



This Form 6-K consists of:

An announcement regarding discloseable and connected transaction of Huaneng Power International, Inc. (the "Registrant"), made by the Registrant on November 15, 2016.

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THIS CIRCULAR IS IMPORTANT AND REQUIRES YOUR IMMEDIATE ATTENTION

If you are in any doubt as to any aspect of this circular or as to the action to be taken, you should obtain independent professional advice.

If you have sold or transferred all your shares in Huaneng Power International, Inc., you should at once hand this circular and, where applicable, the form of proxy and reply slip to the purchaser or transferee or to the bank, or a licensed securities dealer or other agent through whom the sale or transfer was effected for transmission to the purchaser or transferee.

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(Stock Code: 902)

DISCLOSEABLE AND CONNECTED TRANSACTION

Financial Adviser to the Company

Independent Financial Adviser  
to the Independent Board Committee and the Independent Shareholders

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A letter from the board of Directors of Huaneng Power International, Inc. is set out on pages 4 to 63 of this circular. A letter from the Independent Board Committee of Huaneng Power International, Inc. is set out on page 64 of this circular. A letter from Gram Capital containing its advice to the Independent Board Committee and the Independent Shareholders of Huaneng Power International, Inc. is set out on pages 65 to 88 of this circular.

The Company shall convene the EGM at 9:00 a.m. on 30 November 2016 at the headquarters of the Company at Conference Room A102, Huaneng Building, 6 Fuxingmennei Street, Xicheng District, Beijing, the PRC. The notice of EGM together with the reply slip and form of proxy had been issued to Shareholders separately.

If you intend to attend the EGM, you should complete and return the reply slip in accordance with the instructions printed thereon as soon as possible. Whether or not you are able to attend, you should complete and return the form of proxy in accordance with the instructions printed thereon and return it to Hong Kong Registrars Limited at 17M Floor, Hopewell Centre, 183 Queen's Road East, Wanchai, Hong Kong, as soon as possible and in any event by not later than 24 hours before the time appointed for holding such meeting or any adjournment thereof.

Completion and return of the form of proxy will not preclude you from attending and voting at the EGM should you so wish.

15 November 2016

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DEFINITIONS

In this circular, the following expressions have the following meanings unless the context requires otherwise:

“A Shares”	domestic tradable shares in the ordinary share capital of the Company with a nominal value of RMB1.00 each, which are listed on the Shanghai Stock Exchange;
“ADSs”	American Depositary Shares, each representing the ownership of 40 H Shares, which are listed on the New York Stock Exchange Inc.;
“associates(s)”	has the meaning ascribed to it in the Hong Kong Listing Rules;
“Base Date”	31 May 2016
“Board”	the board of Directors of the Company;
“CITIC CLSA Capital Markets”, “Financial Adviser”	CITIC CLSA Capital Markets Limited, a corporation licensed under the SFO permitted to carry on Type 4 (advising on securities) and Type 6 (advising on corporate finance) regulated activities (as defined in the SFO), the financial adviser appointed by the Company;
“Company”	Huaneng Power International, Inc.;
“Completion”	the completion of the Transfers;
“Completion Date”	the date on which the Completion is conducted;
“connected person(s)”	has the meaning ascribed to it under the Hong Kong Listing Rules;
“Director(s)”	the director(s) (including independent non-executive directors) of the Company;
“Extraordinary General Meeting” or “EGM”	the 2016 second extraordinary general meeting to be convened by the Company at 9:00 a.m. on 30 November 2016 at the headquarters of the Company at Conference Room A102, Huaneng Building, 6 Fuxingmennei Street, Xicheng District, Beijing, the PRC to seek the Independent Shareholders’ approval to the discloseable and connected transaction contemplated under the Transaction Agreements;
“H Shares”	overseas listed foreign shares in the ordinary share capital of the Company with a nominal value of RMB1.00 each, which are listed on the Hong Kong Stock Exchange;
“Heilongjiang Power”	Huaneng Heilongjiang Power Generation Limited;

DEFINITIONS

“Heilongjiang Power Interests”	the 100% equity interests held by Huaneng Group in the registered capital of Heilongjiang Power;
“HIPDC”	Huaneng International Power Development Corporation;
“Hong Kong Listing Rules”	the Rules Governing the Listing of Securities on the Hong Kong Stock Exchange;
“Hong Kong Stock Exchange”	The Stock Exchange of Hong Kong Limited;
“Huaneng Group”	China Huaneng Group;
“Huaneng HK”	China Hua Neng Group Hong Kong Limited;
“Independent Board Committee”	a committee of the Board to be established for the purpose of considering the Transaction, comprising all the independent non- executive Directors of the Company;
“Independent Financial Adviser” or “Gram Capital”	Gram Capital Limited, a licensed corporation to carry out Type 6 (advising on corporate finance) regulated activity under the SFO, being the independent financial adviser appointed by the Company to advise the Independent Board Committee and the Independent Shareholders in respect of the terms of the Transaction Agreements and the Transaction contemplated thereunder;
“Independent Shareholders”	Shareholders other than Huaneng Group and HIPDC and their respective associates, and who are not involved in, or interested in, the transactions contemplated under the Transaction Agreements;
“Jilin Power”	Huaneng Jilin Power Generation Limited;
“Jilin Power Interests”	the 100% equity interests held by Huaneng Group in the registered capital of Jilin Power;
“Latest Practicable Date”	10 November 2016, being the latest practicable date prior to the printing of this circular for ascertaining certain information contained herein;
“PRC” or “China”	the People’s Republic of China;
“Profit Forecast Compensation Agreement”	the Profit Forecast Compensation Agreement entered into between Huaneng Group and the Company on 14 October 2016;
“RMB”	Renminbi, the lawful currency of the PRC;
“SERC”	the State Electricity Regulatory Commission;





DEFINITIONS

“SFO”	the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong);
“Shandong Power”	Huaneng Shandong Power Generation Limited;
“Shandong Power Interests”	the 80% equity interests held by Huaneng Group in the registered capital of Shandong Power;
“Shareholders”	the shareholders of the Company;
“Target Company(ies)”	Shandong Power, Jilin Power, Heilongjiang Power, Zhongyuan CCGT, individually or collectively (as the case may be);
“Target Interest(s)”	the Shandong Power Interests, the Jilin Power Interests, the Heilongjiang Power Interests, Zhongyuan CCGT Interests, individually or collectively (as the case may be);
“Transaction”	collectively, the Transfers and the transaction as contemplated under the Profit Forecast Compensation Agreement;
“Transaction Agreements”	collectively, the Transfer Agreement and the Profit Forecast Compensation Agreement;
“Transfer(s)”	the proposed acquisition by the Company of (i) the Shandong Power Interests owned by Huaneng Group; (ii) the Jilin Power Interests owned by Huaneng Group; (iii) the Heilongjiang Power Interests owned by Huaneng Group; and (iv) the Zhongyuan CCGT Interests owned by Huaneng Group contemplated under the Transfer Agreement, individually or collectively (as the case may be);
“Transfer Agreement”	the Agreement for the Transfer of Equity Interests in Certain Companies entered into between the Company and Huaneng Group, on 14 October 2016;
“Zhongyuan CCGT”	Huaneng Henan Zhongyuan Gas Turbine Ltd.; and
“Zhongyuan CCGT Interests”	the 90% equity interests held by Huaneng Group in the registered capital of Zhongyuan CCGT.

