the commencement date, the Company measures the lease liability at the present value of the lease payments that are not paid at that date, discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, the Company's incremental borrowing rate shall be used. Unrecognized financing expenses, calculated at the difference between the lease payment and its present value, are recognized as interest expenses over the lease term using the discount rate which has been used to determine the present value of lease payment and included in profit or loss. Variable lease payments not included in the measurement of lease liabilities are included in profit or loss in the periods in which they are incurred.

After the commencement date, if there is a change in the following items: (a) actual fixed payments; (b) amounts expected to be payable under residual value guarantees; (c) an index or a rate used to determine lease payments; (d) assessment result or exercise of purchase option, extension option or termination option, the Company remeasures the lease liability based on the present value of lease payments after changes, and adjusts the carrying amount of the right-of-use asset accordingly. If the carrying amount of the right-of-use asset is reduced to zero but there shall be a further reduction in the lease liability, the remaining amount shall be recognized into profit or loss.

### 2. The Company as lessor

At the commencement date, the Company classifies a lease as a finance lease if it transfers substantially all the risks and rewards incidental to ownership of an underlying asset. Otherwise, it is classified as an operating lease.

#### (1) Operating lease

Lease receipts are recognized as lease income with straight-line method over the lease term. Initial direct costs incurred shall be capitalized, amortized on the same basis as the recognition of lease income, and included into profit or loss by installments. Variable lease payments related to operating lease which are not included in the lease payment are charged as profit or loss in the periods in which they are incurred.

#### (2) Finance lease

At the commencement date, the Company recognizes the finance lease payment receivable based on the net investment in the lease (sum of the present value of unguaranteed residual value and lease receipts that are not received at the commencement date, discounted by the interest rate implicit in the lease), and derecognizes assets held under the finance lease. The Company calculates and recognizes interest income using the interest



rate implicit in the lease over the lease term.

Variable lease payments not included in the measurement of the net investment in the lease are charged as profit or loss in the periods in which they are incurred.

### 3. Sale and leaseback

#### (1) The Company as the lessee

In accordance with the “CASBE 14 – Revenues”, the Company would assess and determine whether the transfer of an asset in the sale and leaseback transaction is accounted for as a sale of that asset.

If the transfer of an asset is accounted for as a sale of the asset, the Company measures the right-of-use asset arising from the leaseback at the proportion of the original carrying amount of the asset that relates to the right of use retained by the Company. Accordingly, the Company recognizes only the amount of any gain or loss that relates to the rights transferred to the lessor.

Otherwise, the Company continues the recognition of the transferred assets, and recognizes a financial liability equal to the amount of transfer income in accordance with the “CASBE 22 – Financial Instruments: Recognition and Measurement” at the same time.

#### (2) The Company as the lessor

In accordance with the “CASBE 14 – Revenues”, the Company would assess and determine whether the transfer of an asset in the sale and leaseback transaction is accounted for as a sale of that asset.

If the transfer of an asset is accounted for as a sale of the asset, the Company accounts for the purchase of assets in accordance with other applicable standards, and accounts for the lease of assets in accordance with the “CASBE 21 – Leases”.

Otherwise, the Company does not recognize the transferred asset, but recognizes a financial asset equal to the amount of transfer income in accordance with the “CASBE 22 – Financial Instruments: Recognition and Measurement”.

### (XXIV) Deferred tax assets/Deferred tax liabilities

1. Deferred tax assets or deferred tax liabilities are calculated and recognized based on the difference between the carrying amount and tax base of assets and liabilities (and the difference of the carrying amount and tax base of items not recognized as assets and liabilities but with their tax base being able to be determined according to tax laws) and in accordance with the tax rate applicable to the period during which the assets are expected to be recovered or the liabilities are expected to be settled.

2. A deferred tax asset is recognized to the extent of the amount of the taxable income, which is most likely to obtain and which can be deducted from the deductible temporary difference. At the balance sheet date, if there is any exact evidence that it is probable that future taxable income will be available against which deductible temporary differences can be utilized, the deferred tax assets unrecognized in prior periods are recognized.

3. At the balance sheet date, the carrying amount of deferred tax assets is reviewed. The carrying amount of a



deferred tax asset is reduced to the extent that it is no longer probable that sufficient taxable income will be available to allow the benefit of the deferred tax asset to be utilized. Such reduction is subsequently reversed to the extent that it becomes probable that sufficient taxable income will be available.

4. The income tax and deferred tax for the period are treated as income tax expenses or income through profit or loss, excluding those arising from the following circumstances: (1) business combination; and (2) the transactions or items directly recognized in equity.

(XXV) Work safety fund

The Company accrues work safety fund in accordance with the Circular on Management Measures on the Accrual and Use of Work Safety Fund numbered Cai Qi [2012] 16 by Ministry of Finance and State Administration of Work Safety. Standard work safety fund is included in the cost or current profit or loss, meanwhile accounted for under “special reserve”. When work safety fund is used as an expense, it is to offset special reserve directly. When work safety fund is qualified to be included in the cost of fixed assets, it is accounted for under “construction in progress” and transferred to fixed assets when related safety projects reach the designed useful conditions; meanwhile, the cost included in fixed assets is to offset “special reserve”, and accumulated depreciation shall be recognized at the same amount. Such fixed assets shall not be depreciated in future periods.

(XXVI) Changes in accounting policies arising from changes in CASBEs

1. Since January 1, 2021, the Company has implemented the “CASBE 22–Recognition and Measurement of Financial Instruments”, “CASBE 23–Transfer of Financial Assets”, “CASBE 24 – Hedging”, “CASBE 37 – Presentation of Financial Instruments” (hereinafter refer to New Standards for Financial Instruments) revised by the Ministry of Finance. According to the relevant provisions on the convergence of the old and new standards, the information of the comparable period shall not be adjusted, and the difference between the new standards and the original standards on the first execution date shall be retroactively adjusted to the retained earnings or other comprehensive income at the beginning of the reporting period.

The New Standards for Financial Instruments change classification and measurement of financial assets and determines three measurement categories: amortized costs; measurement at fair value through other comprehensive income; and measurement at fair value through profits or loss. The Company considers its business model and the contractual cash flow characteristics of financial assets to make the above classification. Equity investment should be measured at fair value and the changes are recorded in the profits and losses, but non-trading equity investment can be chosen to be initially recognized at fair value through other comprehensive income (gain or loss of disposal cannot recover to profit and loss, but the dividend income is recognized in profits or loss), and the choice is irrevocable.

The New Standards for Financial Instruments require the impairment measurement of financial assets to be changed from the "incurred loss model" to the "expected credit loss model", which is applicable to the financial assets measured at amortized cost, the financial assets measured at fair value through other comprehensive income, and lease receivables.

(1) The main impact of the implementation of the New Standards for Financial Instruments on the Company’s



financial statements as of January 1, 2021, is as follows:

Items	Balance Sheet		
	December 31, 2020	Impact of adjustments on New Standards for Financial Instruments	January 1, 2021
Notes receivable	58,832,886.69	-52,457,434.28	6,375,452.41
Receivables financing		52,457,434.28	52,457,434.28
Available-for-sale financial assets	19,960,000.00	-19,960,000.00	
Other equity instrument investments		19,460,000.00	19,460,000.00
Other non-current financial assets		500,000.00	500,000.00
Other non-current assets	453,389,873.80	-400,000,000.00	53,389,873.80
Debt investments		400,000,000.00	400,000,000.00
Other payables	4,143,558,750.34	-5,511,201.56	4,138,047,548.78
Short-term borrowings	392,573,456.46	11,962.50	392,585,418.96
Non-current liabilities due within one year [Note]	115,856,483.23	5,499,239.06	130,020,384.72

[Note] The impact of the implementation of the new financial instrument criteria was RMB 5,499,239.06 yuan, and the implementation of the new leasing criteria was RMB 8,664,662.43 yuan.

(2) On January 1, 2021, the classification and measurement results of the Company's financial assets and financial liabilities in accordance with the New Standards for Financial Instruments and the Original Standards for Financial Instruments are compared as follows:

Items	Original Standards		New Standards	
	Measurement category	Carrying amount	Measurement category	Carrying amount
Cash and bank balances	Amortized costs (Loans and receivables)	6,214,582,375.46	Amortized costs	6,214,582,375.46
Notes receivable	Amortized costs (Loans and receivables)	58,832,886.69	Amortized costs	6,375,452.41
			Fair value through other comprehensive income	52,457,434.28
Accounts receivable [Note]	Amortized costs (Loans and receivables)	849,627,938.13	Amortized costs	775,407,523.13
Other receivables	Amortized costs (Loans and receivables)	2,687,854,848.20	Amortized costs	2,687,854,848.20
Available-for-sale financial assets	Fair value through other comprehensive income (Assets available for sale)	19,960,000.00	Fair value through other comprehensive income (designated)	19,460,000.00
			Fair value through the current profit and loss	500,000.00
Other non-current assets	Amortized costs (Other financial liabilities)	453,389,873.80	Amortized costs	400,000,000.00
Short-term borrowings	Amortized costs (Other financial liabilities)	392,573,456.46	Amortized costs	392,585,418.96
Notes payable	Amortized costs (Other financial liabilities)	1,035,697,514.51	Amortized costs	1,035,697,514.51



Items	Original Standards		New Standards	
	Measurement category	Carrying amount	Measurement category	Carrying amount
Accounts payable	Amortized costs (Other financial liabilities)	4,766,521,599.13	Amortized costs	4,766,521,599.13
Other payables	Amortized costs (Other financial liabilities)	4,143,558,750.34	Amortized costs	4,138,047,548.78
Non-current liabilities due within one year	Amortized costs (Other financial liabilities)	115,856,483.23	Amortized costs	130,020,384.72
Long-term borrowings	Amortized costs (Other financial liabilities)	3,868,940,943.85	Amortized costs	3,868,940,943.85
Long-term payables	Amortized costs (Other financial liabilities)	3,539,554,670.76	Amortized costs	3,539,554,670.76

[Note] The impact of the implementation of the new revenue criteria is RMB -74,220,415.00 yuan.

(3) On January 1, 2021, the adjustment statement of the carrying value of the Company's original financial assets and financial liabilities to the carrying value of the new financial assets and financial liabilities classified and measured in accordance with the New Standards for Financial Instruments is as follows:

Items	Carrying amount under Original Standards for Financial Instruments (December 31, 2020)	Reclassification	Remeasurement	Carrying amount under New Standards for Financial Instruments (January 1, 2021)
1) Financial assets				
a. Amortized costs				
Cash and bank balances				
The balance based on the original CAS22 and based on the new CAS22	6,214,582,375.46			6,214,582,375.46
Notes receivable	58,832,886.69			
Less: Transfer out to be measured at fair value through other comprehensive income—equity instrument investments (new CAS22)		-52,457,434.28		
The balance based on the new CAS22				6,375,452.41
Accounts receivable				
The balance based on the original CAS22	849,627,938.13			
Impact of the new revenue guidelines		-74,220,415.00		
The balance based on the new CAS22				775,407,523.13



Items	Carrying amount under Original Standards for Financial Instruments (December 31, 2020)	Reclassification	Remeasurement	Carrying amount under New Standards for Financial Instruments (January 1, 2021)
Other receivables				
The balance based on the original CAS22 and based on the new CAS22	2,687,854,848.20			2,687,854,848.20
Other non-current assets				
The balance based on the original CAS22	453,389,873.80			
Less: transfer to the debt investment list		-400,000,000.00		
The balance based on the new CAS22				53,389,873.80
Debt investments				
The balance based on the original CAS22				
Plus: transfer from other non-current assets		400,000,000.00		
The balance based on the new CAS22				400,000,000.00
Total financial assets measured at amortized costs	10,264,287,922.28	-126,677,849.28		10,137,610,073.00
<b>b. Fair value through the current profit and loss</b>				
Other non-current financial assets				
Balance listed by the original CAS22				
Add: Transfer from available for sale (formerly CAS22)		500,000.00		
Balance listed by the new CAS22				500,000.00
Total financial assets measured at fair value and whose changes are included in other comprehensive income		500,000.00		500,000.00
<b>c. Fair value through other comprehensive income</b>				
Receivables financing				



Items	Carrying amount under Original Standards for Financial Instruments (December 31, 2020)	Reclassification	Remeasurement	Carrying amount under New Standards for Financial Instruments (January 1, 2021)
The balance based on the original CAS22				
Add: Transfer from amortized costs (original CAS22)		52,457,434.28		
The balance based on the new CAS22				52,457,434.28
Available-for-sale financial assets				
The balance based on the original CAS22	19,960,000.00			
Less: Transfer out to be measured at fair value through other comprehensive income—Other non-current financial assets (new CAS22)		-500,000.00		
Less: Transfer out to be measured at fair value through other comprehensive income—equity instrument investments (new CAS22)		-19,460,000.00		
The balance based on the new CAS22				
Other equity instrument investments				
The balance based on the original CAS22				
Add: Transfer from available-for-sale (original CAS22) – specified as		19,460,000.00		
The balance based on the new CAS22				19,460,000.00
Total financial assets measures at fair value through other comprehensive income	19,960,000.00	51,957,434.28		71,917,434.28
2) Financial liabilities				
Amortized costs				



Items	Carrying amount under Original Standards for Financial Instruments (December 31, 2020)	Reclassification	Remeasurement	Carrying amount under New Standards for Financial Instruments (January 1, 2021)
Short-term borrowings				
The balance based on the original CAS22	392,573,456.46			
Add: Transfer from other payables (interest payables)		11,962.50		
The balance based on the new CAS22				392,585,418.96
Notes payable				
The balance based on the original CAS22 and based on the new CAS22	1,035,697,514.51			1,035,697,514.51
Accounts payable				
The balance based on the original CAS22 and based on the new CAS22	4,766,521,599.13			4,766,521,599.13
Other payables				
The balance based on the original CAS22	4,143,558,750.34			
Less: Transfer to short-term borrowings (interest payables)		-11,962.50		
Less: Transfer to non-current liabilities due within one year (interest payables)		-5,499,239.06		
The balance based on the new CAS22				4,138,047,548.78
Non-current liabilities due within one year				
The balance based on the original CAS22	115,856,483.23			
Add: Transfer from other payables (interest payables)		5,499,239.06		
The amount affected by the New Standards for Leases		8,664,662.43		
The balance based on the new CAS22				130,020,384.72



Items	Carrying amount under Original Standards for Financial Instruments (December 31, 2020)	Reclassification	Remeasurement	Carrying amount under New Standards for Financial Instruments (January 1, 2021)
Long-term borrowings				
The balance based on the original CAS22 and based on the new CAS22	3,868,940,943.85			3,868,940,943.85
Long-term payables				
The balance based on the original CAS22 and the new CAS22	3,539,554,670.76			3,539,554,670.76
Total financial liabilities measured at amortized costs	17,862,703,418.28	8,664,662.43		17,871,368,080.71

(4) On January 1, 2021, the adjustment statement of the closing balance of the Company's original financial assets provision for impairment to the closing balance of the new financial assets provision for impairment classified and measured in accordance with the New Standards for Financial Instruments is as follows:

Items	Provision for loss under Original Standards for Financial Instruments (December 31, 2020)	Reclassification	Remeasurement	Provision for loss under New Standards for Financial Instruments (January 1, 2021)
Accounts receivable	57,005,708.13			57,005,708.13
Other receivables	91,827,050.19			91,827,050.19

2. Since January 1, 2021, the Company has implemented the "CASBE 14-Revenue" (hereinafter refer to as New Standards for Revenue) revised by the Ministry of Finance. According to the relevant provisions on the convergence of the old and new standards, the information of the comparable period will not be adjusted, and the cumulative impact of the new standards and the original standards implemented on the first execution date will be retroactively adjusted for the initial retained earnings and other relevant items in the financial statements of the reporting period.