LETTER FROM THE BOARD

(Stock Code: 902)

Directors:

Cao Peixi  
Guo Junming  
Liu Guoyue  
Li Shiqi  
Huang Jian  
Fan Xiaxia  
Mi Dabin  
Guo Hongbo  
Zhu Yousheng  
Li Song

Legal Address:

Huaneng Building  
6 Fuxingmennei Street  
Xicheng District Beijing  
100031  
PRC

Independent Non-executive Directors:

Li Zhensheng  
Yue Heng  
Geng Jianxin  
Xia Qing  
Xu Mengzhou

15 November 2016

To the Shareholders

Dear Sir or Madam,

DISCLOSEABLE AND CONNECTED TRANSACTION

A. INTRODUCTION

Reference is made to the announcement of the Company dated on 15 October 2016 (the “Announcement”) regarding the discloseable and connected transaction of the Company. As stated in the Announcement, the Company shall issue a circular to Shareholders containing further information of the discloseable and connected transaction contemplated under the Transaction Agreements and to convene the Extraordinary General Meeting to seek approval from Independent Shareholders to the Transaction.

## LETTER FROM THE BOARD

Letter from the Independent Board Committee to the Independent Shareholders has been included in this circular. Gram Capital has been appointed as the independent financial adviser to advise the Independent Board Committee and the Independent Shareholders on the fairness and reasonableness of the Transaction Agreements and whether such Transaction (and the Transaction Agreements) are in the interests of the Company and its Shareholders as a whole. The letter of advice from Gram Capital to the Independent Board Committee and the Independent Shareholders is also included in this circular.

The purposes of this circular are:

- (i) to provide you with further information in relation to the Transaction and the Transaction Agreements;
- (ii) to set out the letter from Gram Capital to the Independent Board Committee and the Independent Shareholders and the recommendation of the Independent Board Committee as advised by Gram Capital; and
- (iii) to seek your approval of the ordinary resolution in relation to the transactions contemplated under the Transaction Agreements, which has been set out in the notice of the Extraordinary General Meeting.

## B. BACKGROUND

Huaneng Group previously provided an undertaking in favour of the Company on 17 September 2010 as supplemented by a clarification provided by Huaneng Group in favour of the Company on 28 June 2014 (collectively, the “Non-compete Undertakings”). Pursuant to the Non-compete Undertaking and in support of the sustainable and stable development of the Company, Huaneng Group undertook to the Company that, among other things, it will inject into the Company such assets of which the profitability should have been improved and meet with the requirements for injecting into a listed company. The Company shall have a right of first refusal to acquire from Huaneng Group the newly developed, acquired or invested projects as engaged in the conventional energy business of Huaneng Group located in Shandong Province and the other non-listed conventional energy business assets of Huaneng Group located in other provincial administrative regions.

In order to support the business development of the Company, expand the scope of its regional operations, further address the issue of competition with the controlling shareholder while implementing Huaneng Group’s Non-compete Undertaking, on 14 October 2016, the Company entered into the Transaction Agreements with Huaneng Group, pursuant to which the Company proposes to acquire from Huaneng Group the Shandong Power Interests, the Jilin Power Interests, the Heilongjiang Power Interests and the Zhongyuan CCGT Interests at a total price of RMB15,113,825,800. The Company will pay all such consideration in cash with its own funds.

LETTER FROM THE BOARD

C. RELATIONSHIP BETWEEN THE COMPANY AND HUANENG GROUP

The Company and its subsidiaries mainly develop, construct, operate and manage large-scale power plants in China. It is one of the largest listed power producers in China, with a controlled generation capacity of 82,571 MW.

Huaneng Group is principally engaged in the investment in and construction and operation of power plants and relevant works, including raising of domestic and foreign funds, import of complete and ancillary equipment, machines and tools, as well as provision of spare parts, materials and fuels for the construction and operation of power plants.

Huaneng Group is the ultimate controlling shareholder of the Company. As at the Latest Practicable Date, Huaneng Group holds a 75% direct interest and a 25% indirect interest in HIPDC, while HIPDC, being the direct controlling shareholder of the Company, holds 33.33% interests in the Company. Huaneng Group also holds a 10.23% direct interest in the Company and holds a 3.11% indirect interest in the Company through Huaneng HK (a wholly-owned subsidiary of Huaneng Group) and a 0.49% indirect interest in the Company through China Huaneng Finance Corporation Limited (a controlling subsidiary of Huaneng Group).

As at the Latest Practicable Date, the relationship between the Company and Huaneng Group as well as the shareholding structures of the Target Companies are illustrated as follows:

\*Huaneng Group, through its wholly owned subsidiary i.e. Huaneng HK, indirectly holds 100% of Pro-Power Investment Limited while Pro-Power Investment Limited holds a 25% interest in HIPDC. Therefore, Huaneng Group holds a 25% indirect interest in HIPDC.

\*\*Huaneng Group holds an 10.23% direct interest in the Company. It also holds a 3.11% indirect interest in the Company through Huaneng HK (a wholly-owned subsidiary of Huaneng Group) and a 0.49% indirect interest in the Company through China Huaneng Finance Corporation Limited (a controlling subsidiary of Huaneng Group).

Therefore, under the Hong Kong Listing Rules, Huaneng Group and their respective associates are connected persons of the Company and the Transaction to be conducted by the Company with Huaneng Group constitutes a discloseable and connected transaction of the Company.

LETTER FROM THE BOARD

D. TRANSACTION AGREEMENTS

The Transaction is structured by the Transaction Agreements which consist of (i) the Transfer Agreement; and (ii) the Profit Forecast Compensation Agreement. The Transaction Agreements were approved by the Board on 14 October 2016 and such agreements were entered into between the Company and Huaneng Group on the same day.

1. Transfer Agreement

The key terms of the Transfer Agreement are as follows:

Parties: Seller: Huaneng Group

Buyer: the Company

Amount of interests to be acquired in each of the Target Companies under the Transfers: 80% equity interests held by Huaneng Group in the registered capital of Shandong Power, 100% equity interests held by Huaneng Group in the registered capital of Jilin Power, 100% equity interests held by Huaneng Group in the registered capital of Heilongjiang Power and 90% equity interests held by Huaneng Group in the registered capital of Zhongyuan CCGT.

Consideration: The Company agrees to pay RMB15,113,825,800 as consideration for the Transfers. The consideration is agreed by both parties after arm's length negotiation taking into account the following key factors (i) the undistributed profits of the Target Companies as of the Base Date to the corresponding portions of the Target Interests to which the Company shall be entitled, whether or not the same was declared before or after the Completion; (ii) the profit and loss and other aggregate income of Shandong Power arising from 1 June 2016 to the Completion Date proportional to the Target Interests to which the Company shall be entitled and assumed, the profit and loss and other aggregate income of the Jilin Power, Heilongjiang Power and Zhongyuan CCGT arising from 1 June 2016 to the Completion Date proportional to the Target Interests to which Huaneng Group shall be entitled and assumed; (iii) the results of the asset valuation report of each of the Target Companies (the aggregate value of the effective interests in Target Companies (i.e. 80% equity interests in Shandong Power, 100% equity interests in Jilin Power, 100% equity interests in Heilongjiang Power and 90% equity interests in Zhongyuan CCGT) as per the valuation reports set out in Appendix I of this circular being RMB15,113,825,780); and (iv) the production, operation and financial position, future planning for development and strategic synergy of each of the target assets with the Company.



### LETTER FROM THE BOARD

According to the Measures for the Supervision and Administration over the Trading of State-owned Assets in Enterprises, an assets valuation is required to be conducted against each of the Target Companies. The Base Date of the asset valuation reports was 31 May 2016, and complied with the requirement of the Interim Measures for the Administration of Assessment of State-owned Assets of Enterprises which requires the validity period of such valuation report to be within one year from its base date. Given that the valuation result of each of the Target Companies is one of the factors (but not the sole determining factor) considered by the Company in arriving at the Consideration of the Transfers. Taking into account the various factors and the relevant revaluation, the Company is of the view that the Consideration is fair and reasonable.