The main impacts of the implementation of the New Standards for Revenue on the Company's financial statements as of January 1, 2021, are as follows:

Items	Balance Sheet		
	December 31, 2020	Impact of adjustments on New Standards for Revenue	January 1, 2021
Advances received	6,301,261,547.78	-6,290,291,393.47	10,970,154.31
Contract liabilities		6,143,333,127.52	6,143,333,127.52
Other current liabilities		146,958,265.95	146,958,265.95



Items	Balance Sheet		
	December 31, 2020	Impact of adjustments on New Standards for Revenue	January 1, 2021
Accounts receivable	927,851,049.55	-74,220,415.00	853,630,634.55
Contract assets		74,220,415.00	74,220,415.00

3. Since January 1, 2021 (hereinafter refer to as the first execution date), the company has implemented the revised "CASBE 21–Leases" (hereinafter refer to as New Standards for Leases).

(1) For contracts that already existed before the first execution date, the company elects not to re-evaluate whether it is a lease or an inclusive lease.

(2) For the lease contracts in which the company is the lessee, the company adjusts the amount of retained earnings at the beginning of the reporting period and the amount of other relevant items in the financial statements based on the cumulative impact of the implementation of New Standards for Leases and the Original Standards on the first execution date, and no adjustment is made to the information in the comparable period. Details are as follows:

For the financial leases prior to the first execution date, the company separately measures the right-of-use assets and lease liabilities based on the original carrying amount of the financial leased assets and the financial lease payables on the first execution date.

For the operating leases prior to the first execution date, the company measures the lease liabilities based on the present value of the remaining lease payments discounted at the company's incremental borrowing interest rate on the first execution date, and make necessary adjustments to the measuring right-of-use assets according to the prepaid rent in an amount equal to the lease liabilities.

On the first execution date, the company conducts impairment test on right-of-use assets and conducts corresponding accounting treatment in accordance with the provisions of Notes III (XXIII) to the financial statements.

The main impacts of the implementation of the New Standards for Leases on the Company's financial statements as of January 1, 2021, are as follows:

Items	Balance Sheet		
	December 31, 2020	Impact of adjustments on New Standards for Leases	January 1, 2021
Right-of-use assets		61,581,141.99	61,581,141.99
Long-term prepayments	357,041,671.55	-453,486.09	356,588,185.46
Deferred tax assets	22,249,156.61	438,512.29	22,687,668.90
Advances paid	1,002,061,241.92	-24,298.61	1,002,036,943.31
Non-controlling interest	1,377,416,646.34	-46,769.22	1,377,369,877.12
Equity attributable to the parent company	8,987,557,400.07	-987,283.44	8,986,570,116.63



Items	Balance Sheet		
	December 31, 2020	Impact of adjustments on New Standards for Leases	January 1, 2021
Non-current liabilities due within one year [Note]	115,856,483.23	8,664,662.43	130,020,384.72
Lease liabilities		53,911,259.81	53,911,259.81

Note: The impact of the implementation of the new financial instrument criteria was RMB 5,499,239.06 yuan, and the implementation of the new leasing criteria was RMB 8,664,662.43 yuan.

(3) For operating lease contracts for low-value assets that existed before the first execution date, the company adopts a simplified method, does not recognize the right-of-use assets and lease liabilities, and conducts accounting treatment in accordance with the New Standards for Leases from the first execution date.

(4) For the lease contract with the company as the lessor, the accounting treatment shall be carried out in accordance with the New Standards for Leases since the first execution date.

(5) Treatment of sale-and-leaseback transactions that existed prior to the first execution date

For the sale-and-leaseback transactions existing before the first execution date, the company will not re-evaluate whether the asset transfer complies with the “Accounting Standards for Business Enterprises No.14 - Revenue” as the accounting treatment of sales on the first execution date.

For sale-and-leaseback transactions that are accounted for as sales and finance leases prior to the date of first execution, the Company, as seller (lessee), accounts for leasebacks in the same manner as for other finance leases that exist on the date of first execution and continues to amortize the related deferred gains or losses over the lease term.

For sale-and-leaseback transactions that are accounted for as sales and operating leases prior to the date of first execution, the Company, as seller (lessee), accounts for leasebacks in the same manner as for other operating leases that exist on the date of first execution and adjusts the Right-of-use assets according to the relevant deferred income or loss recorded in the balance sheet before the first execution date.

4. The Company conducts the Interpretation of Accounting Standards for Enterprises No. 14 issued by the Ministry of Finance in 2021 from January 26, 2021, and the changes of accounting policy have no impact on the company’s financial statements.

5. The Company conducts the Interpretation of Accounting Standards for Enterprises No. 15 (Presentations Related to Centralized Management of Funds) issued by the Ministry of Finance in 2021 from December 31, 2021, and the changes of accounting policy have no impact on the company’s financial statements.

#### IV. Taxes

##### (I) Main taxes and tax rates

Taxes	Tax bases	Tax rates
Value-added tax (VAT)	The output tax calculated based on the revenue from sales of goods or rendering of services in accordance with the tax law, net of the input tax that is allowed to be deducted in the current period	13%、9%、6%、5%



Taxes	Tax bases	Tax rates
Housing property tax	For housing property levied on the basis of price, housing property tax is levied at the rate of 1.2% of the balance after deducting 30% of the cost; for housing property levied on the basis of rent, housing property tax is levied at the rate of 12% of lease income.	1.2%、12%
Education surcharge	Turnover tax actually paid	3%
Local education surcharge	Turnover tax actually paid	2%
Enterprise income tax	Taxable income	25%、20%、15%

Different enterprise income tax rates applicable to different taxpayers:

Taxpayers	Income tax rate
Shandong Ganghua Jicheng Energy Service Co. LTD	15%
Jinan Anxintai Gas Engineering Design Co., LTD	20%
Jinan Zhongyuan Natural Gas Development Co. LTD	20%
Jinan Huamo Thermoelectric Energy Co. LTD	20%
Shandong Jihuaderun Gas Co. LTD	20%
Jinan Port Hua Quantong Transportation Co. LTD	20%
Jinan Port Hua Quantong Binhe Natural Gas Company	20%
Shandong Yitong Engineering Technology Service Co. LTD	20%
Jinan Port Huaping Antong New Energy Technology Co., LTD	20%
Jinan Blue Sky Engineering Consulting Co. LTD	20%
Jinan Blue Sky Thermoelectric Property Management Co. LTD	20%
Jinan Blue Sky Thermal Technology Co., LTD	20%
Jinan Blue Sky Thermoelectric New Building Materials Co. LTD	20%
Shandong Jineng Pipeline Gas Co. LTD	20%
Shandong Ruiguan Electric Energy and Heat Co., LTD	20%
Jinan Heshun Sports Culture Development Co. LTD	20%
Jinan Hetai Heating Supply Co., LTD	20%
Taxpayers other than the above-mentioned	25%

## (II) Tax preferential policies

### 1. Enterprise income tax

(1) According to the Notice of the State Administration of Taxation of the Ministry of Finance on Implementing the Policy of Inclusive Tax Reduction for Small and Micro-sized Enterprises numbered Cai Shui [2019] 13, from January 1, 2019 to December 31, 2021, for the part of annual taxable income less than 1 million yuan of small low-profit enterprises, income reduced by 25% shall be included into the taxable income amount, and the enterprise income tax shall be paid at the tax rate of 20% ;for the part of annual taxable income exceeding 1 million yuan but not exceeding 3 million yuan, income reduced by 50% shall be included into the taxable income amount, and the enterprise income tax shall be paid at the tax rate of 20%. On the basis of the



preferential policies stipulated in Article 2 of the Notice of the General Administration of Taxation of the Ministry of Finance on the Implementation of Inclusive Tax Reduction and Exemption Policies for Small and Micro Enterprises (Finance and Taxation No.13, 2019), the enterprise income tax shall be halved. For companies enjoying this preferential policy, please refer to the above "Explanation of Corporate Income Tax Rates of tax Subjects with Different tax Rates".

(2) According to the Reply on the Record of the First Batch of High-tech Enterprises in Shandong Province in 2019 numbered Guokehuo [2020] 36, Shandong Ganghua Jicheng Energy Service Co., Ltd. has obtained the qualification of high-tech enterprise with the certificate number GR201937002437. The date of issuance of the certificate is November 28, 2019, and the enterprise income tax will be paid at the tax rate of 15% in 2021.

## 2. Other taxes

According to the Notice of the Ministry of Finance and the State Administration of Taxation on Preferential Policies on Value Added Tax , Property Tax, and Urban Land Use Tax for Heating Enterprises numbered Caishui [2016] 94, and Notice of the Ministry of Finance and the State Administration of Taxation on the Extension of the Preferential Policies of Value-added Tax, Property Tax and Urban Land Use Tax for Heating Enterprises numbered Caishui [2019] 38, the heating fee income obtained by heating enterprises from providing heating to individual residents shall be exempted from value-added tax. For heating enterprises that charge heating fees from residents, the factory buildings and land used for heating for residents shall be exempted from property tax and urban land use tax. Zaozhuang Shengyuan Heating Co., Ltd., Jinan Hesheng Heating Co., Ltd., and Jinan Jiyang Xincheng Heating Co., Ltd., enjoy the preferential policy of VAT exemption during the reporting period. During the reporting period, Jinan Shanghe Hengtai Heating Co., Ltd., Jinan Dongsheng Thermoelectric Co., Ltd., Jinan Heating Group Co., Ltd., Jinan Hesheng Heating Co., Ltd. enjoy tax preferential policies of exemption from property tax and urban land use tax for the factory buildings and land used for heating for residents.

## V. Notes to items of consolidated financial statements

Remarks: The beginning number in the notes to the financial statements refers to the financial statements at the end of the previous year as of January 1, 2021, adjusted according to the new financial instrument standards, new income standards and new lease standards; the ending number refers to the financial statements at December 31, 2021; the current period refers to the year 2021; the corresponding period of the previous year refers to the year 2020.

### (I) Notes to items of the consolidated balance sheet

#### 1. Cash and bank balances

##### (1) Details

Items	Closing balance	Opening balance
Cash on hand	48,865.13	71,963.34
Cash in bank	6,717,871,193.97	5,903,007,589.05
Other cash and bank balances	734,196,913.30	311,502,823.07



Items	Closing balance	Opening balance
Total	7,452,116,972.40	6,214,582,375.46

(2) Description of restricted funds

Items	Closing balance	Opening balance
Cash in bank		
Including: Pledged certificates of deposit	100,000,000.00	100,000,000.00
Structured deposits	35,000,000.00	
Lawsuit frozen deposit	13,822,974.50	
Subtotal	148,822,974.50	100,000,000.00
Other cash and bank balances		
Including: Bank acceptance deposit	427,511,424.93	261,642,000.21
Construction labor wage deposit	4,191,043.38	408,080.18
Loan margin	60,000,000.00	8,956.79
Labor deposit		1,293,688.26
Letter of guarantee deposit	7,442,630.21	15,056,622.58
Housing sales fund and maintenance fund account	16,804,959.63	9,556,846.37
Letter of credit deposit	118,071,826.75	896,100.00
Supervisory account	80,783,057.37	
Subtotal	714,804,942.27	288,862,294.39
Total	863,627,916.77	388,862,294.39

2. Notes receivable

Items	Closing balance	Opening balance
Bank acceptance	40,258,387.95	
Trade acceptance	3,257,731.03	6,375,452.41
Total	43,516,118.98	6,375,452.41

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI)1 to the financial statements.

3. Accounts receivable

(1) Details

1) Details on categories

Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Receivables with provision made on an individual basis	7,263,905.09	0.50	4,179,168.39	57.53	3,084,736.70



Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Receivables with provision made on a collective basis	1,443,288,533.91	99.50	77,814,218.43	5.39	1,365,474,315.48
Total	1,450,552,439.00	100.00	81,993,386.82	5.65	1,368,559,052.18

(Continued)

Categories	Opening balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Receivables with provision made on an individual basis	1,486,301.36	0.18	1,486,301.36	100.00	
Receivables with provision made on a collective basis	830,926,929.90	99.82	55,519,406.77	6.68	775,407,523.13
Total	832,413,231.26	100.00	57,005,708.13	6.85	775,407,523.13

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 2 to the financial statements.

2) Accounts receivable with provision made on an individual basis

Debtors	Book balance	Provision for bad debts	Provision proportion (%)	Reasons
Shandong Nanshan Aluminum Industry Co., Ltd	520,000.00	520,000.00	100.00	The expected possibility of the recovery is very small, the full provision for bad debts
Shandong Provincial High People's Court	250,000.00	250,000.00	100.00	Accounts cannot be recovered
Shandong Xineng Gas Utilization Co., LTD	557,018.86	222,807.54	40.00	The single amount is not significant, and the bad debt provision made according to the aging analysis method can no longer reflect its actual situation
Yuxin Communications Company	219,990.00	219,990.00	100.00	Account age is longer and is not expected to be recovered
Shandong Province clean government education base	213,994.50	128,396.70	60.00	Historical credit loss experience, based on the current situation and the forecast of the future economic situation
Shandong Shanxian Tianlong Gas Co., LTD	110,000.00	110,000.00	100.00	The expected possibility of the recovery is very small, the full provision for bad debts
Shandong Tianhui Gas Co., LTD	86,840.00	86,840.00	100.00	The expected possibility of the recovery is very small, the full provision for bad



Debtors	Book balance	Provision for bad debts	Provision proportion (%)	Reasons
				debts
Shandong Shengli Energy Co., Ltd	85,000.00	85,000.00	100.00	The expected possibility of the recovery is very small, the full provision for bad debts
Linqu Hengshun Heating Co., LTD. (Xiao Meijie)	82,270.80	82,270.80	100.00	The expected possibility of the recovery is very small, the full provision for bad debts
Shandong 18 Pan Culture Communication Co. LTD	96,000.00	52,800.00	55.00	Historical credit loss experience, based on the current situation and the forecast of the future economic situation
Municipal Urban construction Bureau equipment station	48,000.00	48,000.00	100.00	Account age is longer and is not expected to be recovered
Jinan new metal material	40,000.00	40,000.00	100.00	Account age is longer and is not expected to be recovered
Jinan Shengtang Real Estate Co., LTD	163,215.00	16,321.51	10.00	Historical credit loss experience, based on the current situation and the forecast of the future economic situation
Shandong Shengze Engineering Construction Co., LTD	147,752.70	14,775.27	10.00	Historical credit loss experience, based on the current situation and the forecast of the future economic situation
Shandong Provincial Military Area Command changes to Management (Team 1)	19,000.00	11,400.00	60.00	Historical credit loss experience, based on the current situation and the forecast of the future economic situation
Jinan Vanke Jiahe Real Estate Co., LTD	66,289.70	6,628.97	10.00	Historical credit loss experience, based on the current situation and the forecast of the future economic situation
Other sporadic payments	4,558,533.53	2,283,937.60	50.10	
Subtotal	7,263,905.09	4,179,168.39	57.53	

3) Accounts receivable with provision for bad debts made on a collective basis

Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	



Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Provision for bad debts made on a collective basis:					
Portfolio grouped with government funds receivable	47,008,389.59	3.26			47,008,389.59
Portfolio grouped with Large state-owned enterprises receivable	683,526,530.93	47.36			683,526,530.93
Portfolio grouped with ages	712,753,613.39	49.38	77,814,218.43	10.92	634,939,394.96
Total	1,443,288,533.91	100.00	77,814,218.43	5.39	1,365,474,315.48

4) Accounts receivable with provision made on a collective basis using age analysis method

Ages	Closing balance		
	Book balance	Provision for bad debts	Provision proportion (%)
Within 1 year	481,666,462.26	19,674,676.44	4.08
1-2 years	165,223,479.13	16,596,113.82	10.04
2-3 years	11,169,566.89	2,411,940.87	21.59
3-4 years	7,771,053.94	2,684,750.24	34.55
4-5 years	10,200,418.36	7,347,425.39	72.03
Over 5 years	36,722,632.81	29,099,311.67	79.24
Subtotal	712,753,613.39	77,814,218.43	10.92

(2) Balance due from related parties

No related party accounts receivable at the end of the period.