**Method of Payment:** The Company will pay the consideration by way of cash with its own funds.

**Payment Schedule:** Unless otherwise agreed between the parties, the Company shall pay the consideration in three instalments according to the ratios of 50%, 20% and 30%, of which the first payment shall be payable within 5 working days after the Completion Date, the second payment shall be payable within 3 months from the Completion Date and the third within 6 months from the Completion Date.

**Adjustment of the Consideration:** If Shandong Power, in accordance with the “Agreement on the Transfer of All the Assets of Rizhao Construction Heat Power Company Limited at Nil Consideration to Huaneng Shandong Power Generation Co., Ltd.” with the People’s Government of Rizhao Municipal entered into on 13 April 2016, transfers the assets contemplated by such agreement to Shandong Power or its subsidiaries at nil consideration prior to the Completion Date, such assets will form part of the Transfers. The consideration for such transfer shall be negotiated and determined by the parties based on the asset valuation report issued by a jointly appointed valuer but shall in no event exceed RMB500,000,000. The Company shall pay the consideration for the transfer of such assets in accordance with the payment schedule as set out above.

LETTER FROM THE BOARD

Completion and Timing for Registration: Subject to satisfaction or waiver of all the conditions precedent, and unless otherwise specified by the parties, Huaneng Group and the Company shall complete the Transfers on 1 January 2017. The Company and Huaneng Group shall register the transfer of the Target Interests at the industrial and commercial administration bureau as soon as possible after the Completion and shall file the duly amended articles of association of the Target Companies indicating the relevant equity interests of the Company in the Target Companies following Completion with the industrial and commercial administration bureau.

Conditions Precedent: (i) Conditions to the Transfers for fulfilment by both parties

Both parties bear their respective obligations to procure the Transfers and shall make their best efforts to satisfy the following conditions (where any or all of which may be wholly or partly waived by Huaneng Group and the Company, as the case may be, to the extent permitted by applicable laws and regulations). Neither party shall have any obligation to complete the Transfer unless and until all the following conditions are satisfied or waived:

(a) the Transfer Agreement and the Transfers have been approved by the internal decision-making bodies of both parties in accordance with necessary procedures pursuant to their respective articles of association and applicable laws and regulations (including the Company's Independent Shareholders' approval as required under the Hong Kong Listing Rules);

(b) no government agency of competent jurisdiction has published or promulgated any law, rule or regulation that prohibits the completion of the Transfers; and no court of competent jurisdiction has released any order or injunction that prevents the completion of the Transfers;



LETTER FROM THE BOARD

- (c) all necessary approvals, consents, filings and certificates required from governments or their designated authorities as well as all material third-party consents required for the Transfer Agreement and the Transfers have been obtained, except for legal proceedings that can only be attended to after the Completion in accordance with applicable laws and regulations and the documents derived therefrom.

(ii) Conditions to the Transfers for fulfilment by Huaneng Group

The obligations of Huaneng Group to complete the Transfers are conditional upon the satisfaction of each of the following conditions on or before the Completion Date, which may be wholly or partly waived by Huaneng Group to the extent permitted by applicable laws and regulations:

- (a) the representations and warranties made by the Company in the Transfer Agreement are true and accurate in all material respects and there are no material omissions as at the Completion Date; and
- (b) the Company has performed and observed the terms under the Transfer Agreement to be performed and observed on its part in all material respects.

(iii) Conditions to the Transfers for fulfilment by the Company

The obligations of Company to complete the Transfers are conditional upon the satisfaction of each of the following conditions on or before the Completion Date, which conditions may be wholly or partly waived by the Company to the extent permitted by applicable laws and regulations:

- (a) the representations and warranties made by Huaneng Group in the Transfer Agreement are true and accurate in all material respects and there are no material omissions as at the Completion Date; and

LETTER FROM THE BOARD

- (b) Huaneng Group has performed and observed the terms under the Transfer Agreement to be performed and observed on its part in all material respects.

Effectiveness: The Transfer Agreement shall become effective upon being duly signed by the parties on 14 October 2016.

Transition Arrangements: The Company shall be entitled to and assume the portion of the profit and loss and other aggregate income of Shandong Power arising from 1 June 2016 to the Completion Date that is proportional to the Target Interests. Huaneng Group shall be entitled to and assume the portion of the profit and loss and other comprehensive income of Jilin Power, Heilongjiang Power and Zhongyuan CCGT arising from 1 June 2016 to the Completion Date that is proportional to the Target Interests. For the avoidance of doubt, any loss incurred by Jilin Power, Heilongjiang Power or Zhongyuan CCGT during the transition period shall be compensated by Huaneng Group in cash and in proportion to the Target Interests upon the Completion.

Huaneng Group undertakes that, unless otherwise stated in the Transfer Agreement, none of the Target Companies and their subsidiaries shall acquire or dispose of any of their material assets within the transitional period (except with the prior consent of the Company). Notwithstanding the foregoing provisions, the Company is aware and agrees that (1) Shandong Power has acquired 80% equity interests in Yantai 500 Heating Supply Limited in June 2016; and (2) Shandong Power proposes to acquire 100% equity interests in Liaocheng Changrun Guodian Heating Limited during the transition period at a price pre-approved by the Company and complete such acquisition prior to the Completion Date, failing which the parties shall discuss further on the issues related to the acquisition. The asset valuation reports did not take into consideration the acquisition of 80% of Yantai 500 Heating Supply Limited and Liaocheng Changrun Guodian Heating Limited.

For the period from the Base Date to the Completion Date, in principle Huaneng Group shall not provide funds to any of the Target Companies, unless with the prior approval of the Company. With the prior approval of the Company, Huaneng Group may provide funds to any of the Target Companies in the form of entrusted loan(s), and the Company shall, after the

## LETTER FROM THE BOARD

Completion Date, cause the relevant Target Company to repay such loan(s) within 20 working days following the Completion Date. Should the relevant Target Company fail to repay such loan(s) within the said time limit, the Company shall provide funds to such Target Company within 20 working days to repay the said loan(s). It is further agreed that Huaneng Group injected an additional amount of RMB100 million in cash into the registered capital of Heilongjiang Power in June 2016, which will be repaid by the Company within 20 working days after the Completion Date.

**Indemnity:** Each party shall promptly indemnify and hold the other party harmless from and against any and all losses and expenses arising out of or in connection with its breach of any provisions (including any of its representations, warranties, commitments and undertakings) of the Transfer Agreement. For avoidance of doubt, the parties agree that the amount of indemnity to be made under the Transfer Agreement shall be calculated based on the percentage of equity interests in the Target Companies to be transferred to the Company under the Transfers.

### 2. Profit Forecast Compensation Agreement

The key terms of the Profit Forecast Compensation Agreement are as follows:

**Parties:** Huaneng Group; and  
the Company

**Committed net profit:** The appraisal results derived from an asset-based approach is used as the valuation results for the Target Interests and also as the pricing basis for the Transfers. However, during the course of appraisal, income approach was adopted to value certain subsidiaries of Shandong Power (hereinafter known as “Profit Forecast Companies”, and individually “Each Profit Forecast Company”) of which the valuation results were over 100% of the book value. Huaneng Group guaranteed that the audited net profit of Each Profit Forecast Company (the “Actual Net Profit”) will not be less than the forecasted net profit as set out in the relevant asset valuation reports. For avoidance of doubt, the “net profit” refers to net profits after deduction of non- recurring items.