(3) Details of the top 5 debtors with largest balances

Debtors	Book balance	Proportion to the total balance of accounts receivable (%)	Provision for bad debts
State Grid Shandong Electric Power Company Jinan Power Supply Company	103,471,756.43	7.13	
Beijing Huayuan Taimeng Energy Saving Equipment Co., LTD	44,301,720.42	3.05	2,215,086.02
Finance Bureau of Shanghe County, Jinan City	37,161,601.00	2.56	
Jinan Puli Water Supply Engineering Co., LTD	29,780,814.34	2.05	1,796,258.75
Qingdao Terlier Environmental Protection Group Co., LTD	26,907,258.28	1.86	1,345,362.91
Subtotal	241,623,150.47	16.65	5,356,707.68

4. Receivables financing



Items	Closing balance		Opening balance	
	Carrying amount	Accumulated provision for credit impairment	Carrying amount	Accumulated provision for credit impairment
Bank acceptance	99,532,870.69		52,457,434.28	
Total	99,532,870.69		52,457,434.28	

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 1 to the financial statements.

## 5. Advances paid

### (1) Age analysis

Ages	Closing balance			
	Book balance	% to total	Provision for impairment	Carrying amount
Within 1 year	1,214,849,685.84	74.48		1,214,849,685.84
1-2 years	225,347,193.71	13.81		225,347,193.71
2-3 years	44,679,793.88	2.74		44,679,793.88
Over 3 years	146,263,247.29	8.97		146,263,247.29
Total	1,631,139,920.72	100.00		1,631,139,920.72

(Continued)

Ages	Opening balance			
	Book balance	% to total	Provision for impairment	Carrying amount
Within 1 year	688,955,967.23	68.76		688,955,967.23
1-2 years	145,305,142.13	14.50		145,305,142.13
2-3 years	87,095,291.59	8.69		87,095,291.59
Over 3 years	80,680,542.36	8.05		80,680,542.36
Total	1,002,036,943.31	100.00		1,002,036,943.31

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 3 to the financial statements.

### (2) Balance due from related parties

No prepayments for related party at the end of the period.

### (3) Details of the top 5 debtors with largest balances

Debtors	Book balance	Proportion to the total balance of advances paid (%)
North China Natural Gas Sales Center of China Petrochemical Corporation Natural Gas Branch	104,073,543.91	6.38
China Zhongyuan International Engineering Co., Ltd	90,917,837.71	5.57
Shandong Natural Gas Sales Center of Sinopec Natural Gas Branch	76,692,566.27	4.70



Debtors	Book balance	Proportion to the total balance of advances paid (%)
CNPC Natural Gas Sales Shandong Branch	58,726,618.17	3.60
Shandong Qiwait Solar Energy Technology Co., LTD	46,828,600.00	2.87
Subtotal	377,239,166.06	23.12

6. Other receivables

(1) Details

Items	Closing balance	Opening balance
Interest receivable	8,006,999.64	32,053.70
Other receivables	4,079,985,629.36	2,687,822,794.50
Total	4,087,992,629.00	2,687,854,848.20

(2) Interest receivable

Items	Closing balance	Opening balance
Time deposits	9,221.92	32,053.70
Bond investments	7,997,777.72	
Subtotal	8,006,999.64	32,053.70

(3) Other receivables

1) Details on categories

Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Receivables with provision made on an individual basis	51,645,786.06	1.20	51,645,786.06	100.00	
Receivables with provision made on a collective basis	4,242,119,369.85	98.80	162,133,740.49	3.82	4,079,985,629.36
Total	4,293,765,155.91	100.00	213,779,526.55	4.98	4,079,985,629.36

(Continued)

Categories	Opening balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Receivables with provision made on an individual basis	26,161,001.24	0.94	26,161,001.24	100.00	
Receivables with provision made on a collective basis	2,753,488,843.45	99.06	65,666,048.95	2.38	2,687,822,794.50



Categories	Opening balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Total	2,779,649,844.69	100.00	91,827,050.19	3.30	2,687,822,794.50

2) Other receivables with provision made on an individual basis

Debtors	Book balance	Provision for bad debts	Provision proportion (%)	Reasons for provision made
Lai Jixiang	14,711,521.29	14,711,521.29	100.00	Accounts are older and are not expected to be collected
Shandong Qingneng Power Group Co., Ltd.	13,181,169.57	13,181,169.57	100.00	It is not expected to be recoverable after the judgment
Jinan Beijiao Thermal Power Plant	1,519,724.15	1,519,724.15	100.00	Accounts are older and are not expected to be collecte
Song Ping	1,454,160.00	1,454,160.00	100.00	Accounts are older and are not expected to be collecte
Gas Management Division	1,000,000.00	1,000,000.00	100.00	Accounts are older and are not expected to be collecte
Jinan Water Industry Group Co., Ltd	961,500.00	961,500.00	100.00	Accounts are older and are not expected to be collecte
POWERCHINA SEPCO1 Electric POWER Construction Co., Ltd.	857,508.88	857,508.88	100.00	Accounts are older and are not expected to be collecte
Jinan Development Zone Thermal Power Plant	855,914.00	855,914.00	100.00	Accounts are older and are not expected to be collecte
Provincial Chemical Office - Regional	794,270.40	794,270.40	100.00	Accounts are older and are not expected to be collecte
Jinan Lantian Thermolectricity Fuel Co., Ltd.	750,000.00	750,000.00	100.00	Accounts are older and are not expected to be collecte
Jinan Thermal Power Company Material Company	590,398.86	590,398.86	100.00	Accounts are older and are not expected to be collecte
Provincial Textile Industry Office - Regional	586,102.00	586,102.00	100.00	Accounts are older and are not expected to be collecte
CREPE-MYRTLE LIMITED	500,000.00	500,000.00	100.00	The amount is not expected to be recovered
Sapphire Gas Meter Factory	495,200.00	495,200.00	100.00	Accounts are older and are not expected to be collecte
Nanjing Qinhuai District Court	400,000.00	400,000.00	100.00	Accounts are older and are not expected



Debtors	Book balance	Provision for bad debts	Provision proportion (%)	Reasons for provision made
				to be collecte
Shandong Shenguang Real Estate (Production)	300,000.00	300,000.00	100.00	Accounts are older and are not expected to be collecte
Shandong Marine Fisheries Department	207,016.12	207,016.12	100.00	Accounts are older and are not expected to be collecte
ZHANG Tiexin	200,000.00	200,000.00	100.00	Accounts are older and are not expected to be collecte
Ji Wei	180,000.00	180,000.00	100.00	Accounts are older and are not expected to be collecte
Laiwu City upstream town Ludi salary insulation plant	150,000.00	150,000.00	100.00	Accounts are older and are not expected to be collecte
Jinan Zhongyue Economic & Trade Co., Ltd.	150,000.00	150,000.00	100.00	Accounts are older and are not expected to be collecte
Zhou Wenbao	103,878.40	103,878.40	100.00	Accounts are older and are not expected to be collecte
Wu Yingjun	100,000.00	100,000.00	100.00	Accounts are older and are not expected to be collecte
Jinan Guotai Hotel Co., Ltd.	100,000.00	100,000.00	100.00	Accounts are older and are not expected to be collecte
Others	11,497,422.39	11,497,422.39	100.00	Accounts are older and are not expected to be collecte
Subtotal	51,645,786.06	51,645,786.06	100.00	

3) Other receivables with provision made on a collective basis

a. Details on categories

Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Portfolio grouped with government funds receivable	1,616,802,665.57	38.11			1,616,802,665.57
Portfolio grouped with petty cash receivable	75,475,518.14	1.78			75,475,518.14
Portfolio grouped with Related party	29,903,493.86	0.70			29,903,493.86
Portfolio grouped with Large state-owned enterprises receivable	1,993,514,259.42	47.00	75,355,413.33	3.78	1,918,158,846.09
Portfolio grouped with ages	526,423,432.86	12.41	86,778,327.16	16.48	439,645,105.70



Categories	Closing balance				Carrying amount
	Book balance		Provision for bad debts		
	Amount	% to total	Amount	Provision proportion (%)	
Total	4,242,119,369.85	100.00	162,133,740.49	3.82	4,079,985,629.36

b. Other receivables with provision made on a collective basis using age analysis method

Ages	Closing balance		
	Book balance	Provision for bad debts	Provision proportion (%)
Within 1 year	275,869,173.13	13,792,249.57	5.00
1-2 years	166,800,709.47	16,680,070.94	10.00
2-3 years	22,814,143.03	4,562,828.60	20.00
3-4 years	7,336,472.87	2,227,237.06	30.36
4-5 years	2,970,496.05	1,450,572.06	48.83
Over 5 years	50,632,438.31	48,065,368.93	94.93
Subtotal	526,423,432.86	86,778,327.16	16.48

4) Balance due from related parties

Name of related parties	Closing balance
Shandong Qiquan Energy Technology Co. LTD	29,903,493.86
Subtotal	29,903,493.86

5) Details of the top 5 debtors with largest balances

Debtors	Book balance	Proportion to the total balance of other receivables (%)	Nature of receivables	Provision for bad debts
Jinan Municipal Bureau of Finance	1,280,020,270.23	29.81	Subsidy payments	
Jinan Dongxin Thermal Power Co., Ltd.	1,255,923,555.57	29.25	Loan	75,355,413.33
Shandong Shengfeng Cold Chain Logistics Co., Ltd.	150,000,000.00	3.49	Deposit	7,500,000.00
Jinan Municipal Public Utilities Bureau	150,000,000.00	3.49	Loan	
Shandong Yuncheng Qiquan Biological Power Generation Co., Ltd.	80,000,000.00	1.87	Loan	8,000,000.00
Subtotal	2,915,943,825.80	67.91		90,855,413.33

7. Inventories



Items	Closing balance		
	Book balance	Provision for write-down	Carrying amount
Raw materials	484,408,676.68		484,408,676.68
Work in process	4,209,826.74		4,209,826.74
Goods on hand	311,782,355.22		311,782,355.22
Goods dispatched	1,948,319.91		1,948,319.91
Low-value consumables	15,747,621.86		15,747,621.86
Materials on consignment for further processing	19,978,210.06		19,978,210.06
Materials in transit	716,986.88		716,986.88
Cost to fulfill a contract	1,377,799,007.65		1,377,799,007.65
<b>Total</b>	<b>2,216,591,005.00</b>		<b>2,216,591,005.00</b>

(Continued)

Items	Opening balance		
	Book balance	Provision for write-down	Carrying amount
Raw materials	229,921,944.93		229,921,944.93
Work in process	1,326,757.38		1,326,757.38
Goods on hand	168,185,080.99	3,707,353.13	164,477,727.86
Goods dispatched			
Low-value consumables	15,206,693.74		15,206,693.74
Materials on consignment for further processing	60,972,225.35		60,972,225.35
Materials in transit	6,283,504.58		6,283,504.58
Cost to fulfill a contract	1,306,459,403.62		1,306,459,403.62
<b>Total</b>	<b>1,788,355,610.59</b>	<b>3,707,353.13</b>	<b>1,784,648,257.46</b>

#### 8. Contract assets

Items	Closing balance			Opening balance		
	Book balance	Provision for impairment	Carrying amount	Book balance	Provision for impairment	Carrying amount
Project funds	219,646,563.01		219,646,563.01	74,220,415.00		74,220,415.00
<b>Total</b>	<b>219,646,563.01</b>		<b>219,646,563.01</b>	<b>74,220,415.00</b>		<b>74,220,415.00</b>

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 2 to the financial statements.

#### 9. Non-current assets due within one year

Items	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Long-term receivables due within one year	4,535,584.48		4,535,584.48
<b>Total</b>	<b>4,535,584.48</b>		<b>4,535,584.48</b>



10. Other current assets

Items	Closing balance	Opening balance
VAT input tax to be deducted and verified	580,571,930.10	559,306,164.33
Prepaid additional tax	1,967,375.89	83,769.04
Prepaid VAT	16,267,504.76	36,742,420.06
VAT input tax to be verified	325,414.15	53,498.36
Prepaid enterprise income tax	20,802,301.01	298,259.72
Others	33,394.50	7,203,155.03
Total	619,967,920.41	603,687,266.54

11. Debt investments

(1) Details

Items	Closing balance				
	Initial cost	Interest adjustment	Interest accrued	Provision for impairment	Carrying amount
Rizhao East Port City Construction Investment Co. LTD	400,000,000.00				400,000,000.00
Shandong Jizhong Energy Investment Co. LTD	300,000,000.00				300,000,000.00
Total	700,000,000.00				700,000,000.00

(Continued)

Items	Opening balance				
	Initial cost	Interest adjustment	Interest accrued	Provision for impairment	Carrying amount
Rizhao East Port City Construction Investment Co. LTD	400,000,000.00				400,000,000.00
Shandong Jizhong Energy Investment Co. LTD					
Total	400,000,000.00				400,000,000.00

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 1 to the financial statements.

12. Long-term receivables

Items	Closing balance	Opening balance
Finance lease payment	14,704,267.46	
Including: Unrealized finance income	3,438,071.45	
Minus: Long-term receivables due within one year	4,535,584.48	
Total	10,168,682.98	



13. Long-term equity investments

(1) Categories

Items	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Investments in other companies	2,984,199.88	2,984,199.88	
Investments in joint ventures and associates	185,545,052.68	1,073,516.16	184,471,536.52
Total	188,529,252.56	4,057,716.04	184,471,536.52

(Continued)

Items	Opening balance		
	Book balance	Provision for impairment	Carrying amount
Investments in other companies	79,959,570.88	2,984,199.88	76,975,371.00
Investments in joint ventures and associates	175,174,960.58		175,174,960.58
Total	255,134,531.46	2,984,199.88	252,150,331.58

(2) Details

Investees	Opening balance	Increase/Decrease			
		Investments increased	Investments decreased	Investment income recognized under equity method	Adjustment in other comprehensive income
Associates					
Huadian Jinan Zhangqiu Thermal Power Co., Ltd.	6,000,000.00	11,700,000.00			
Shandong Sinanda Energy Development Co., Ltd.	7,353,434.21			686,467.61	
Jinan Mintai Gas Co., Ltd.	9,788,296.28		9,788,296.28		
Shandong Sandejineng Environmental Protection Technology Co., Ltd	83,493,701.94	506,298.06		971,976.16	
Shandong Languangneng Gas Co., Ltd.	21,030,941.91			-514,793.30	
Shandong Jihua Sanquan Project Management Co., Ltd.	1,500,000.00			117,130.78	
Shandong Greenland Huabao Thermal	6,616,334.10			406,845.32	



Investees	Opening balance	Increase/Decrease			Adjustment in other comprehensive income
		Investments increased	Investments decreased	Investment income recognized under equity method	
Power Energy Co., Ltd.					
Taian Zhuojia Public Works Co., Ltd.	599,129.18				
Yangxin Hong Kong & China Gas Company Limited	7,633,277.21			2,773,085.62	
Shandong Airport Smart Energy Development Co., Ltd.	4,857,017.00			-265,403.98	
Shandong Lugang Natural Gas Co., Ltd.	26,302,828.75			3,349,465.95	
Jinan Chengjian Hotel					
Jinan Chengjian Advertising Company					
Shandong Yicheng Creative Design Co., Ltd					
Total	175,174,960.58	12,206,298.06	9,788,296.28	7,524,774.16	

(Continued)

Investees	Increase/Decrease				Closing balance	Closing balance of provision for impairment
	Changes in other equity	Cash dividend/ Profit declared for distribution	Provision for impairment	Others		
Associates						
Huadian Jinan Zhangqiu Thermal Power Co., Ltd.					17,700,000.00	
Shandong Sinanda Energy Development Co., Ltd.					8,039,901.82	
Jinan Mintai Gas Co., Ltd.						
Shandong Sandejineng Environmenta					84,971,976.16	



Investees	Increase/Decrease				Closing balance	Closing balance of provision for impairment
	Changes in other equity	Cash dividend/ Profit declared for distribution	Provision for impairment	Others		
1 Protection Technology Co., Ltd						
Shandong Languangnen g Gas Co., Ltd.					20,516,148.61	
Shandong Jihua Sanquan Project Management Co., Ltd.					1,617,130.78	
Shandong Greenland Huabao Thermal Power Energy Co., Ltd.					7,023,179.42	
Taian Zhuojia Public Works Co., Ltd.					599,129.18	
Yangxin Hong Kong & China Gas Company Limited		1,021,200.00			9,385,162.83	
Shandong Airport Smart Energy Development Co., Ltd.					4,591,613.02	
Shandong Lugang Natural Gas Co., Ltd.					29,652,294.70	
Jinan Chengjian Hotel			533,516.16	533,516.16	533,516.16	533,516.16
Jinan Chengjian Advertising Company			540,000.00	540,000.00	540,000.00	540,000.00
Shandong Yicheng Creative Design Co., Ltd				375,000.00	375,000.00	
Total		1,021,200.00	1,073,516.16	1,448,516.16	185,545,052.68	1,073,516.16

14. Other equity instrument investments



Items	Closing balance	Opening balance
Jinan Guanghe New Energy Investment Partnership	10,000,000.00	10,000,000.00
Shandong Mingke Jiayang Environmental Protection Engineering Co. LTD	5,000,000.00	5,000,000.00
Shandong Mingsheng Electric Communication Co. LTD	3,960,000.00	3,960,000.00
Shandong Gangfuel Trade Co. LTD	500,000.00	500,000.00
Total	19,460,000.00	19,460,000.00

[Note] The difference between the beginning number and the end number of the previous year (as of December 31, 2020) is explained in note III (XXVI) 1 to the financial statements. The equity of the invested unit held by the company is not for the purpose of trading and is intended to be held for a long time, so it is designated as a financial asset measured at fair value and its changes are included in other comprehensive income.

#### 15. Other non-current financial assets

Items	Closing balance	Opening balance
Financial assets classified as at fair value through profit or loss	190,500,000.00	500,000.00
Including: Equity instrument investments	190,500,000.00	500,000.00
Total	190,500,000.00	500,000.00

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 1 to the financial statements.

#### 16. Investment property

##### Book balance

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	35,528,916.89			35,528,916.89
Land use right	7,362,878.28			7,362,878.28
Subtotal	42,891,795.17			42,891,795.17

##### Accumulated depreciation and amortization

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	1,549,548.41	1,162,161.31		2,711,709.72
Land use right				
Subtotal	1,549,548.41	1,162,161.31		2,711,709.72

##### Carrying amount

Items	Opening balance	Closing balance
Buildings and structures	33,979,368.48	32,817,207.17
Land use right	7,362,878.28	7,362,878.28
Subtotal	41,342,246.76	40,180,085.45

#### 17. Fixed assets



## (1) Details

Items	Closing balance	Opening balance
Fixed assets	17,328,223,661.75	14,485,241,703.34
Disposal of fixed assets	-6,212,413.47	622,748.97
Total	17,322,011,248.28	14,485,864,452.31

## (2) Fixed assets

## Book balance

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	3,749,362,814.49	1,096,068,443.68	17,094,720.24	4,828,336,537.93
General equipment	4,394,995,643.28	1,076,337,986.19	9,499,540.80	5,461,834,088.67
Special equipment	11,817,335,403.34	1,696,873,345.86	54,399,798.14	13,459,808,951.06
Transport facilities	119,206,938.89	46,408,107.80	9,777,446.59	155,837,600.10
other equipment	155,099,734.40	67,556,089.28	6,689,881.98	215,965,941.70
Subtotal	20,236,000,534.40	3,983,243,972.81	97,461,387.75	24,121,783,119.46

## Accumulated depreciation

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	895,109,680.29	172,663,982.20	12,754,773.41	1,055,018,889.08
General equipment	1,514,693,993.12	398,971,870.80	7,829,100.71	1,905,836,763.21
Special equipment	3,186,017,713.70	498,986,183.90	46,363,189.03	3,638,640,708.57
Transport facilities	70,089,247.89	25,244,710.60	6,629,428.75	88,704,529.74
other equipment	84,841,869.81	26,359,509.30	5,842,812.00	105,358,567.11
Subtotal	5,750,752,504.81	1,122,226,256.80	79,419,303.90	6,793,559,457.71

## Provision for impairment

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures				
General equipment				
Special equipment	6,326.25		6,326.25	
Transport facilities				
other equipment				
Subtotal	6,326.25		6,326.25	

## Carrying amount

Items	Opening balance	Closing balance
Buildings and structures	2,854,253,134.20	3,773,317,648.85
General equipment	2,880,301,650.16	3,555,997,325.46
Special equipment	8,631,311,363.39	9,821,168,242.49
Transport facilities	49,117,691.00	67,133,070.36



Items	Opening balance	Closing balance
other equipment	70,257,864.59	110,607,374.59
Total	14,485,241,703.34	17,328,223,661.75

(3) Disposal of fixed assets

Items	Closing balance	Opening balance
Disposal of fixed assets	-6,212,413.47	622,748.97
Total	-6,212,413.47	622,748.97

18. Construction in progress

(1) Details

Items	Closing balance	December 31, 2021
Construction in progress	6,023,682,922.77	5,470,306,940.62
Construction materials	384,038,182.34	411,067,253.79
Total	6,407,721,105.11	5,881,374,194.41

(2) Construction in progress

1) Details

Projects	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Gas infrastructure and pipe network project	2,995,500,710.28		2,995,500,710.28
Heating infrastructure and pipe network project	2,434,095,010.80		2,434,095,010.80
Buildings and appendages	409,874,460.94		409,874,460.94
Others	184,212,740.75		184,212,740.75
Total	6,023,682,922.77		6,023,682,922.77

2) Changes in significant projects

Projects	Opening balance	Increase	Transferred to fixed assets	Other decreases	Closing balance
Preparatory project of North heat source plant of Jinan thermal power	256,794,388.17	95,042,113.67			351,836,501.84
Jinan Nancaofan LNG peak- shaving reserve Station (phase I)	268,498,439.80	14,157,818.89			282,656,258.69
Jinan Nancaofan LNG peak- shaving reserve Station (phase II)	99,394,238.41	159,566,502.81			258,960,741.22
North suburb factory engineering and pipe network engineering project	82,848,216.57	570,331,957.58	399,124,276.10		254,055,898.05
Construction project of natural gas operation control	141,230,894.78	27,863,823.59			169,094,718.37



Projects	Opening balance	Increase	Transferred to fixed assets	Other decreases	Closing balance
and emergency repair comprehensive base in southern suburb of Shandong Jihua Gas Co., Ltd.					
University town supporting and pipe network project	27,766,547.43	281,681,890.25	146,854,507.59		162,593,930.09
Headquarters infrastructure works and pipe network works	61,018,515.79	59,658,927.26	7,619,875.40		113,057,567.65
ADB Project Central Business District Regional Energy Project, Southern Energy Center Phase 1 Main Project	55,409,127.27	32,341,457.30			87,750,584.57
High pressure pipeline project from jiyangmen station to Huanghe Township valve station	21,439,845.56	64,519,548.41			85,959,393.97
Pilot Zone Bridge Group Gas Heat Source Plant Project	65,700,386.99	19,568,165.86			85,268,552.85
G220 thermal pipe network project	400,933.21	79,137,915.78			79,538,848.99
West Railway Station is equipped with heat network construction and pipe network engineering	111,615,006.82	217,867,978.60	251,520,342.29		77,962,643.13
Tourism Road Heat Pipe Network Project (Infectious Disease Hospital to Tourism Road, Hancang River to Municipal Party School)	55,631,169.98	9,477,502.27			65,108,672.25
High pressure natural gas project from Jiyang to Shanghe	62,800,554.80	1,329,178.40			64,129,733.20
Huashan-Yaoqiang high-pressure pipeline	81,359,058.23		20,142,181.84		61,216,876.39
Jinan Thermal Power Group warehousing maintenance center project	35,125,058.42	16,712,097.43			51,837,155.85
Lashan heat source plant infrastructure and supporting pipe network project	163,031,187.12	216,193,594.75	327,430,409.97		51,794,371.90
Subtotal	1,590,063,569.35	1,865,450,472.85	1,152,691,593.19		2,302,822,449.01

(3) Construction materials



Items	Closing balance	Opening balance
Special materials	357,893,468.39	407,519,715.21
Special equipment	25,340,146.99	2,735,564.10
Others	804,566.96	811,974.48
Subtotal	384,038,182.34	411,067,253.79

#### 19. Right-of-use assets

##### Book balance

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	60,633,747.64	29,144,345.25	178,712.12	89,599,380.77
Land	10,822,347.57	518,652.80		11,341,000.37
Electronic and other equipment		342,522.13		342,522.13
Subtotal	71,456,095.21	30,005,520.18	178,712.12	101,282,903.27

##### Accumulated depreciation and amortization

Items	Opening balance	Increase	Decrease	Closing balance
Buildings and structures	5,673,956.00	8,105,711.31	64,534.93	13,715,132.38
Land	4,200,997.22	1,373,854.94		5,574,852.16
Electronic and other equipment		79,185.39		79,185.39
Subtotal	9,874,953.22	9,558,751.64	64,534.93	19,369,169.93

##### Carrying amount

Items	Opening balance	Closing balance
Buildings and structures	54,959,791.64	75,884,248.39
Land	6,621,350.35	5,766,148.21
Electronic and other equipment		263,336.74
Total	61,581,141.99	81,913,733.34

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 3 to the financial statements.

#### 20. Intangible assets

##### Book balance

Items	Opening balance	Increase	Decrease	Closing balance
Land use right	769,553,315.86	270,076,630.98		1,039,629,946.84
Software	93,933,322.41	37,187,768.73	238,395.00	130,882,696.14
Copyright	800.00			800.00
Patent right	71,564.91	341,071.29		412,636.20
Others	874,992.77	233,832.45		1,108,825.22



Items	Opening balance	Increase	Decrease	Closing balance
Subtotal	864,433,995.95	307,839,303.45	238,395.00	1,172,034,904.40

Accumulated amortization

Items	Opening balance	Increase	Decrease	Closing balance
Land use right	148,445,989.74	19,646,043.83		168,092,033.57
Software	56,596,170.52	15,910,200.09	238,395.00	72,267,975.61
Copyright	133.40	80.04		213.44
Patent right	5,716.48	223,380.19		229,096.67
Others	160,664.69	212,217.17		372,881.86
Subtotal	205,208,674.83	35,991,921.32	238,395.00	240,962,201.15

Carrying amount

Items	Opening balance	Closing balance
Land use right	621,107,326.12	871,537,913.27
Software	37,337,151.89	58,614,720.53
Copyright	666.60	586.56
Patent right	65,848.43	183,539.53
Others	714,328.08	735,943.36
Subtotal	659,225,321.12	931,072,703.25

21. Goodwill

Investees	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Shandong Taishan Construction Development Group Co., Ltd.	9,000,000.00		9,000,000.00
Shandong Jixuan Energy Co., Ltd.	5,028,610.99		5,028,610.99
Shandong Yitong Engineering Technology Service Co., Ltd.	9,805,288.65		9,805,288.65
Jinan Yuquan Biological Power Generation Co. LTD	15,831,476.13		15,831,476.13
Shandong Hetong Information Technology Co., LTD	13,117,496.90		13,117,496.90
Qilu Construction Engineering Construction Development Group Co. LTD	25,679,334.67		25,679,334.67
Total	78,462,207.34		78,462,207.34

(Continued)

Investees	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Shandong Taishan Construction Development Group Co., Ltd.	9,000,000.00		9,000,000.00
Shandong Jixuan Energy Co., Ltd.	5,028,610.99		5,028,610.99
Shandong Yitong Engineering Technology Service Co., Ltd.	9,805,288.65		9,805,288.65
Jinan Yuquan Biological Power Generation Co. LTD			



Investees	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Shandong Hetong Information Technology Co., LTD			
Qilu Construction Engineering Construction Development Group Co. LTD			
Total	23,833,899.64		23,833,899.64

## 22. Long-term prepayments

Items	Opening balance	Increase	Amortization	Other decreases	Closing balance
Engineering transformation	186,226,024.45	492,553,487.00	34,459,217.72		644,320,293.73
House renovation cost	159,026,868.54	75,439,279.50	33,367,120.67		201,099,027.37
Rental expenses	6,690,574.91	6,209,702.54	3,275,311.99		9,624,965.46
Major repair expenditure		13,942,222.78	4,210,918.82		9,731,303.96
Other deferred expenses	4,644,717.56	30,714,587.94	4,002,799.62		31,356,505.88
Total	356,588,185.46	618,859,279.76	79,315,368.82		896,132,096.40

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 3 to the financial statements.

## 23. Deferred tax assets

### (1) Details

Items	Closing balance	Opening balance
Provision for impairment of assets	6,106,340.09	22,249,156.61
Deductible losses	14,030,269.39	
Depreciation and amortization tax on used assets will vary	420,985.23	438,512.29
Total	20,557,594.71	22,687,668.90

(2) The amount of the temporary difference corresponding to the asset and liability items causing the temporary difference

Items	Closing balance- Deductible temporary difference	Opening balance- Deductible temporary difference
Provision for impairment of assets	26,210,320.60	89,029,872.48
Deductible losses	56,121,077.56	
Depreciation and amortization tax on used assets will vary	1,683,940.92	1,754,049.16
Total	84,015,339.08	90,783,921.64

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 3 to the financial statements.

## 24. Other non-current assets



Items	Closing balance	Opening balance
loan by mandate(Shandong Sinengda Energy Development Co., Ltd.)	8,620,000.00	8,620,000.00
Purchase of long-term assets	116,937,798.00	44,769,873.80
Total	125,557,798.00	53,389,873.80

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 1 to the financial statements.

## 25. Short-term borrowings

### (1) Details

Items	Closing balance	Opening balance
Credit borrowings	830,335,229.22	297,900,000.00
Guaranteed borrowings	580,743,785.43	74,673,456.46
Pledged borrowings	60,349,000.00	20,000,000.00
Accrued interest	592,762.25	11,962.50
Total	1,472,020,776.90	392,585,418.96

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 1 to the financial statements.

### (2) Guaranteed borrowings

Borrowers	Lending bank /other financial institution	Loan amount	Guarantors
Jinan Energy Construction Development Group Co., Ltd.	Industrial Bank Co., Ltd., Jinan Branch	9,900,000.00	Jinan Pipeline Gas Company, Jinan Gas Company
Jinan Energy Construction Development Group Co., Ltd.	Shizhong Branch of Qilu Bank Co., Ltd.	46,000,000.00	Jinan Thermal Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	Shinhan Bank (China) Co., Ltd., Hong Kong Branch	109,522,849.00	Shinhan Bank (China) Co., Ltd., Qingdao Chengyang Branch
Jinan Thermoelectricity Co., Ltd.	Bank of China Limited University of Jinan Technology Park Sub-branch	100,000,000.00	Jinan Thermal Co., Ltd.
Jinan Heat Power Engineering Company	Jinan Branch of Bank of China Limited	143,999,577.67	Jinan Thermal Co., Ltd.
Jinan Energy Investment Holding Group Co., Ltd.	Jinan Branch of China CITIC Bank Co., Ltd.	71,302,000.00	Jinan Thermal Co., Ltd.
Jinan Energy Investment Holding Group Co., Ltd.	Jinan High Tech Sub Branch of China Minsheng Bank Co., Ltd.	10,519,358.76	Jinan Thermal Co., Ltd.
Jinan Energy Investment Holding Group Co., Ltd.	China Merchants Bank Co., Ltd., Jinan to Shanxi Road Sub-branch	25,000,000.00	Jinan Thermal Co., Ltd.
Jinan Yuquan Biological Power Generation Co., Ltd.	Shanghe Sub Branch of Shanghe Rural Commercial Bank Co., Ltd.	10,000,000.00	Jinan Energy and Environmental Protection Technology Co., Ltd.