## LETTER FROM THE BOARD

The forecasted net profit for Each Profit Forecast Company for 2017, 2018 and 2019 respectively are set out below:

Unit: RMB10,000

Company name	Direct or indirect interest held by Huaneng Group	Forecasted net profit for 2017	Forecasted net profit for 2018	Forecasted net profit for 2019
Huaneng Laiwu Power Generation Limited	80.00%	69,036.17	57,698.23	59,280.61
Huaneng Jiaxiang Power Generation Limited	50.00%	6,728.82	4,869.78	3,757.37
Huaneng Jining Canal Power Generation Limited	98.35%	15,033.53	17,122.24	16,624.85
Huaneng Liaocheng Thermal Power Limited	75.00%	8,153.75	7,320.51	7,100.78
Huaneng Yantai Power Generation Limited	100.00%	2,941.38	4,867.51	5,619.20

Compensation period:

The compensation period as provided for under the Profit Forecast Compensation Agreement will start from the year of the Completion Date and end on the third financial year after the Completion Date. The year of the Completion Date will be regarded as the first financial year of the compensation period. As per the Transfer Agreement, after all conditions precedent have been satisfied or waived, unless the parties agree otherwise, Huaneng Group and the Company should complete the Transfers on 1 January 2017. Therefore, in case that the Transfers are completed in 2017, the compensation period shall be 2017, 2018 and 2019.

Specific audit report:

During the compensation period, the Company should audit any discrepancies between the Actual Net Profit and the forecasted profit for Each Profit Forecast Company each year. Such audit should be conducted by a registered accountant appointed by the Company with qualifications to practice in securities-related business, and such accountant should issue a

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specific audit report.

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## LETTER FROM THE BOARD

Method of profit compensation: After the issue of specific audit report according to the agreement, Huaneng Group should compensate the Company in cash for the differences between the accumulated Actual Net Profit and the accumulated forecast net profit at the end of the period of Each Profit Forecast Company as in the specific audit report. If the accumulated Actual Net Profit for Each Profit Forecast Company at the end of the compensation period is equal to or higher than the accumulated forecasted net profit at the end of the compensation period, then Huaneng Group is not required to compensate the Company (namely, the compensation payable for the relevant period is 0), nor is the Company required to compensate Huaneng Group.

Calculation of compensation amount: The compensation amount for Each Profit Forecast Company at the relevant period = the equity interest directly or indirectly held by Huaneng Group in such Profit Forecast Company x 80% (the equity interest in Shandong Power transferred by Huaneng Group in the Transfer) x the accumulated forecasted net profit at the relevant period during the compensation period for such Profit Forecast Company - the equity interest directly or indirectly held by Huaneng group in such Profit Forecast Company x 80% (the equity interest in Shandong Power transferred by Huaneng Group in the Transfer) x the accumulated Actual Net Profit at the relevant period during the compensation period for such Profit Forecast Company - paid compensation.

The total cash compensation made by Huaneng Group at the relevant time during the compensation period shall be equal to the aggregate amount of cash compensation of Each Profit Forecast Company.

For each year during the compensation period, Huaneng Group should pay the Company a cash compensation as calculated in accordance with the method as set out above within 20 business days after the disclosure of the specific audit report of the relevant year during the compensation period.

Effectiveness: Upon signing by both parties and the completion of the Transfers under the Transfer Agreement

Liability for breach of agreement: If Huaneng Group does not fully compensate the Company in time in accordance with the agreement, the Company has the right to demand Huaneng Group to immediately fulfil its obligations, and claim against Huaneng Group for the breach of agreement.





LETTER FROM THE BOARD

The Company will comply with the relevant disclosure requirements under the Hong Kong Listing Rules if the Actual Net Profit fails to meet the forecasted profits.

E. INFORMATION REGARDING THE TARGET COMPANIES

1. Shandong Power

Date of incorporation: 30 May 2008

Legal status: Limited liability company (not natural person investment or holding corporation sole investment)

Registered capital: RMB4,241,460,000

Business scope: Power generation, generation and distribution of heat power, the development, investment, construction, operation and management of the integrated use of coal ash powder and electric (heat) power projects, the investment on coal, transportation, and related industries.

Shandong Power is a wholly-owned subsidiary established by Huaneng Group and was registered at the relevant authority of industry and commerce in May 2008. Shandong Power acquired certain power assets in Shandong Province from Shandong Luneng Development Group Limited in December 2008. In addition, Huaneng Group has transferred its certain power assets in Shandong Province to Shandong Power since June 2009.

## LETTER FROM THE BOARD

The following sets out certain background information of the subsidiaries, branch companies associates and joint ventures of Shandong Power as at the Latest Practicable Date:

No.	Company name	Registered capital (RMB10,000)	Shareholding percentage	Capacity of generating units in operation
1	Shandong Rizhao Power Generation Limited	124,558.79	56%	two 350 MW coal-fired generating units
2	Huaneng Zibo Baiyanghe Power Generation Limited*	109,856.73	100%.	two 145 MW thermal power generating unitsNote 1;two 300 MW thermal power generating units
3	Huaneng Shandong Ruyi Coal Power Limited	110,000	50%.	N/A
3-1	Huaneng Jiaxiang Power Generation Limited	63,800	100% held by Huaneng Shandong Ruyi Coal Power Limited	two 330 MW thermal power generating units
3-2	Huaneng Qufu Heat Power Limited	30,093.30	100% held by Huaneng Shandong Ruyi Coal Power Limited	two 225 MW thermal power generating units
3-3	Huaneng Jining Gaoxin District Heat Power Limited*	7,869.98	100% held by Huaneng Shandong Ruyi Coal Power Limited	two 30 MW thermal power generating unitsNote 1
4	Huaneng Jinan Huangtai Power Generation Limited	139,187.84	90%	one 330 MW coal-fired generating unitNote 2; two 350 thermal power generating units
5	Huaneng Laiwu Power Generation Limited	180,000	80%	one 1000 MW thermal power generating unit; one 1000 MW coal-fired generating unit under construction
6	Huaneng Yantai Power Generation Limited*	54,747.91	100%	one 110 MW thermal power generating unitNote1; three 160 MW thermal power

				unitsNote 1
7	Huaneng Linyi Power Generation Limited*	93,896.14	75%	two 350 MW thermal power generating units; four 140 MW thermal power generating unitsNote 1
8	Huaneng Liaocheng Heat Power Limited	61,067	75%	two 330 MW thermal power generating units
8-1	Liaocheng Jinshui Lake Water Supply Limited Liability Company	2,600	45% held by Huaneng Liaocheng Thermal Power Limited Company	N/A
8-2	Liaocheng Luxi Fuel Limited	2,470	30% held by Huaneng Liaocheng Thermal Power Limited Company	N/A
9	Huaneng Jining Canal Power Generation Limited*	69,635.53	98.35%	four 145 MW coal-fired generating unitsNote 1; two 330 MW coal-firedgenerating unitsNote 1

## LETTER FROM THE BOARD

No.	Company name	Registered capital (RMB10,000)	Shareholding percentage	Capacity of generating units in operation
10	Huaneng Taian Zhungtai Power Generation Limited*	47,925.15	100%	two 150 MW coal-fired generating unitsNote 1
11	Yantai Huanghai Heat Power Limited	6,827.4	65%	Proposed to be liquidated and wound up, no actual business currently
12	Huaneng Zibo Boshan Photovoltaic Power Generation Limited*	2,200	100%	12 MW photovoltaic Note 1
13	Huaneng Laiwu Renewable Energy Limited*	3,448	100%	20 MW photovoltaic Note 1; 20 MW photovoltaic under construction planning
14	Shandong Changdao Wind Power Generation Limited	3,350	60%	20.55 MW wind power generating units
15	Huaneng Rongcheng Renewable Energy Limited	3,654	60%	15 MW wind power generating units
16	Huaneng Dongying Renewable Energy Limited	6,970.93	70%	48 MW wind power generating units
17	Huaneng Rushan Wind Power Generation Limited*	9,541	100%	42 MW wind power generating unitsNote 1
18	Huaneng Shandong Power Generation Limited Muping Wind Power Branch	branch company	N/A	42 MW wind power generating units
19	Huaneng Shandong Power Generation Limited Rushan Wind Power Branch	branch company	N/A	No actual business currently
20	Huaneng Shandong Power Generation Limited Wendeng	branch company	N/A	No actual business currently