Jinan Yuquan Biological Power Generation Co., Ltd.	Jinan Branch of Bank of Qingdao Co., Ltd.	10,000,000.00	Jinan Thermal Co., Ltd.
Jinan Yuquan Biological Power Generation Co., Ltd.	Jinan Branch of Bank of Qingdao Co., Ltd.	10,000,000.00	Jinan Thermal Co., Ltd.
Jinan Yuquan Biological Power Generation Co., Ltd.	Jinan Branch of Bank of Qingdao Co., Ltd.	20,000,000.00	Jinan Thermal Co., Ltd.
Shandong Sunshine Power Co., Ltd.	Niuquan Sub Branch of Laiwu Zhujiang Village Bank Co., Ltd.	4,500,000.00	Shandong Sunshine Thermal Power Co., Ltd., Shandong Yonghao Development Group Co., Ltd., Shandong Changqing Nanomaterials Co., LTD, Wang Zhanbin, Song Yan, Zhou Changqing, Ma Jimei
Shandong Hetong Information Technology Co., Ltd.	Industrial Bank Co., Ltd., Jinan Branch	10,000,000.00	Jinan Energy Investment Holding Group Co., Ltd.
Subtotal		580,743,785.43	

(3) Pledged borrowings

Borrowers	Lending bank /other financial institution	Loan amount	Pledge
Jinan Municipal Guangming Street Lamps Engineering Division	QILU BANK Co., Ltd.	13,349,000.00	debt receivable
Jinan Municipal Guangming Street Lamps Engineering Division	Jinan Chengtou Private Capital Management Co., Ltd.	17,000,000.00	debt receivable
Shandong Hetong Information Technology Co., Ltd.	Jinan Rural Commercial Bank Co., Ltd. Gaoxin Sub-branch	10,000,000.00	patent of invention
Jinan Hesheng Thermal Power Co., Ltd.	Postal Savings Bank of China, Jinan Zhangqiu District Sub-branch	20,000,000.00	Heating operation license pledge guarantee
Subtotal		60,349,000.00	

26. Notes payable

Items	Closing balance	Opening balance
Bank acceptance	1,417,487,534.27	734,751,037.72
Trade acceptance		81,529,576.60
Letter of Credit	1,091,700,000.00	219,416,900.19
Total	2,509,187,534.27	1,035,697,514.51

27. Accounts payable

(1) Details

Items	Closing balance	Opening balance
Project funds payable	3,319,104,174.13	1,930,570,954.73



Items	Closing balance	Opening balance
Payment for materials, etc.	2,749,200,185.16	2,408,132,478.66
Gas accounts payable	103,353,667.31	145,067,745.71
Equipment accounts payable	82,146,403.04	159,537,872.88
Others	154,690,726.60	123,212,547.15
Total	6,408,495,156.24	4,766,521,599.13

(2) Age analysis

Ages	Closing balance	Opening balance
Within 1 year	4,420,105,977.31	3,350,952,882.69
1-2 years	992,626,636.16	721,292,651.76
2-3 years	341,000,280.29	189,350,527.00
Over 3 years	654,762,262.48	504,925,537.68
Total	6,408,495,156.24	4,766,521,599.13

(3) Details of the top 5 creditors with largest balances

Creditors	Closing balance
Shaanxi Hongcheng Trading Co., Ltd.	127,971,497.70
Shandong Yuxing Construction Co., Ltd.	100,246,793.70
Shandong Jinrui Energy Co., Ltd.	87,465,283.83
Tai'an Shuangtai Building Materials Co., Ltd.	73,266,462.40
Weihai Ploumeter Co., Ltd.	64,652,510.33
Subtotal	453,602,547.96

(4) Balance due from related parties

No related party accounts payable at the end of the period.

28. Advances received

(1) Details

Items	Closing balance	Opening balance
Lease payment	3,305,220.09	10,970,154.31
Total	3,305,220.09	10,970,154.31

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 2 to the financial statements.

(2) Balance due from related parties

No related party advances received at the end of the period.

29. Contract liabilities

Items	Closing balance	Opening balance
Project funds in advance	3,895,756,059.94	3,778,382,294.05



Items	Closing balance	Opening balance
Gas money in advance	549,160,681.47	499,777,745.75
Heating cost in advance	2,669,649,743.59	1,754,805,455.74
Other advances received	69,477,475.40	110,367,631.98
Total	7,184,043,960.40	6,143,333,127.52

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 2 to the financial statements.

### 30. Employee benefits payable

#### (1) Details

Items	Opening balance	Increase	Decrease	Closing balance
Short-term employee benefits	233,120,124.50	1,377,350,158.45	1,288,962,595.11	321,507,687.84
Post-employment benefits - defined contribution plan	40,014,327.57	203,775,281.97	210,860,949.85	32,928,659.69
Total	273,134,452.07	1,581,125,440.42	1,499,823,544.96	354,436,347.53

#### (2) Details of short-term employee benefits

Items	Opening balance	Increase	Decrease	Closing balance
Wage, bonus, allowance and subsidy	205,623,570.80	1,081,081,518.88	995,090,065.14	291,615,024.54
Employee welfare fund	266,543.94	80,402,644.30	80,174,871.15	494,317.09
Social insurance premium	11,517,797.48	81,756,545.60	83,364,206.89	9,910,136.19
Including: Medicare premium	11,362,188.61	72,202,077.24	73,741,834.72	9,822,431.13
Occupational injuries premium	114,634.42	4,480,255.94	4,565,562.35	29,328.01
Maternity premium	40,974.45	1,150,118.06	1,176,239.98	14,852.53
Others		3,924,094.36	3,880,569.84	43,524.52
Housing provident fund	678,967.81	108,740,310.06	109,369,585.53	49,692.34
Trade union fund and employee education fund	15,033,244.47	23,085,152.33	18,811,865.98	19,306,530.82
Other short-term employee benefits		2,283,987.28	2,152,000.42	131,986.86
Subtotal	233,120,124.50	1,377,350,158.45	1,288,962,595.11	321,507,687.84

#### (3) Details of defined contribution plan

Items	Opening balance	Increase	Decrease	Closing balance
Basic endowment insurance premium	6,281,155.28	148,621,232.50	153,744,617.45	1,157,770.33
Unemployment insurance premium	314,880.50	6,377,704.65	6,636,526.31	56,058.84
Company annuity payment	2,206,694.02	41,506,579.59	42,883,242.57	830,031.04
Employee reward and welfare fund	31,211,597.77	7,269,765.23	7,596,563.52	30,884,799.48
Subtotal	40,014,327.57	203,775,281.97	210,860,949.85	32,928,659.69



### 31. Taxes and rates payable

Items	Closing balance	Opening balance
VAT	53,006,788.88	8,978,491.86
Urban maintenance and construction tax	614,842.17	260,308.83
Education surcharge	286,283.68	123,860.25
Local education surcharge	147,245.58	62,361.86
Local water conservancy construction fund	1,897.11	18,871.93
Enterprise income tax	23,035,727.76	31,014,582.65
Land use tax	3,045,083.92	2,971,954.25
Resources tax	16,143.00	34,025.07
Housing property tax	4,470,990.55	3,216,324.80
Individual income tax withheld for tax authorities	673,343.82	559,407.32
Stamp tax	3,386,776.96	4,694,467.84
Environmental protection tax	386,592.12	15,711.40
Others	86,149.39	
Total	89,157,864.94	51,950,368.06

### 32. Other payables

#### (1) Details

Items	Closing balance	Opening balance
Interest payable	4,729,378.21	
Dividend payable	65,046,292.39	65,046,292.39
Other payables	3,751,585,200.35	4,073,001,256.39
Total	3,821,360,870.95	4,138,047,548.78

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 1 to the financial statements.

#### (2) Interest payable

Items	Closing balance	Opening balance
Interest on fund call	4,729,378.21	
Subtotal	4,729,378.21	

#### (3) Dividend payable

Items	Closing balance	Opening balance
Hong Kong Zhonghua Gas (Jinan) Co., Ltd.	62,913,857.25	62,913,857.25
Qingdao Jicheng Electronics Co., Ltd.	2,132,435.14	2,132,435.14
Subtotal	65,046,292.39	65,046,292.39

#### (4) Other payables

##### 1) Age analysis



Ages	Closing balance	Opening balance
Within 1 year	1,275,643,101.96	1,295,104,575.26
1-2 years	362,376,059.60	800,466,941.06
2-3 years	483,401,613.59	311,489,285.41
Over 3 years	1,630,164,425.20	1,665,940,454.66
Total	3,751,585,200.35	4,073,001,256.39

2) Details of the top 5 creditors with largest balances

Creditors	Book balance	Proportion to the total balance of Other payables (%)	Nature of payment
Qingdao Haishi Financial Leasing Co., Ltd.	552,048,299.18	14.72	Short-term finance lease
Jinan Xiqu Construction Investment Co., Ltd.	46,760,038.92	1.25	cash deposit
Rizhao Donggang District Housing and Urban-Rural Development Bureau	39,500,000.00	1.05	cash deposit
Jinan Zhonghai Real Estate Investment Co., Ltd.	38,227,199.02	1.02	cash deposit
Jinan Zhongbo Real Estate Co., Ltd.	36,415,842.86	0.97	cash deposit
Subtotal	712,951,379.98	19.01	

3) Balance due to related parties

No related party other payables at the end of the period.

33. Non-current liabilities due within one year

Items	Closing balance	Opening balance
Long-term borrowings due within one year	236,930,765.10	32,996,828.23
Long-term payables due within one year	70,368,831.40	82,859,655.00
Lease liabilities due within one year	10,502,530.28	8,664,662.43
Interest on long-term borrowings due within one year	339,840.64	5,499,239.06
Total	318,141,967.42	130,020,384.72

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 1 to the financial statements.

34. Other current liabilities

Items	Closing balance	Opening balance
Output VAT to be recognized	266,473,671.57	146,958,265.95
Endorsement transfers the outstanding bank acceptance bill	16,106,608.52	
Total	282,580,280.09	146,958,265.95

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 2 to the financial statements.



### 35. Long-term borrowings

#### (1) Details

Items	Closing balance	Opening balance
Credit borrowings	2,615,021,954.19	2,308,552,298.13
Mortgaged borrowings	43,415,770.62	10,436,864.62
Guaranteed borrowings	1,923,563,051.04	1,524,266,107.11
Pledged borrowings	25,773,780.12	25,685,673.99
Total	4,607,774,555.97	3,868,940,943.85

#### (2) Foreign currency borrowings

Currencies	Closing balance			Opening balance		
	Original currency	Exchange rate	Converted into RMB	Original currency	Exchange rate	Converted into RMB
Euro	128,246,390.78	7.2197	925,900,467.51	92,426,138.70	8.0250	741,719,763.07
Dollar				2,300,238.21	6.5249	15,008,824.30
Subtotal	128,246,390.78		925,900,467.51	94,726,376.91		756,728,587.37

#### (3) Mortgaged borrowings

Borrowers	Lending bank /other financial institution	Long-term borrowings	Collaterals
Jinan Energy Construction and Development Group Co., Ltd.	Jinan Branch of China Everbright Bank Co., Ltd.	2,165,770.62	Equipment
Jinan Yuquan Biological Power Generation Co. LTD	Industrial and Commercial Bank of China Limited Pingyin branch	41,250,000.00	Land use right: south of Huiyuan Street, west of planned Shenglang West Road, Shanghe Economic Development Zone.
Subtotal		43,415,770.62	

#### (4) Guaranteed borrowings

Loan unit	Loan banks or other financial institutions	Borrowing balance	Guarantor
Jinan Thermal Co., Ltd.	The French development agency	156,425,360.54	Jinan Thermoelectricity Co., Ltd.
Jinan Thermal Co., Ltd.	Industrial and Commercial Bank of China Limited	21,864,780.00	Jinan Thermoelectricity Co., Ltd.
Jinan Thermal Co., Ltd.	Asian development bank	328,092,085.49	Shandong Provincial Finance Department
Jinan Thermoelectricity Co., Ltd.	Bank of China Limited	1,124,757.50	Jinan Thermal Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	Industrial and Commercial Bank of China Limited Jinan China Sub-branch	490,151,293.86	Jinan Thermal Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	Jinan Branch of China Merchants Bank Co., Ltd.	81,203,246.35	Jinan Thermal Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	Huaxia Bank Co., Ltd., Jinan Huaiyin Sub-branch	51,236,888.31	Jinan Thermal Co., Ltd.
Jinan Thermoelectricity Co., Ltd.	European Investment Bank	178,691,593.92	Jinan Finance Bureau
Jinan Thermoelectricity Co., Ltd.	Qilu Bank Co., Ltd.	3,677,829.44	Jinan Thermal Co., Ltd.



Loan unit	Loan banks or other financial institutions	Borrowing balance	Guarantor
Shandong Jixuan Energy Co., Ltd.	Bank of Communications Shandong Branch Business Department	42,415,350.36	Jinan Thermal Co., Ltd.
Jinan South Suburb Thermoelectricity & Heat Engineering Center	Huaxia Bank Co., Ltd., Jinan Huaiyin Sub-branch	132,954,370.68	Jinan Thermoelectricity Co., Ltd.
Jinan Energy Investment Holding Group Co., Ltd.	Jinan Branch of China Merchants Bank Co., Ltd.	200,000,000.00	Jinan Thermal Co., Ltd.
Jinan Hesheng Thermal Power Co., Ltd.	China Merchants Bank Co., Ltd., Jinan Zhangqiu Sub-branch	47,725,494.59	Jinan Thermal Co., Ltd.
Jinan Hesheng Thermal Power Co., Ltd.	Industrial and Commercial Bank of China Co., Ltd. Jinan Zhangqiu Eye Mingquan Branch	93,000,000.00	Jinan Thermal Co., Ltd.
Jinan Hesheng Thermal Power Co., Ltd.	Industrial and Commercial Bank of China Co., Ltd. Jinan Zhangqiu Eye Mingquan Branch	95,000,000.00	Jinan Thermal Co., Ltd.
Subtotal		1,923,563,051.04	

(5) Pledged borrowings

Borrowers	Lending bank /other financial institution	Long-term borrowings	Pledge
Jinan Energy Construction and Development Group Co., Ltd.	Jinan Licheng sub branch of Bank of communications	25,773,780.12	Fixed assets - income right of heating energy station
Subtotal		25,773,780.12	

36. Lease liabilities

Items	Closing balance	Opening balance
Building lease	70,743,300.81	53,911,259.81
Total	70,743,300.81	53,911,259.81

[Note] For the difference between the opening balance and the closing balance of last year (December 31 2020), please refer to the explanation of Note III(XXVI) 3 to the financial statements.