Branch

21	Huaneng Penglai Wind Power Generation Limited*	17,721	100%	49.8 MW wind power generating unitNote 1; 49.8 MW wind power generating units under construction
22	Huaneng Shandong Sishui Renewable Energy Limited*	3,600	100%	20 MW photovoltaic Note 1
23	Huaneng Rizhao Heat Power Limited	1,000	100%	No actual business currently
24	Linyi Lantian Heat Power Limited	3,600	68%	N/A
25	Huaneng Dezhou Heat Power Limited	2,000	85%	N/A
26	Huaneng Taishan Power Generation Limited	45,656.80	56.53%	N/A

## LETTER FROM THE BOARD

No.	Company name	Registered capital (RMB10,000)	Shareholding percentage	Capacity of generating units in operation
26-1	Shandong Liaocheng Heat Power Property Limited Liability Company	5,065.80	75% held by Huaneng Taishan Power Generation Limited	N/A
26-1-1	Shandong Liaocheng Heat Power Property Limited Liability Company Guest House	branch company	N/A	N/A
27	Huaneng Yantai Bajiao Heat Power Limited	24,117	100%	two 600 MW thermal power generating units in construction
27-1	Yantai Harbour Energy Sanhuo Pier Limited	1,000	50% held by Huaneng Yantai Bajiao Thermal Power Limited	N/A
28	Huaneng Jining Renewable Energy Limited	3,800	100%	20 MW photovoltaic power station in planning
29	Huaneng Zhanhua Renewable Energy	500	100%	100 MW wind power generating units in planning
30	Huaneng Shandong Electricity Fuel Limited	10,000	51% held by Shandong Power; 7% held by Huaneng Jining Canal Power Generation Limited; 7% held by Huaneng Taian Zhongtai Power Generation Limited; 7% held by Huaneng Liaocheng Thermal Power Limited; 7% held by Huaneng Zibo Baiyanghe Power Generation Limited; 7% held by Huaneng Linyi Power Generation Limited; 7% held by Huaneng	N/A

			Yantai Power Generation Limited; 7% held by Huaneng Jinan Huangtai Power Generation Limited.	
31	Huaneng Shandong Power Generation Repair Technology Limited	5,000	same as above	N/A
32	Huaneng Shandong Informational Technology Limited	8,000	100%	N/A
33	Huaneng Shandong Electric and Heat Power Marketing Limited	20,000	100%	N/A
34	Huaneng Weihai Haibu Photovoltaic Power Generation Limited	10	100%	The company was newly established in June 2016 and has not carried out any business up till now

## LETTER FROM THE BOARD

No.	Company name	Registered capital (RMB10,000)	Shareholding percentage	Capacity of generating units in operation
35	Yantai Bohai Heat Power Limited	10,440	35%	No actual business currently and in the process of winding up
36	Huaneng Shandong (Hong Kong) Investment Limited	HKD 10,000	100%	N/A
36-1	Huaneng Shandong Ruyi (Hong Kong) Energy Limited	USD 360 million	50% held by Huaneng Shandong (Hong Kong) Investment Limited	N/A
36-1-1	Huaneng Shandong Ruyi (Pakistan) Energy (Private) Limited	Rupee 1,000,000	100% held by Huaneng Shandong Ruyi (Hong Kong) Energy Limited	two 660 MW coal-fired power projects under construction in Pakistan
37	Yantai 500 Heating Supply Limited	2,050	80%	N/A

Note Certain generating units of the 11 subsidiaries of Shandong Power (marked with “\*” in the table above and with an aggregate appraised value of the effective interest amounting to RMB 6,978,066,080) have yet to obtain, and are in the process of applying for, the electric power business licenses. The PRC legal adviser to the Company has confirmed that, taking into consideration the historical background of the absence of the electric power business licence and after consultation with the relevant PRC regulatory authorities, such defects will not cause any impediment to the business operation of the relevant subsidiaries. The PRC valuer has also confirmed that given the historical background for the absence of electric power business license, the possible effects of such defect is insignificant. Therefore, the PRC valuer has disregarded it in the calculation and determination of the valuation results. Pursuant to the provisions of the Transfer Agreement, Huaneng Group undertakes that: it shall procure that each of the Target Companies and their subsidiaries make all endeavours to obtain the electric power business license required for conducting the power generation business by the Completion Date. If the government authority having jurisdiction over the relevant business qualifications of any Target Company or any of its subsidiaries is of the view that the Target Company or any of its subsidiaries has committed any breach of any law, regulation or rule relating to electric power business licenses prior to the Completion Date and imposes a penalty or fine on such Target Company or its subsidiary, or requires any Target Company or any of its subsidiaries to take any other action that results in any adverse effect on the business operation of or the incurrence of any expenditure by such Target Company or subsidiary (whether such penalty or requirement being made before or after the Completion Date), Huaneng Group shall promptly indemnify the Company from and against all the losses incurred thereby as a result thereof. In the situation that any Target Company or any of its subsidiaries has/have difficulty in conducting normal business operation due to its failure to obtain the electric power business license or any unit operation license from other relevant government authorities (whether before or after the Completion Date), Huaneng Group agrees to repurchase or cause a third party to repurchase, at the request of the Company, such defective assets in cash based on the consideration of the Transfers (subject to deduction of any gains of the Company derived from such assets prior to the repurchase).



Note According to the property rights transfer contract entered into between Shandong Power and Shandong Luneng Development Group Co., Ltd. in December 2008 and the relevant official reply from the State-owned Assets Supervision and Administration Commission of the State Council in February 2009 (Guo Zi Chan Quan [2009] No. 70), Unit 8# of Huangtai Power is 30% owned by Shandong Power and is currently operated and managed by Huaneng Jinan Huangtai Power Generation Limited.

LETTER FROM THE BOARD

Certain parcels of land owned by Shandong Power and its subsidiaries and branch companies are pending for the issuance of land use rights certificates or in the process of being transferred to and re-registered in the name of Shandong Power as the owner. In addition, Shandong Power and its subsidiaries and branch companies are yet to obtain property ownership certificates for, or register in their name, a number of house properties (the area of which is subject to surveying and measurement). Such lands and properties with defective title have been included in the scope of the valuation and the aggregated value of such lands and properties with defective title is estimated to be around RMB3,870.52 million. Pursuant to the Transfer Agreement, Huaneng Group agrees to promptly indemnify the Company from and against any and all losses incurred by any of the Target Companies or their subsidiaries as a result of or in connection with the punishment imposed by any government authority, or the perfection of the land use rights or property ownership certificates, in relation to any land parcel or house property which is used or owned by the Target Company or its subsidiaries but has not been registered in the name of the Target Companies and their subsidiaries and to any allocated land use rights without the documents issued by relevant land authority confirming the retention of the allocation method. Huaneng Group agrees to promptly indemnify the Company from and against any and all losses incurred by any of the Target Companies or their subsidiaries as a result of or in connection with the payment liabilities, compensation, administrative punishment or replacement in relation to the leased assets which are used prior to the Completion Date. If any Target Company or any of its subsidiaries has/have difficulty in conducting normal business operation due to any of the aforesaid defects in the relevant land parcels or house properties, Huaneng Group agrees to repurchase or cause a third party to repurchase, at the request of the Company, such Target Company or its subsidiary in cash based on the consideration of (subject to deduction of any gains of the Company derived from such Target Company or subsidiary prior to the repurchase).