37. Long-term payables

(1) Details

Items	Closing balance	Opening balance
Long-term payables	1,956,013,647.74	957,074,414.99
Special payables	1,971,993,446.95	2,582,480,255.77
Total	3,928,007,094.69	3,539,554,670.76

(2) Long-term payables

Items	Closing balance	Opening balance
To manage the cost of Chinese personnel placement	6,421,517.16	6,574,231.93
Regional heating company		492,812.03
Licheng Jian'an Company		14,000.00
Bank of Communications Financial Leasing Co., Ltd.	188,149,898.54	254,993,371.03
Taiping Petrochemical Financial Leasing Co., LTD		90,000,000.00



Items	Closing balance	Opening balance
Jinan Finance Bureau	935,000,000.00	605,000,000.00
Pudong Financial Leasing Co., Ltd.	424,113,000.00	
Haier Financial Leasing Co. Ltd.	26,254,598.96	
Guoying Financial Leasing (Shenzhen) Co., Ltd. Shandong branch	9,053,233.08	
Zhongli International Leasing Co. Ltd.	4,021,400.00	
China Clean Development Mechanism Fund Management Center (Government-Private Capital Cooperation Center, Ministry of Finance)	29,000,000.00	
Jinan City Investment Group Co. LTD	180,000,000.00	
Jinan West District Construction Investment Co. LTD	154,000,000.00	
Total	1,956,013,647.74	957,074,414.99

(3) Special payables

Items	Opening balance	Increase	Decrease	Closing balance
Supporting construction cost	2,333,241,679.98	1,600,567,182.35	2,085,195,543.15	1,848,613,319.18
Longlisa-Heating metering and energy saving incentives	2,436,941.00		2,436,941.00	
Lake and mountain scenery-heating metering and energy saving incentives	53,511.36		53,511.36	
Municipal special funds for haze and pollution control budget indicators	5,962,100.00			5,962,100.00
Environmental protection and energy saving	1,081,537.00			1,081,537.00
Municipal funds for energy-saving renovation project of existing residential buildings in Jinan Iron and Steel Zone	4,419,849.00			4,419,849.00
Funds for energy saving reconstruction of existing residential buildings in Jinan Steel area, Licheng District, Jinan Eastern old industrial zone	18,248,733.93			18,248,733.93
Qilipu dormitory power supply transfer and renovation project (three supply and one industry)	294,335.28		294,335.28	
Dianliu 25 households, Baihua dormitory 60 households "three supply and one industry" power supply transformation financial subsidies	391,000.00			391,000.00
Self-management station and pipe network recovery reconstruction project of old residential area of Jinan Heating Group Co., Ltd.	22,600,000.00			22,600,000.00
Reserve station special funds	100,000,000.00		100,000,000.00	
Special funds for staff placement	42,623,660.38		42,623,660.38	



Items	Opening balance	Increase	Decrease	Closing balance
Special funds for heating projects in southwest area	50,000,000.00			50,000,000.00
Special fund for ecological conservation		10,000,000.00		10,000,000.00
Jiaomiao LNG gas storage base		9,550,000.00		9,550,000.00
Others	1,126,907.84			1,126,907.84
Subtotal	2,582,480,255.77	1,620,117,182.35	2,230,603,991.17	1,971,993,446.95

### 38. Deferred income

#### (1) Details

Items	Opening balance	Increase	Decrease	Closing balance
Government grants	543,702,129.58	357,545,668.95	80,709,098.48	820,538,700.05
Total	543,702,129.58	357,545,668.95	80,709,098.48	820,538,700.05

#### (2) Details of government grants

Items	Opening balance	Increase	Amount included into profit or loss/offsetting relevant cost	Closing balance	Related to assets/income
Stable post subsidies	154,077.30	526,096.59	413,329.00	266,844.89	Related to income
Heating subsidies	3,083,333.33	15,000,000.00	8,958,333.33	9,125,000.00	Related to income
Staff resettlement subsidies		9,623,660.38	1,632,026.92	7,991,633.46	Related to income
Enterprise development and transformation subsidies		33,000,000.00	3,500,000.00	29,500,000.00	Related to income
Fund for supporting transformation project of heat supply function transfer in dormitory area of Jinan Iron and Steel Co., Ltd.	186,004,853.76	15,965,761.42	8,078,824.61	193,891,790.57	Related to assets
Energy saving reconstruction fund for existing residential buildings	22,031,535.00		315,793.55	21,715,741.45	Related to assets
Three supplies and one industry		134,674,274.06	5,386,970.99	129,287,303.07	Related to assets
Maintenance and transformation of the self-management station		135,280,000.00	2,254,666.67	133,025,333.33	Related to assets
A4 and A5 plots of Ping'an CBD	6,024,266.04			6,024,266.04	Related to assets
Special fund for promoting regional strategy of distributed photovoltaic power generation project	510,000.69		56,666.66	453,334.03	Related to assets
Shandong University boiler	480,000.00		60,000.00	420,000.00	Related to assets



Items	Opening balance	Increase	Amount included into profit or loss/offsetting relevant cost	Closing balance	Related to assets/income
elimination incentive fund (Xinglong Mountain)					
Shandong University project 2016 air pollution prevention and control fund (Xinglong Mountain)	4,800,000.00		600,000.00	4,200,000.00	Related to assets
Special fund for municipal environmental protection of Shandong University project (Xinglong Mountain)	2,400,000.00		300,000.00	2,100,000.00	Related to assets
Special fund for environmental protection of No.2 water purification plant	10,160,000.00		1,270,000.00	8,890,000.00	Related to assets
Budget index of central infrastructure investment in 2019 subsidized by the state (sewage source heat pump heating project)	15,760,000.00			15,760,000.00	Related to assets
Special fund for low nitrogen transformation of gas fired boiler in Shandong University Project (Spouting Spring, Thousand Buddhas Mountain)	5,256,000.00		584,000.00	4,672,000.00	Related to assets
Subsidy for charging station (pile) of Municipal Public Utilities Bureau	9,000,000.00			9,000,000.00	Related to assets
Construction cost of emergency gas storage facilities in key areas nancaofan LNG peak shaving storage and distribution station (phase I) project	113,400,000.00			113,400,000.00	Related to assets
Government subsidy for LNG peak shaving and storage facilities project in nancaofan	8,450,000.00			8,450,000.00	Related to assets
2018 provincial special bond water	12,035,400.00			12,035,400.00	Related to assets



Items	Opening balance	Increase	Amount included into profit or loss/offsetting relevant cost	Closing balance	Related to assets/income
pollution prevention and control project fund					
Heating subsidy for Yinfeng Kindergarten project		196,481.28	10,341.12	186,140.16	Related to assets
Gas-fired boiler subsidy payment	34,212,653.00		519,091.79	33,693,561.21	Related to assets
Fund for heating facilities renovation project of old Shanghe residential area	22,000,000.00	7,007,049.38	340,844.58	28,666,204.80	Related to assets
Construction project fund of Shanghe city heating pipe network	9,000,000.00		136,552.58	8,863,447.42	Related to assets
Hot spring garden project subsidy		6,272,345.84	3,851,837.18	2,420,508.66	Related to assets
Subsidy for Shanghe cleaning project	25,975,053.33		2,668,457.42	23,306,595.91	Related to assets
Upgrading and reconstruction project of Western sewage treatment plant	24,500,000.00		24,500,000.00		Related to assets
Special funds for ecological civilization construction in the central budget	3,818,594.81			3,818,594.81	Related to assets
Reconstruction of coal fired boiler in built up area	10,265,000.16		889,999.92	9,375,000.24	Related to assets
Financial subsidy	14,381,362.16		14,381,362.16		Related to assets
Total	543,702,129.58	357,545,668.95	80,709,098.48	820,538,700.05	

### 39. Deferred tax liabilities

Items	Closing balance		December 31, 2021	
	Taxable temporary difference	Deferred tax liabilities	Taxable temporary difference	Deferred tax liabilities
Depreciation and amortization tax on used assets will vary	1,823,435.88	455,858.97		
Total	1,823,435.88	455,858.97		

### (II) Notes to items of the consolidated income statement

#### 1. Operating revenue/Operating cost

##### (1) Details

Items	Current period cumulative	Preceding period comparative
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	Revenue	Cost	Revenue	Cost
Main operations	9,779,650,695.11	10,405,840,535.29	9,348,006,418.76	8,804,574,231.11
Other operations	903,041,221.13	546,121,759.91	577,407,434.57	323,380,743.54
Total	10,682,691,916.24	10,951,962,295.20	9,925,413,853.33	9,127,954,974.65

(2) Revenue from main operations

Items	Current period cumulative	Preceding period comparative
Heating sector business	4,082,535,916.91	3,450,649,840.97
Business related to gas supply sector	2,436,981,951.30	1,973,898,583.66
Engineering related business	3,021,311,323.46	3,804,306,976.95
Other business	238,821,503.44	119,151,017.18
Subtotal	9,779,650,695.11	9,348,006,418.76

(3) cost from main operations

Items	Current period cumulative	Preceding period comparative
Heating sector business	5,359,668,417.45	4,018,862,675.98
Business related to gas supply sector	2,225,650,536.29	1,841,106,285.07
Engineering related business	2,605,170,870.66	2,846,106,164.95
Other business	215,350,710.89	98,499,105.11
Subtotal	10,405,840,535.29	8,804,574,231.11

2. Taxes and surcharges

Items	Current period cumulative	Preceding period comparative
Urban maintenance and construction tax	2,222,079.47	1,036,591.23
Education surcharge	1,179,389.49	572,529.82
Local education surcharge	378,781.20	172,507.54
Foundation for water works	264.57	77,524.73
Resources tax	2,749.50	172,689.90
Environmental protection tax	2,869,622.40	2,660,196.11
Stamp duty	8,335,704.05	8,726,056.51
Housing property tax	9,856,185.55	8,642,984.23
Land use tax	10,835,092.81	9,875,692.28
Vehicle and vessel use tax	309,569.00	290,331.24
Others	189,881.72	1,720,500.00
Total	36,179,319.76	33,947,603.59



### 3. Selling expenses

Items	Current period cumulative	Preceding period comparative
Staff salaries	202,669,577.89	174,214,479.49
Repair charges	53,582,219.33	45,333,106.48
Depreciation and amortization	11,782,025.78	19,370,906.52
Office expenses	3,918,034.00	2,387,994.46
Intermediary service fees	3,341,949.42	3,649,767.14
Advertising cost	2,699,838.89	2,793,554.63
Outsourcing service fees	2,538,879.99	2,808,648.79
Vehicle fee	2,192,293.86	1,607,972.29
Technical service fee	1,209,091.45	2,291,935.16
Others	25,644,918.80	14,452,349.34
Total	309,578,829.41	268,910,714.30

### 4. Administrative expenses

Items	Current period cumulative	Preceding period comparative
Staff salaries	578,309,253.24	522,239,756.43
Depreciation and amortization	95,447,574.29	79,064,053.66
Intermediary service fee	29,245,286.57	17,213,893.75
Repair charges	25,127,196.76	19,351,763.08
Technical service fee	21,212,345.97	13,777,422.07
Office expenses	16,059,691.50	13,284,995.09
Vehicle fee	9,834,427.70	7,481,595.59
Water and electricity property expenses	8,377,049.48	6,221,371.52
Advertising cost	7,525,993.64	7,048,118.61
Others	78,866,588.49	73,475,642.65
Total	870,005,407.64	759,158,612.45

### 5. R&D expenses

Items	Current period cumulative	Preceding period comparative
Staff salaries	17,686,753.97	1,124,043.56
Depreciation cost	135,044.56	109,277.90
Rental expenses	595,026.57	143,354.57
Direct input cost	4,275,862.86	812,147.74
Technical service fee	1,646,422.27	
Others	1,524,203.26	1,000.00



Items	Current period cumulative	Preceding period comparative
Total	25,863,313.49	2,189,823.77

#### 6. Financial expenses

Items	Current period cumulative	Preceding period comparative
Interest expenses	198,411,727.97	134,005,822.96
Minus: interest income	109,965,942.54	92,586,819.18
Net exchange loss	-51,418,152.58	22,103,140.06
Service charges	41,087,420.52	13,198,453.67
Others	10,852,921.61	-8,856,461.47
Total	88,967,974.98	67,864,136.04

#### 7. Other income

##### (1) Details

Items	Current period cumulative	Preceding period comparative
Government grants related to assets	59,298,524.13	20,194,458.15
Government grants related to income	1,430,761,732.06	239,207,568.75
Total	1,490,060,256.19	259,402,026.90

##### (2)Details of government subsidies related to assets

Items	Current period cumulative	Preceding period comparative
Supporting fee subsidy	17,551,781.96	14,262,972.05
Water supply, power supply, heat supply (gas supply), property management subsidies	13,465,795.60	
Gas project subsidy	12,000,000.00	
Subsidies for the Shanghe Clean energy project	10,244,931.08	1,417,160.00
Heating project subsidy	2,834,682.24	
Subsidies for the maintenance and transformation of self-management stations	2,254,666.67	
Subsidies for the renovation of coal-fired boilers	889,999.92	709,599.96
Photovoltaic project subsidy	56,666.66	56,666.66
Ultra-low emission subsidies		126,900.00
Natural gas boiler renovation subsidy		807,159.48
Shandong University project gas boiler low nitrogen transformation special fund subsidy		2,814,000.00
Subtotal	59,298,524.13	20,194,458.15

##### (3)Details of government subsidies related to income



Items	Current period cumulative	Preceding period comparative
Policy-based loss subsidies	944,646,239.34	214,082,243.00
Heating subsidies	235,885,683.33	10,386,816.90
Demolition compensation	100,000,000.00	
Subsidies for the development of public utilities	60,000,000.00	
Provincial subsidy funds	40,780,000.00	
Subsidies for replacing coal with gas and electricity	34,899,836.00	4,335,754.80
The VAT is refunded immediately	4,695,886.78	58,449.09
Enterprise development and transformation subsidies	3,520,000.00	
Ma hillside workers resettlement subsidies	1,632,026.92	
Loan discount subsidy	1,424,200.00	
Stable post subsidies	774,524.94	4,932,860.27
Energy saving rewards		1,099,480.95
Others	2,503,334.75	4,311,963.74
Subtotal	1,430,761,732.06	239,207,568.75

#### 8. Investment income

Items	Current period cumulative	Preceding period comparative
Investment income from long-term equity investments under equity method	7,524,774.16	-2,052,438.78
Investment income from disposal of long-term equity investments	39,987.58	6,705,249.54
Investment income from financial assets		3,112,166.57
Total	7,564,761.74	7,764,977.33

#### 9. Credit impairment loss

Items	Current period cumulative	Preceding period comparative
Bad debts	-134,432,848.20	
Total	-134,432,848.20	

#### 10. Assets impairment loss

Items	Current period cumulative	Preceding period comparative
Bad debts		-15,345,169.40



Items	Current period cumulative	Preceding period comparative
Impairment loss of engineering materials	-818,528.69	
Inventory write-down loss	3,707,353.13	
Impairment loss of long-term equity investments	-1,073,516.16	
Total	1,815,308.28	-15,345,169.40

#### 11. Gains on asset disposal

Items	Current period cumulative	Preceding period comparative
Gains on disposal of fixed assets	-1,646,578.05	563,650.99
Gains on disposal of intangible assets	24,413.58	
Total	-1,622,164.47	563,650.99

#### 12. Non-operating revenue

Items	Current period cumulative	Preceding period comparative
Government grants	9,167,817.00	5,255,489.14
Gains on the destruction of non-current assets	1,298,409.10	751,318.73
Default fine revenue	824,446.72	1,542,766.06
Compensation for removal	136,327.75	35,736,398.86
Fund with no access to pay	17,003,193.59	2,256,049.31
Others	3,963,487.31	8,924,450.50
Total	32,393,681.47	54,466,472.60

#### (2) Details of government subsidies

Items	Current period cumulative	Preceding period comparative
Encourage enterprises to innovate and develop incentive funds		1,300,000.00
Government subsidies for new and high-tech enterprises	100,000.00	300,000.00
Special funds for industrial policy in Lixia District	5,809,200.00	100,000.00
Special awards for the development of advanced manufacturing and digital economy in 2020		600,000.00
Government subsidies for enterprise research and development	864,300.00	112,800.00
Award fee of industry and Information Technology Bureau		360,000.00
Enterprise on the regulation of warehousing reward		710,000.00
Special funds for the resettlement of staff and workers		1,626,633.30
To replace the training of subsidies	1,521,000.00	



Items	Current period cumulative	Preceding period comparative
Others	873,317.00	146,055.84
Total	9,167,817.00	5,255,489.14

### 13. Non-operating expenditures

Items	Current period cumulative	Preceding period comparative
Litigation compensation	313,324.19	1,858,169.65
Donation expenditures	293,161.80	52,598.50
Non-recurring losses	100,736.33	1,547,663.04
Losses on shortage of physical counting	362,349.62	62,792.48
Default fine expenditure	802,369.82	247,767.63
Losses on damage or retirement of non-current assets	15,954,930.80	5,976,789.23
Overdue fine	1,270.14	4,453,212.74
Others	3,903,707.56	2,969,883.20
Total	21,731,850.26	17,168,876.47

### 14. Income tax expenses

Items	Current period cumulative	Preceding period comparative
Current period income tax expenses	112,631,620.93	88,446,937.95
Deferred income tax expenses	371,203.83	-2,925,627.67
Total	113,002,824.76	85,521,310.28

### (III) Notes to items of the consolidated cash flow statement

#### 1. Supplementary information to the cash flow statement

Supplementary information	Current period cumulative	Preceding period comparative
(1) Reconciliation of net profit to cash flows from operating activities:		
Net profit	-338,820,904.25	-130,450,239.80
Add: Provision for assets impairment	132,617,539.92	-15,345,169.40
Depreciation of fixed assets, oil and gas assets, productive biological assets	1,123,388,418.11	900,784,676.88
Depreciation of right-of-use assets	9,558,751.64	
Amortization of intangible assets	35,991,921.32	27,448,383.98
Amortization of long-term prepayments	79,315,368.82	57,088,019.69
Losses on disposal of fixed assets, intangible assets and other long-term assets (Less: gains)	1,622,164.47	-563,650.99
Fixed assets retirement loss (Less: gains)	14,656,521.70	5,225,470.50
Losses on changes in fair value (Less: gains)		



Supplementary information	Current period cumulative	Preceding period comparative
Financial expenses (Less: gains)	146,993,575.39	156,108,963.02
Investment losses (Less: gains)	7,564,761.74	-7,764,977.33
Decrease of deferred tax assets (Less: increase)	1,691,561.90	-2,925,627.67
Increase of deferred tax liabilities (Less: decrease)	455,858.97	
Decrease of inventories (Less: increase)	-431,942,747.54	-477,110,470.85
Decrease of operating receivables (Less: increase)	-2,596,803,456.92	-1,009,104,366.58
Increase of operating payables (Less: decrease)	2,306,004,595.08	1,056,579,082.24
Others	1,257,087.74	3,086,456.37
Net cash flows from operating activities	493,551,018.09	563,056,550.06
(2) Significant investing and financing activities not related to cash receipts and payments:		
Conversion of debt into capital		
Convertible bonds due within one year		
Fixed assets leased in under finance leases		
(3) Net changes in cash and cash equivalents:		
Cash at the end of the period	6,588,489,055.63	5,825,720,081.07
Less: Cash at the beginning of the period	5,825,720,081.07	6,571,877,713.00
Add: Cash equivalents at the end of the period		
Less: Cash equivalents at the beginning of the period		
Net increase of cash and cash equivalents	762,768,974.56	-746,157,631.93
2. Composition of cash and cash equivalents		
Items	Closing balance	December 31, 2021
1) Cash	6,588,489,055.63	5,825,720,081.07
Including: Cash on hand	48,865.13	71,963.34
Cash in bank on demand for payment	6,569,048,219.47	5,803,007,589.05
Other cash and bank balances on demand for payment	19,391,971.03	22,640,528.68
Central bank deposit on demand for payment		
Deposit in other banks		
Loans to other banks		
2) Cash equivalents		
Including: Bond investments maturing within three months		
3) Cash and cash equivalents at the end of the period	6,588,489,055.63	5,825,720,081.07
Including: Cash and cash equivalents of parent company or subsidiaries with use restrictions		

## VI. Scope of business consolidation, consolidated financial statements and interests in other entities

(I) The details of the consolidation scope



Serial number	Name of subsidiary	Level	Main business	Proportion of shareholding (%)
1	Jinan Thermal Co., Ltd.	2	Heating, heating projects	100.00
2	Jinan Herong Trading Co., Ltd.	3	Sales of engineering materials	100.00
3	Jinan Energy Construction Development Group Co., Ltd.	3	Heating engineering, heating, sales of natural gas	100.00
4	Jinan Huaneng Natural Gas Co., Ltd.	4	Sales of natural gas	60.18
5	Shandong Jineng Pipeline Gas Co., Ltd.	3	Heating engineering, heating	100.00
6	Jinan Hemaoy Energy Heating Co., Ltd.	3	Heating business	100.00
7	Jinan Ganghua Gas Energy Co., Ltd.	3	Heating, heating projects	100.00
8	Jinan Baijiang Liquefied Gas Co., Ltd.	3	Sales of natural gas	100.00
9	Jinan Dongsheng Thermal Power Co., Ltd.	3	Heating, heating projects	60.00
10	Shandong Huguang Smart Energy Technology Co., Ltd.	3	management service	100.00
11	Jinan Heshun Sports Culture Development Co., Ltd.	3	Sports and conference services	100.00
12	Jinan Hetai Heating Co., Ltd.	3	Heating business	100.00
13	Jinan He An Natural Gas Peak Adjustment Storage and Distribution Co., Ltd.	3	Heating business	100.00
14	Jinan Hezhi Thermal Power Co., Ltd.	3	Heating business	100.00
15	Jinan Hekang Thermal Power Co., Ltd.	3	Heating business	100.00
16	Jinan Hezhong Thermal Power Co., Ltd.	3	Heating business	100.00
17	Jinan Heyong Thermal Power Co., Ltd.	3	Heating business	100.00
18	Jinan Heli Thermal Power Co., Ltd.	3	Heating business	100.00
19	Jinan He'an Thermal Power Co., Ltd.	3	Heating business	100.00
20	Jinan Hedao Thermal Power Co., Ltd.	3	Heating business	100.00
21	Jinan Heyi Thermal Power Co., Ltd.	3	Heating business	100.00
22	Jinan Thermoelectricity Co., Ltd.	2	Heating business	100.00
23	Jinan Lantian Heat Co., Ltd.	3	Other manufacturing	100.00
24	Jinan Nanjiao Thermoelectricity Life Service Centre	3	Civil engineering construction industry	100.00
25	Jinan Lantian Thermal Power Property Management Co., Ltd.	3	Wholesale business	100.00
26	Jinan Lantian Engineering Consulting Co., Ltd.	3	Professional and technical services industry	100.00
27	Jinan Beijiao Thermal Power Factory Multipurpose Utilization Branch Factory	3	Non-metallic mineral products industry	100.00



28	Shandong Jixuan Energy Co., Ltd.	3	Heating business	100.00
29	Anshun Quanan Thermal Power Co., Ltd.	3	Electricity and heat production and supply	65.00
30	Jinan Xinneng Energy Co., Ltd.	3	Electricity and heat production and supply	100.00
31	Jinan Heren Thermal Power Co., Ltd.	3	Electricity and heat production and supply	100.00
32	Jinan Hexin Thermal Power Co., Ltd.	3	Electricity and heat production and supply	100.00
33	Jinan Heat Power Engineering Company	2	Heating engineering	100.00
34	Shandong Taishan Construction Engineering Development Group Co., Ltd.	3	Engineering professional contracting	51.00
35	Zaozhuang Shengyuan Thermal Power Co., Ltd.	3	Heating income	67.54
36	Jinan Huitong Thermal Company	3	Heating engineering	100.00
37	Jinan Thermal Design Institute	3	Engineering development	100.00
38	Jinan South Suburb Thermoelectricity & Heat Engineering Center	3	Electricity and heat production and supply industry	100.00
39	Qilu Construction Development Group Co., Ltd.	3	Housing construction engineering	70.00
40	Jinan Construction Industry Development Center	3	Engineering management services	100.00
41	Jinan Litong Engineering Management Co., Ltd.	3	Engineering management services	100.00
42	Jinan Energy Investment Holding Group Co., Ltd.	2	Heating income	100.00
43	Shandong Ruiguan Power Heating Co., Ltd.	3	Heating income, project construction income, refrigeration income	100.00
44	Shandong Dehe Geothermal Development Co., Ltd.	3	Heating business	100.00
45	Shandong Ochsner New Energy Co., Ltd.	3	Heating business	51.00
46	Jinan Energy and Environmental Protection Technology Co., Ltd.	3	Heating income, project construction income	100.00
47	Jinan Hehong Regional Energy Co., Ltd.	3	Operation and maintenance	100.00
48	Jinan Hesheng Thermal Power Co., Ltd.	3	Heating business	70.00
49	Jinan Shanghe Hengtai Heating Co., Ltd.	3	Heating business	70.00
50	Jinan Jiyang Xincheng Heating Co., Ltd.	3	Heating business	50.98
51	Jinan Yuquan Biological Power Generation Co., Ltd.	3	Power generation, heating	51.00
52	Shandong Jilai New Energy Co., Ltd.	3	Sales of natural gas	100.00
53	Shandong Hetong Information Technology Co., Ltd.	3	Intelligent software sales, technology development	45.61
54	Jinan Queshan Thermal Power Co., Ltd.	3	Heating business	100.00



55	Jinan Hefeng Trading Co., Ltd.	3	material sales	100.00
56	Shandong Hecheng Energy Technology Co., Ltd.	3	Charging equipment sales, engineering construction, power generation business	100.00
57	Jinan Hegang Energy Co., Ltd.	3	Cold supply, technology development, engineering construction	100.00
58	Jinan Helixin Material Co., Ltd.	3	material sales	84.00
59	Jinan Herui Operation Management Co., Ltd.	3	operation management	100.00
60	Shandong Sunshine Power Co., Ltd.	3	Power supply, heating	51.00
61	Shandong Heyida Construction Management Co., Ltd.	3	Construction engineering design, construction engineering construction, etc	65.00
62	Shandong Panva Gas Co., Ltd.	2	Sales of natural gas	51.00
63	Jinan Huatong Fuel Gas Engineering Co., Ltd.	3	Gas equipment installation, sales and maintenance	100.00
64	Jinan Zhongyuan Natural Gas Development Co., Ltd.	3	Gas equipment installation, sales and maintenance	100.00
65	Jinan Anxintai Gas Engineering Design Co., Ltd.	3	Gas engineering design	100.00
66	Jinan Baijiang Gas Co., Ltd.	3	Pipeline natural gas, artificial gas, LPG, CNG, LNG operation	100.00
67	Shandong Jihua Gangrun Gas Co., Ltd.	3	Gas production and supply	78.81
68	Shandong Jihua Derun Gas Co., Ltd.	3	Oil and natural gas pipeline storage and transportation; fuel gas operation	80.00
69	Jinan Huamo Thermal Power Energy Co., Ltd.	3	Heating project construction and operation	51.00
70	Shandong Jihua Runchang Gas Co., Ltd.	3	Construction, development and operation of pipeline fuel gas	60.00
71	Shandong Jihua Comfortable Home Technology Service Co., Ltd.	3	Technology promotion and application services	100.00
72	Jinan Jihua Property Development Co., LTD	3	Technology promotion and application services	100.00
73	Shandong Jihua Municipal Engineering Co., Ltd.	3	Civil engineering and construction industry	100.00
74	Jinan Ganghua Gas Co., Ltd.	2	Sales of natural gas	51.00
75	Jinan Ganghua Antong Gas Co., Ltd.	3	Gas supply	100.00
76	Jinan Pipeline Coal Gas Installation Engineering Office	3	Engineering construction	100.00
77	Jinan Ganghua Wantong Gas Engineering Design Co., Ltd.	3	Engineering development	100.00
78	Jinan Ganghua Quantong Transport Co., Ltd.	3	Gas management	100.00
79	Shandong Ganghua Jicheng Energy Service Co., Ltd.	3	Operation service	51.00
80	Jinan Ganghua Quantong Binhe Natural Gas Co., Ltd.	3	CNG sell	51.00
81	Shandong Yitong Engineering Technology Service Co., Ltd.	3	Technical consulting services	100.00
82	Jinan Ganghua Pingan Tong	3	Installation and sale of fuel-gas	100.00



	New Energy Technology Co., Ltd.		combustion appliances	
83	Jinan Waire Jinji Heating Co., Ltd.	2	Design of gas, heat supply and power supply projects	51.00
84	Jinan Gas Company	2	Maintenance of gas equipment	100.00
85	Jinan Pipeline Gas Company	2	Gas supply	100.00
86	Jinan Municipal Guangming Street Lamps Engineering Division	2	Urban and road lighting works and maintenance	100.00

[Note] Jinan He An Natural Gas Peak Adjustment Storage and Distribution Co., Ltd., Jinan Hezhi Thermal Power Co., Ltd., Jinan Hekang Thermal Power Co., Ltd., Jinan Hezhong Thermal Power Co., Ltd., Jinan Heyong Thermal Power Co., Ltd., Jinan Heli Thermal Power Co., Ltd., Jinan He'an Thermal Power Co., Ltd., Jinan Hedao Thermal Power Co., Ltd., Jinan Heyi Thermal Power Co., Ltd., Jinan Litong Engineering Management Co., Ltd., Shandong Heyida Construction Management Co., Ltd., Jinan Xinneng Energy Co., Ltd., Jinan Heren Thermal Power Co., Ltd., Jinan Hexin Thermal Power Co., Ltd. and Shandong Jihua Municipal Engineering Co., Ltd. has not yet actually operated.

(II) The subjects newly included in the scope of merger in this period and the subjects no longer included in the scope of merger in the current period

1. Subsidiaries newly included in the scope of the merger in this period

Name of subsidiary	Increase the way	Proportion of shareholding (%)
Jinan Heshun Sports Culture Development Co., Ltd.	Set up directly	100.00
Jinan Hetai Heating Co., Ltd.	Set up directly	100.00
Jinan He An Natural Gas Peak Adjustment Storage and Distribution Co., Ltd.	Set up directly	100.00
Jinan Hezhi Thermal Power Co., Ltd.	Set up directly	100.00
Jinan Hekang Thermal Power Co., Ltd.	Set up directly	100.00
Jinan Hezhong Thermal Power Co., Ltd.	Set up directly	100.00
Jinan Heyong Thermal Power Co., Ltd.	Set up directly	100.00
Jinan Heli Thermal Power Co., Ltd.	Set up directly	100.00
Jinan He'an Thermal Power Co., Ltd.	Set up directly	100.00
Anshun Quanan Thermal Power Co., Ltd.	Set up directly	65.00
Jinan Xinneng Energy Co., Ltd.	Set up directly	100.00
Jinan Heren Thermal Power Co., Ltd.	Set up directly	100.00
Jinan Hexin Thermal Power Co., Ltd.	Set up directly	100.00
Qilu Construction Development Group Co., Ltd.	Business merger are not under the same control	70.00
Jinan Litong Engineering Management Co., Ltd.	Set up directly	100.00



Jinan Energy Investment Holding Group Co., Ltd.	Set up directly	100.00
Jinan Hehong Regional Energy Co., Ltd.	Set up directly	100.00
Jinan Queshan Thermal Power Co., Ltd.	Set up directly	100.00
Jinan Hefeng Trading Co., Ltd.	Set up directly	100.00
Shandong Hecheng Energy Technology Co., Ltd.	Set up directly	100.00
Jinan Hegang Energy Co., Ltd.	Set up directly	100.00
Jinan Helixin Material Co., Ltd.	Set up directly	84.00
Jinan Herui Operation Management Co., Ltd.	Set up directly	100.00
Shandong Sunshine Power Co., Ltd.	Business merger are not under the same control	51.00
Shandong Heyida Construction Management Co., Ltd.	Set up directly	65.00
Shandong Jihua Comfortable Home Technology Service Co., Ltd.	Set up directly	100.00
Jinan Jihua Property Development Co., LTD	Set up directly	100.00
Jinan Municipal Guangming Street Lamps Engineering Division	Free transfer	100.00
Jinan Construction Industry Development Center	Free transfer	100.00
Jinan Yuquan Biological Power Generation Co., Ltd.	Business merger are not under the same control	51.00
Shandong Hetong Information Technology Co., Ltd.	Business merger are not under the same control	45.61

## 2. Subsidiaries that are no longer included in the scope of the merger in this period

There are no subsidiaries no longer included in the scope of merger.