As at the Latest Practicable Date, Shandong Power has the following on-going and outstanding litigations or arbitrations initiated by subsidiaries of Shandong Power or against subsidiaries of Shandong Power by third parties with an amount in dispute greater than RMB5 million:

- (i) a litigation relating to the recovery of heating fee and an arbitration case relating to the recovery of heating fee dispute, both initiated by Huaneng Qufu Thermal Power Co., Ltd. as a plaintiff (claim amounts is estimated to be RMB38.22 million and RMB48.10 million respectively);
- (ii) a litigation relating to a claim under a guarantee, initiated by Huaneng Jiaxiang Power Generation Co., Ltd. as a plaintiff (claim amount is estimated to be RMB86.56 million);
- (iii) a litigation initiated by Huaneng Liaocheng Thermal Power Limited Company as plaintiff in relation to the outstanding specific performance for repayment of entrusted loans (claim amount is estimated to be RMB74.35 million); and
- (iv) a litigation in relation to the dispute of the consideration and deposits for an asset disposal, in which Yantai Huanghai Thermal Power Co., Ltd. was considered as the third party, and the litigation initiated by it as plaintiff regarding the cancellation of an

LETTER FROM THE BOARD

asset transfer contract, confirmation of transfer consideration, deposit vesting as well as the removal and disposal of remaining assets (claim amounts are estimated to be RMB20.75 million and RMB16.70 million respectively).

Pursuant to the Transfer Agreement, with respect to any significant proceedings involving an amount over RMB5 million which is on-going or pending enforcement, if any judicial or arbitral authority with competent jurisdiction makes a final ruling or award to such proceedings that requires any Target Company or any of its subsidiaries to indemnify/make payment to any third party, or if the amounts claimed by any Target Company or any of its subsidiaries under such proceedings are not recoverable in full, Huaneng Group agrees to promptly indemnify the Company from and against all the losses incurred thereby upon the Target Company or its subsidiaries making indemnification/ payment to the said third party or being subject to enforcement by any judicial authority or where it is determined that the claimed amounts are not recoverable in full under judicial enforcement.

Huaneng Group warrants that the ownership of the Shandong Power Interests is clearly defined and is not subject to any mortgage, pledge, lien, third party interest or any other circumstance that would prevent the transfer of the ownership thereof, and that the Shandong Power Interests are not subject to any dispute, litigation, arbitration or other legal proceedings.

Following the Completion, Shandong Power will become a subsidiary of the Company and its financial data will be included in the consolidated financial statements of the Company. The Company has not provided security for Shandong Power or appointed Shandong Power for entrusted financial management, nor is Shandong Power in possession of any funds of the Company.

2. Jilin Power

Date of incorporation:	September 2007
Legal status:	Limited liability company
Registered capital:	RMB1,917,130,000
Business scope	Development, investment, construction, production, operation and sale of electric (heat) power and renewable energy projects; construction and operation of power distribution network; development, investment, production and investment of coal related projects; sale of coal; property management.

Jilin Power was invested and established by Huaneng Group as its wholly owned subsidiary, the registration of which with the authority of industrial and commercial administration was conducted in September 2007. On 29 October 2015, Huaneng Group agreed to increase Jilin Power's share capital in cash by RMB200 million, and such capital injection has been completed as of the Latest Practicable Date, as per the Approval in relation to the Increase of the Share Capital in Jilin Power (Huaneng Cai. [2015]487) for the purpose of lowering the debt asset ratio and improving the conditions of operation. As at the Latest Practicable Date, Huaneng Group holds 100% interests in Jilin Power.



## LETTER FROM THE BOARD

The following sets out certain background information of the subsidiaries and branch companies of Jilin Power as at the Latest Practicable Date:

No.	Company name	Registered capital (RMB10,000)	Shareholding percentage	Capacity of generating units in operation
1	Huaneng Linjiang Jubao Hydroelectric Power Limited	2,000	100%	two 10 MW hydro power generating units
2	Huaneng Jilin Biomass Power Generation Limited	18,380	100%	
2-1	Huaneng Jilin Biomass Power Generation Limited Nongan Biomass Power Plant	branch company	N/A	25 MW biomass power generating unit
3	Huaneng Zhenlai Wind Power Generation Limited	500	100%	99 MW wind power generating unit
4	Huaneng Baishan Meiganshi Power Generation Limited	60,000	60%	660 MW coal gangue power generating unit, not within the scope of the Transaction
5	Huaneng Jilin Power Generation Limited Jiutai Power Plant	branch company	N/A	two 670 MW coal-fired generating units
6	Huaneng Jilin Power Generation Limited Heat Power Branch	branch company	N/A	N/A
7	Huaneng Jilin Power Generation Limited Siping Wind Power Plant	branch company	N/A	196.5 MW wind power generating unit
8	Huaneng Jilin Power Generation Limited Tongyu Tuanjie Wind Power Plant	branch company	N/A	147 MW wind power generating unitNote 1
9	Huaneng Jilin Power Generation Limited Renewable Energy	branch company	N/A	No actual business currently

Branch

10	Huaneng Jilin Power Generation Limited Changchun Thermal Power Plant	branch N/A company	two 350 MW coal-fired generating units
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Note 1: That power plant has yet to obtain, and is in the process of applying for electric power business license.

Note 2: The planning and construction department of Hekou Mixed Fuel Cogeneration Plant of Jilin Power and Jiutai Biomass Power Plant of Huaneng Jilin Biomass Power Limited are currently in the process of being liquidated and wound up.

Note 3: The 60% interest held by Jilin Power in Huaneng Baishan Meiganshi Power Generation Limited are not included in the Transfers.

LETTER FROM THE BOARD

Certain parcels of land parcels owned by Jilin Power, its subsidiaries and branch companies are yet to apply for state-owned land use rights certificates. In addition, the application for property ownership certificates by Jilin Power and its subsidiaries and branch companies in relation to the certain premises (with total gross floor area subject to surveying and measurement) are yet to be completed. Such defected land and house properties have been included in the scope of the valuation and the aggregated value of such defected land and house properties is estimated to be around RMB939.46 million.

Pursuant to the Transfer Agreement, the 60% interests held by Jilin Power in Huaneng Baishan Meiganshi Power Generation Limited (“Baishan Meiganshi”) will not be included in the Transfers. Huaneng Group has the obligation to procure, by no later than the Completion Date, the full discharge of all the debts and payments owing by Baishan Meiganshi to Jilin Power and its subsidiaries up to the Completion Date (including but not limited to the receivables of RMB2,140,441,117 from Baishan Meiganshi as of the Base Date), failing which the Company shall have the right to deduct any outstanding amounts from the first payment of the consideration of the Transfers. It is further agreed that Huaneng Group shall cause Jilin Power and its subsidiaries to release the security for the RMB334,938,462 financing of Baishan Meiganshi by 31 May 2016.

Huaneng Group warrants that the ownership of the Jilin Power Interests is clearly defined and is not subject to any mortgage, pledge, lien, third party interest or any other circumstance that would prevent the transfer of the ownership thereof, and that the Jilin Power Interests are not subject to any dispute, litigation, arbitration or other legal proceedings.

Following the Completion, Jilin Power will become a subsidiary of the Company and its financial data will be included in the consolidated financial statements of the Company. The Company has not provided security for Jilin Power or appointed Jilin Power for entrusted financial management, nor is Jilin Power in possession of any funds of the Company.

3. Heilongjiang Power

Date of incorporation:	23 November 2007
Legal status:	Limited liability company (natural person investment or holding corporation sole investment)
Registered capital:	RMB783,350,000
Business scope:	Development, investment, construction, production, operation and management of electric (heat) power projects; development and investment of coal, transportations and relevant industries; distribution and operation of coal.

On 23 November 2007, Heilongjiang Power was established through industrial and commercial registration. Since December 2009, Huaneng Group transferred all its interest in the original branch company to Heilongjiang Power as its share capital increase in Heilongjiang Power. Currently, Heilongjiang Power is a wholly-owned subsidiary of Huaneng Group. In June 2016, Huaneng Group





## LETTER FROM THE BOARD

issued the “Approval relating to the Increase of Share Capital of Heilongjiang Power by RMB100 million” (Huaneng Caihan [2016] No. 302) and agreed to inject RMB100 million in cash into the Heilongjiang Power as share capital, and such capital injection has been completed as of the Latest Practicable Date.

The following sets out certain background information of the subsidiaries and branch companies of Heilongjiang Power as at the Latest Practicable Date:

No.	Company name	Registered capital (RMB10,000)	Shareholding percentage	Capacity of generating units in operation
1	Daqing Green Energy Wind Power Generation Limited	41,100	100%	192 MW wind power generating units; 96 MW wind power generating units under construction
2	Huaneng Daqing Heat Power Limited	63,000	100%	two 350 MW coal-fired generating units
2-1	Huaneng Daqing Heat Power Limited Qinan Heat Supply Branch Company	branch company	N/A	N/A
3	Huaneng Yichun Heat Power Limited	53,400	100%	two 350 MW coal-fired generating units
4	Zhaodong Huaneng Heat Power Limited	1,000	100%	N/A
4-1	Huaneng (Qiqiha'er) Qinan Heat Power Limited	50	100% held by Zhaodong Huaneng Thermal Power Limited	To be liquidated and wound up, no actual business currently
5	Heilongjiang Huaneng Energy Sale Limited	21,000	100%	N/A
6	Huaneng Hegang Power	109,250	64%	300 MW+300 MW+

	Generation Limited			600 MW thermal power generating units
7	Huaneng Xinhua Power Generation Limited Liability Company	28,488	70%	200 MW+330 MW coal-fired generating units
8	Huaneng Tongjiang Wind Power Generation Limited	33,000	82.85%	198 MW wind power generating unit

LETTER FROM THE BOARD

Pursuant to the Transfer Agreement, Huaneng Group undertakes to procure the transfer of the 3.82% shares held by Heilongjiang Power in Heilongjiang Longmay Mining Group Co., Ltd. to Huaneng Group prior to the Completion Date so that such shares would not be included in the Transfers.

Certain parcels of land owned by Heilongjiang Power, its subsidiaries and branch companies are yet to apply for state-owned land use rights certificates or are yet to be transferred to and re-registered in the name of Heilongjiang Power. In addition, the application for property ownership certificates in relation to certain premises (with total gross floor area subject to surveying and measurement) are yet to be completed. Such defected land and house properties have been included in the scope of the valuation and the aggregated value of such defected land and house properties is estimated to be around RMB1,685.87 million.

Huaneng Group warrants that the ownership of the Heilongjiang Power Interests is clearly defined and is not subject to any mortgage, pledge, lien, third party interest or any other circumstance that would prevent the transfer of the ownership thereof, and that the Heilongjiang Power Interests are not subject to any dispute, litigation, arbitration or other legal proceedings.

Following the Completion, Heilongjiang Power will become a subsidiary of the Company and its financial data will be included in the consolidated financial statements of the Company. The Company has not provided security for Heilongjiang Power or appointed Heilongjiang Power for entrusted financial management, nor is Heilongjiang Power in possession of any funds of the Company.

4. Zhongyuan CCGT

Date of incorporation:	July 2007
Legal status:	Limited liability company (state-owned)
Registered capital:	RMB400 million
Business scope:	Natural gas power generation; operation of its own products and export of technology, machines, equipment, parts and raw materials, and import of technology.

LETTER FROM THE BOARD

The predecessor of Zhongyuan CCGT was Henan Province Zhongyuan CCGT Electricity Limited Company which was established and registered in 2003 with industrial and commercial authority. On 24 December 2007, Huaneng Group entered into an equity transfer agreement in relation to Henan Zhongyuan CCGT Electricity Limited with Henan Lantian Group Company and Guangshen Yiguang Shiye Limited Company (the shareholders of Henan Province Zhongyuan CCGT Electricity Limited Company), pursuant to which each of Henan Lantian Group Guangshen Yiguang Shiye Limited transferred its 85% and 5% interests in Henan Zhongyuan CCGT Electricity Limited Company to Huaneng Group, respectively. Currently, Huaneng holds 90% interest in Zhongyuan CCGT while Henan Lantian Group Company holds the remaining 10%. Henan Lantian Group Limited Company has given its written consent to the Transfer and waived its pre-emptive right with respect to the Transfer.

Parcels of land owned by Zhongyuan CCGT have already obtained state land use right certificates. Application for properties ownership certificates for certain premises in the plant area of Zhongyuan CCGT (total area subject to surveying and measurement) are yet to be completed. Such defected house properties have been included in the scope of the valuation and the aggregated value of such defected house properties is estimated to be around RMB112.09 million.

Huaneng Group warrants that the ownership of the Zhongyuan CCGT Interests is clearly defined and is not subject to any mortgage, pledge, lien, third party interest or any other circumstance that would prevent the transfer of the ownership thereof, and that the Zhongyuan CCGT Interests are not subject to any dispute, litigation, arbitration or other legal proceedings.

Following the Completion, Zhongyuan CCGT will become a subsidiary of the Company and its financial data will be included in the consolidated financial statements of the Company. The Company has not provided security for Zhongyuan CCGT or appointed Zhongyuan CCGT for entrusted financial management, nor is Zhongyuan CCGT in possession of any funds of the Company.

## LETTER FROM THE BOARD

## F. FINANCIAL INFORMATION OF THE TARGET COMPANIES

## 1. Shandong Power

The following summary of historical financial information of Shandong Power have been derived from the consolidated financial statements of Shandong Power for the year ended 31 December 2015, and 5 months ended 31 May 2016, audited by KPMG Huazhen LLP (audit report No.: KPMG Huazhen Shen Zi No. 1602280), which is qualified to practice securities and futures related business:

Unit: RMB10,000

	As of 31 December 2015	As of 31 May 2016
Total assets	4,394,660.34	3,868,047.17
Total liabilities	3,584,877.84	2,965,924.63
Total equity	809,782.50	902,122.54
Capital and reserves attributable to equity holders of the Company	539,266.39	661,613.42
Minority interests	270,516.11	240,509.12
	For the year of 2015	5-month period ended 31 May 2016
Operating revenue	2,149,827.59	728,204.70
Profit before income tax expenses	342,345.37	248,279.11
Net profit	244,392.51	179,742.18
Net profit attributable to equity holders of the Company	179,014.62	122,896.79
Minority interests	65,377.89	56,845.39
Net profit less non-recurring items	218,149.02	79,423.46

The unaudited profit before income tax expenses and unaudited net profit (each on a consolidated basis) of Shandong Power for the year 2014 were RMB486.7395 million and RMB235.9862 million respectively.

## LETTER FROM THE BOARD

2.

Jilin Power

The following summary of historical financial information of Jilin Power has been derived from the pro forma consolidated financial statements of Jilin Power for the year ended 31 December 2015 and 5 months ended 31 May 2016, audited by PricewaterhouseCoopers Zhong Tian LLP (audit report No. PwC ZT Te Shen Zi (2016) No. 1936), which is qualified to practise securities and futures related businesses:

Unit: RMB10,000

	As of 31 December 2015	As of 31 May 2016
Total assets	1,171,718.60	1,170,008.78
Total liabilities	1,210,800.88	1,198,545.27
Total equity	-39,082.29	-28,536.49
		5-month period
	For the year of 2015	ended 31 May 2016
Operating revenue	244,754.89	106,941.25
Loss/profit before income tax expenses	-4,886.52	14,247.79
Net loss/profit	-4,409.82	10,643.33
Net loss/profit less non-recurring items	-10,913.01	13,573.94

The unaudited total profit and unaudited net profit (each on a pro forma consolidated basis) of Jilin Power for the year 2014 were RMB-245.6876 million and RMB-246.1706 million respectively.