### (III) Description of special circumstances

#### 1. Explanation of the reasons for the inclusion of the scope of consolidated financial statements

Jinan Energy Investment Holding Group, a subsidiary of the company, holds 45.61% of the equity of Shandong Helong Information Technology Co., Ltd., although it does not reach more than half, it can be controlled, so it is included in the scope of merger.

#### 2. If it has more than half of the voting rights but cannot control them, the reasons for no control

Jinan Energy Engineering Group, a subsidiary of the company, holds 100% of the shares of Jinan Dongli Real Estate Co., Ltd., which is not included in the scope of merger due to its actual control.

### (IV) Joint ventures and associates of the Company



Joint ventures Name	Main place of business	Registration place	Main business	Shareholding ratio (%)	Proportion of voting rights (%)	Accounting method of investment in joint ventures
Jinan Dongtai Thermal Co., Ltd.	Jinan	Jinan	Urban heating, etc.	40.00	40.00	Equity method
Huadian Jinan Zhangqiu Thermoelectric Co., Ltd.	Jinan	Jinan	Electric power construction, etc.	30.00	30.00	Equity method
Jinan Mintai Gas Co., Ltd.	Jinan	Jinan	Construction of natural gas pipeline network, etc.	49.00	49.00	Equity method
Shandong Sinengda Energy Development Co., Ltd.	Jinan	Jinan	Production and supply of electricity and heating, etc.	49.00	49.00	Equity method
Shandong Languang Clean Energy Gas Co., Ltd.	Jinan	Jinan	Investment, development, construction and management of liquefied gas, natural gas, CNG and LNG filling station projects, etc.	40.00	40.00	Equity method
Shandong Sangde Jineng Environmental Protection Technology Co., Ltd.	Jinan	Jinan	Development, construction and operation of biomass power generation projects, etc.	30.00	30.00	Equity method
Shandong Greenland Huabao Thermal Power Energy Co., Ltd.	Jinan	Jinan	Sales of chemical products, gas operation, etc.	40.00	40.00	Equity method
Shandong Jihua Sanquan Project Management Co., Ltd.	Jinan	Jinan	Project management services, etc.	50.00	50.00	Equity method
Shandong Lugang Natural Gas Co., Ltd.	Jinan	Jinan	Natural gas transmission and distribution, sales and operation	49.00	49.00	Equity method
Yangxin Ganghua Gas Co., Ltd.	Binzhou	Binzhou	Gas production and supply	22.22	22.22	Equity method
Shandong Airport Intelligent Energy Development Co., Ltd.	Jinan	Jinan	Construction, operation, repair and maintenance of urban heating, power supply and gas facilities, etc.	25.00	25.00	Equity method
Tai'an Zhuojia Public Engineering Co., Ltd.	Tai'an	Tai'an	Installation of gas public pipeline engineering; Gas public pipeline assembly and its equipment kit processing, sales, installation	33.33	33.33	Equity method
Shandong Yicheng Construction Co., Ltd.	Jinan	Jinan	Landscaping and earthwork project construction	24.09	24.09	Equity method

## VII. Related party relationships and transactions

### (I) Related party relationships

#### 1. Parent company

##### (1) Details

Parent company	Place of registration	Holding proportion over the Company (%)	Voting right proportion over the Company (%)
State-owned Assets Supervision and Administration Commission of Jinan Municipal People's Government	Jinan	100.00	100.00

(2) The Company's ultimate controlling party is State-owned Assets Supervision and Administration Commission of Jinan Municipal People's Government..

2. Please refer to section VI of notes to the financial statements for details on the Company's subsidiaries.

3. Joint ventures and associates of the Company



Please refer to section VI of notes to the financial statements for details on the Company's significant joint ventures and associates.

#### 4. Other related parties of the Company

Related parties	Relationships with the Company
Shandong Qiquan New Energy Technology Company Limited	Minority shareholder of Jinan Yuquan Biological Power Generation Co., Ltd.

#### (II) Related party guarantees

No Related party guarantees.

#### (III) Balances due to or from related parties

Details of related party receivables and payables are set out in the relevant item notes to the financial statement.

#### (IV) Related party transactions

No related party transactions during the year.

### VIII. Commitments and contingencies

#### (I) Significant commitments

As of the balance sheet date, the Company has no significant commitments that need to be disclosed.

#### (II) Contingencies

As of the balance sheet date, the Company has no contingencies that need to be disclosed.

### IX. Events after the balance sheet date

As of the balance sheet date, the Company has no events after the balance sheet date that need to be disclosed.

### X. Other significant events

#### (I) Leases

##### 1. The Company as lessee

(1) Please refer to section V (I) 19 of notes to the financial statements for details on right-of-use assets.

(2) Please refer to section III (XXIII) of notes to the financial statements for details on the Company's accounting policies on short-term leases and leases for which the underlying asset is of low value. The amounts of short-term leases and low-value asset leases included into profit or loss are as follows:

Items	Current period cumulative
Expense relating to short-term leases	9,418,093.22
Expense relating to leases of low-value assets (excluding short-term leases)	248,799.14
Total	9,666,892.36

##### (3) Profit or loss and cash flows related to leases

Items	Current period cumulative
Interest expenses on lease liabilities	3,156,338.06
Variable lease payments included in profit or loss but not included in the measurement of lease liabilities	135,559.48



Total cash outflows related to leases	47,331,956.94
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(4) Maturity analysis of lease liabilities and liquidity risk management.

1) Maturity of lease liabilities

Remaining years	Undiscounted contract amount
Within 1 year	12,630,278.81
1-2 years	12,059,943.58
2-3 years	12,801,239.47
3-4 years	14,519,918.82
4-5 years	12,520,304.25
Over 5 years	32,006,632.42
<b>Total</b>	<b>96,538,317.35</b>

2) Liquidity risk management

Liquidity risk is the risk that the Company may encounter deficiency of funds in meeting obligations associated with cash or other financial assets settlement, which is which is possibly attributable to failure in meeting lease payments due.

In order to control such risk, the Company comprehensively utilizes financing tools such as notes settlement, bank borrowings, etc. and adopts long-term and short-term financing methods to optimize financing structures, and finally maintains a balance between financing sustainability and flexibility. The Company has obtained credit limit from several commercial banks to meet working capital requirements and expenditures.

(5) Nature of the lease contract.

Leasehold asset class	Quantity	Lease period	Whether there is a renewal option
Buildings and structures	31	1-30 years	No
Buildings and structures	5	2-30 years	Yes

2. The Company as lessor

(1) Operating lease

1) Lease income

Items	Current period cumulative
Lease income	10,254,775.17
Including: Income relating to variable lease payments not included in the measurement of the lease liabilities	

2) Assets leased out under operating leases

Items	Closing balance
Fixed assets	19,695,094.34
Investment property	40,180,085.45
<b>Subtotal</b>	<b>59,875,179.79</b>

3) Undiscounted lease payments to be received arising from non-cancellable leases based on the lease contract



signed with lessee

Remaining years	Closing balance
Within 1 year	1,960,913.96
1-2 years	1,721,472.34
2-3 years	1,421,237.62
3-4 years	1,421,237.62
4-5 years	1,421,237.62
Over 5 years	4,391,624.25
Total	12,337,723.41

(II) Assets with title or use right restrictions

Items	Closing carrying amount	Reasons for restrictions
Cash and bank balances	863,627,916.77	Please refer to section V (I) 1(1) of notes to the financial statements for details on description of restricted funds
Accounts receivable	28,778,293.69	Jinan Municipal Guangming Street Lamps Engineering Division is pledged loan amount is RMB 13,349,000.00 yuan, and the amount of pledged receivables is RMB 21,408,581.16 yuan. The lending bank is Qilu Bank, and the pledged target is the accounts receivable under the Government Procurement Contract (Project name: Jinan 2021 Lighting Facilities Maintenance and Management Project); The pledged loan amount of Jinan Municipal Guangming Street Lamps Engineering Division is RMB 17,000,000.00 yuan, and the total amount of pledged receivables is RMB 7,369,712.53 yuan. The lending institution is Jinan Chengtuo Private Capital Management Co., LTD., and the pledge target is receivables under the Longdong Road Road and Environmental Construction Project contract of Jinan, and receivables under the procurement and installation contract of the first and second phase of municipal Road Project in Xueshan Area, Jinan;
Fixed assets		On February 4, 2020, Jinan Energy Construction and Development Group Co., Ltd. signed a fixed assets and project financing loan contract with Jinan Branch of China Everbright Bank Co., Ltd., with a loan amount of RMB 35 million yuan, and the loan balance of RMB 2.165,800 yuan by December 31, 2021. The loan can only be used for the clean energy heating, energy saving and environmental protection recycling renovation project of Shandong University. Jinan Energy Construction and Development Group Co., Ltd. provides the equipment of Shandong University for clean energy heating, energy saving, environmental protection and recycling renovation project as the mortgage guarantee, but no mortgage guarantee contract has been signed.
Intangible assets		Shandong Hetong Information Technology Co., Ltd. pledged the loan amount of RMB 10,000,000.00 yuan, the loan bank is Jinan Rural Commercial Bank Co., LTD. Gaoxin Sub-branch, the pledge target is invention patent pledge, the pledge contract number is Gaoxin Sub-branch 2021 No.0536;
Intangible assets	11,027,113.35	The mortgage loan amount of Jinan Yuquan Biological Power Generation Co., Ltd. is RMB 41,250,000.00 yuan, and the loan bank is Pingyin Branch of Industrial and Commercial Bank of China Co., LTD. The mortgage target is the land use right south of Huiyuan Street and west of Planning Shenglang West Road of Shanghe Economic Development Zone, and the ending book value is RMB 11,027,113.35 yuan;
Heating energy station revenue right		On December 28, 2018, Jinan Energy Construction and Development Group Co., Ltd. signed a fixed asset loan contract with Bank of Communications Co., Ltd. Shandong Branch, with a loan amount of RMB 127.58 million yuan, and the loan balance of RMB 25.7738 million yuan by December 31, 2021. The loan can only be used for the construction of the high-pressure outer ring pipeline project in the west



Items	Closing carrying amount	Reasons for restrictions
		of Jinan. Jinan Energy Construction and Development Group Co., Ltd. shall provide the profit right of Jinan natural gas high pressure outer ring pipeline distribution as the pledge guarantee.
Heating income right		On December 30,2019, Jinan Hesheng Thermal Power Co., Ltd. signed a loan contract with Zhangqiu Sub-branch of Postal Savings Bank of China. As of December 31,2021, the loan balance is RMB 20 million yuan. The loan is guaranteed by the heating proceeds of Jinan Hesheng Heating Co., Ltd.
Total	903,433,323.81	

## XI. Notes to items of parent company financial statements

### (I) Notes to items of parent company balance sheet

#### 1. Long-term equity investments

##### (1) Categories

Items	Closing balance		
	Book balance	Provision for impairment	Carrying amount
Investments in subsidiaries	8,098,800,766.31		8,098,800,766.31
Total	8,098,800,766.31		8,098,800,766.31

(Continued)

Items	Opening balance		
	Book balance	Provision for impairment	Carrying amount
Investments in subsidiaries	7,997,254,363.83		7,997,254,363.83
Total	7,997,254,363.83		7,997,254,363.83

##### (2) Details

Investees	Opening balance	Increase	decreases
Jinan Thermal Power Group Co. LTD	2,876,674,677.99		672,354,202.52
Jinan Pipeline Gas Co. LTD	1,464,160,216.95		1,187,363,475.35
Jinan City Gas Co. LTD	1,478,742,965.44		1,255,045,042.45
Jinan Thermoelectric Group Co. LTD	2,177,676,503.45	77,493,244.95	149,608,817.13
Jinan Energy Investment Holding Co. LTD		503,915,025.28	
Jinan Energy Investment Holding Co. LTD		312,188,081.57	
Shandong Jihua Gas Co. LTD		1,187,363,475.35	
Jinan Ganghua Gas Co. LTD		1,255,045,042.45	
Jinan City Lighting Engineering Co., LTD		33,979,127.72	4,066,057.39
Total	7,997,254,363.83	3,369,983,997.32	3,268,437,594.84

(Continued)

Investees	Closing balance	Provision for impairment in the current period	Closing balance of Provision for impairment
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Investees	Closing balance	Provision for impairment in the current period	Closing balance of Provision for impairment
Jinan Thermal Power Group Co. LTD	2,204,320,475.47		
Jinan Pipeline Gas Co. LTD	276,796,741.60		
Jinan City Gas Co. LTD	223,697,922.99		
Jinan Thermoelectric Group Co. LTD	2,105,560,931.27		
Jinan Energy Investment Holding Co. LTD	503,915,025.28		
Jinan Energy Investment Holding Co. LTD	312,188,081.57		
Shandong Jihua Gas Co. LTD	1,187,363,475.35		
Jinan Ganghua Gas Co. LTD	1,255,045,042.45		
Jinan City Lighting Engineering Co., LTD	29,913,070.33		
Total	8,098,800,766.31		

(II) Notes to items of the parent company income statement

1. Investment income

Items	Current period cumulative	Preceding period comparative
Dividend distribution from long-term equity investments under cost method	65,000,000.00	30,000,000.00
Total	65,000,000.00	30,000,000.00

Jinan Energy Group Co., Ltd.

April 7, 2023



**ISSUER**

**Guoneng Environmental Protection Investment  
Group Co., Limited**  
(國能環保投資集團有限公司)  
Unit 1015, 10/F, Block A, New Mandarin Plaza  
No. 14 Science Museum Road  
Tsim Sha Tsui East, Kowloon  
Hong Kong

**GUARANTOR**

**Jinan Energy Group Co., Ltd.**  
(濟南能源集團有限公司)  
No. 3, Jiefang East Road, Lixia District  
Jinan 250011  
PRC

**TRUSTEE, PRINCIPAL PAYING AGENT, REGISTRAR AND TRANSFER AGENT**

**China Construction Bank (Asia) Corporation Limited**  
(中國建設銀行(亞洲)股份有限公司)  
28/F, CCB Tower  
3 Connaught Road Central  
Central, Hong Kong

**LEGAL ADVISORS**

*To the Issuer and the Guarantor  
as to English law and Hong Kong law*

**Fangda Partners**  
26/F, One Exchange Square  
8 Connaught Road Central  
Hong Kong

*To the Joint Lead Managers and  
the Trustee as to English law*

**Freshfields Bruckhaus Deringer**  
55th Floor, One Island East  
Taikoo Place  
Quarry Bay  
Hong Kong

*To the Issuer and the Guarantor  
as to PRC law*

**AllBright Law Offices**  
9, 11, 12/F, Shanghai Tower  
No. 501, Yincheng Middle Road  
Shanghai

*To the Joint Lead Managers  
as to PRC law*

**Shandong Qilu Law Firm**  
11-13/F, Tower 1  
Taishan Square  
7000 Jingshi Road  
Jinan, Shandong  
China

**AUDITOR OF THE COMPANY**

**Pan-China Certified Public Accountants LLP Shandong Branch**  
Floor 17-18, Jinyu Building,  
No. 3-1, Jiefang East Road,  
Lixia District,  
Jinan 250000  
PRC