## LETTER FROM THE BOARD

## 3. Heilongjiang Power

The following summary of historical financial information of Heilongjiang Power has been derived from the pro forma consolidated financial statements of Heilongjiang Power for the year ended 31 December 2015 and 5 months ended 31 May 2016, audited by PricewaterhouseCoopers Zhong Tian LLP (audit report No: PWC ZT Te Shen Zi (2016) No. 1934), which is qualified to practise securities and futures related businesses:

Unit: RMB10,000

	As of 31 December 2015	As of 31 May 2016
Total assets	1,328,312.31	1,340,961.53
Total liabilities	1,191,400.91	1,175,774.53
Total equity	136,911.40	165,187.00
Capital and reserves attributable to equity holders of the Company	109,637.43	135,270.12
Minority interests	27,273.97	29,916.88
		5-month period ended
	For the year of 2015	31 May 2016
Operating revenue	365,626.93	164,069.40
Profit before income tax expenses	25,097.56	33,386.37
Net profit	20,914.95	28,275.60
Net profit attributable to equity holders of the Company	11,618.10	25,632.68
Minority interests	9,296.85	2,642.92
Net profit less non-recurring items	24,992.12	14,032.88

The unaudited total profit and unaudited net profit (each on a pro forma consolidated basis) of Heilongjiang Power for the year 2014 were RMB139.2540 million and RMB108.4419 million respectively.

## LETTER FROM THE BOARD

4.

Zhongyuan CCGT

The following summary of historical financial information of Zhongyuan CCGT has been derived from the financial statements of Zhongyuan CCGT for the year ended 31 December 2015 and 5 months ended 31 May 2016, audited by PricewaterhouseCoopers Zhong Tian LLP (audit report No. PwC ZT Te Shen Zi (2016) No. 1935), which is qualified to practise securities and futures related businesses:

Unit: RMB10,000

	As of 31 December 2015	As of 31 May 2016
Total assets	181,467.25	178,113.70
Total liabilities	197,204.38	192,793.83
Total equity	-15,737.13	-14,680.13
		5-month period ended
	For the year of 2015	31 May 2016
Operating revenue	83,243.85	40,515.62
Profit before income tax expenses	221.91	1,428.91
Net profit	221.91	1,057.00
Net profit less non-recurring items	229.92	927.86

The unaudited total profit and unaudited net profit of Zhongyuan CCGT for the year 2014 were RMB1.3811 million and RMB1.3811 million respectively.



## LETTER FROM THE BOARD

## G. ASSET VALUATION OF THE TARGET COMPANIES

## 1. Shandong Power

## 1. Valuation method and valuation results

In accordance with the Asset Valuation Report Zhong He Ping Bao Zi (2016) No.BJV 6027 issued by ZhongHe Appraisal Co., Ltd., which is qualified to practise securities and futures related businesses, with 31 May 2016 as the Base Date, the detailed valuation approach and results are as follows:

Unit: RMB10,000

Company name	Shareholding percentage	Book value of shareholders' total equity Note 1	Adopted approach	Appraised value of shareholders' total equity Note 1	Difference	Appreciation rate
Target company						
Huaneng Shandong Power Generation Limited	100% held by Huaneng Group	681,443.85	Asset based approach	1,551,592.00	870,148.15	128%
Shandong Power Subsidiaries						
Huaneng Laiwu Power Generation Limited	80%	146,319.28	Income approach	491,700.00	345,380.72	236%
Huaneng Jinan Huangtai Power Generation Limited	90%	201,466.68	Income approach	371,700.00	170,233.32	84%
Huaneng Linyi Power Generation Limited	75%	139,006.17	Income approach	276,000.00	136,993.83	99%
Huaneng Shandong Ruyi Coal Power Limited ("Ruyi Coal Power")	50%	106,564.14	Asset based approach	54,497.92	-52,066.22	-49%
Huaneng Jiaxiang Power Generation Limited	100% held by Ruyi Coal Power	20,101.29	Income approach	57,900.00	37,798.71	188%
Huaneng Qufu Heat Power Limited	100% held by Ruyi Coal Power	-25,763.52	Asset based approach	-	25,763.52	100%
Huaneng Jining Gaoxin District Heat	100% held by Ruyi Coal Power	-9,700.00	Asset based approach	-	9,700.00	100%

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Power Limited

Huaneng Jining Canal Power Generation Limited	98%	109,627.70	Income approach	258,000.00	148,372.30	135%
Huaneng Zibo Baiyanghe Power Generation Limited	100%	147,262.40	Income approach	198,980.00	51,717.60	35%
Shandong Rizhao Power Generation Limited	56%	177,869.86	Income approach	354,900.00	177,030.14	100%
Huaneng Liaocheng Thermal Power Limited	75%	48,945.43	Income approach	110,500.00	61,554.57	126%

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Company name	Shareholding percentage	Book value of shareholders' total equity Note 1	Adopted approach	Appraised value of shareholders' total equity Note 1	Difference	Appreciation rate
Huaneng Yantai Power Generation Limited	100%	44,336.49	Income approach	98,900.00	54,563.51	123%
Huaneng Taishan Power Limited	57%	129,975.21	Asset based approach	133,554.06	3,578.85	3%
Shandong Liaocheng Heat Power Property Limited Liability Company	75% held by Huaneng Taishan Power Generation Limited	-163.23	Asset based approach	11,120.03	11,283.26	6,912%
Huaneng Yantai Bajiao Thermal Power Limited	100%	24,117.00	Income approach	29,600.00	5,483.00	23%
Huaneng Shandong (Hong Kong) Investment Limited	100%	92,383.93	Asset based approach	104,514.08	12,130.15	13%
Huaneng Taian Zhongtai Power Generation Limited	100%	-32,306.18	Asset based approach		- 32,306.18	100%
Linyi Lantian Thermal Limited	68%	-100.22	Asset based approach	25,986.41	26,086.63	26,030%
Huaneng Penglai Wind Power Generation Limited	100%	20,468.80	Income approach	20,900.0	431.20	2%
Huaneng Shandong Power Fuel Limited	51% held by Shandong Power; 7% held by Huaneng Jining Canal Power Generation Limited; 7% held by Huaneng Taian Zhongtai Power Generation Limited; 7% held by Huaneng Liaocheng Thermal Power Limited; 7%	10,720.49	Asset based approach	10,716.14	-4.35	0%

held by Huaneng  
 Zibo Baiyanghe  
 Power Generation  
 Limited; 7% held by  
 Huaneng Linyi Power  
 Generation Limited;  
 7% held by Huaneng  
 Yantai Power  
 Generation Limited;  
 7% held by Huaneng  
 Jinan Huangtai Power  
 Generation  
 Limited

Huaneng Dongying New Energy Limited	70%	9,294.55	Income approach	15,800.00	6,505.45	70%
Huaneng Rushan Wind Power Generation Limited	100%	10,032.97	Income approach	9,500.00	-532.97	-5%

## LETTER FROM THE BOARD

Company name	Shareholding percentage	Book value of shareholders' total equity Note 1	Adopted approach	Appraised value of shareholders' total equity Note 1	Difference	Appreciation rate
Huaneng Shandong Power Generation Maintenance Technology Limited	51% held by Shandong Power; 7% held by Huaneng Jining Canal Power Generation Limited; 7% held by Huaneng Taian Zhongtai Power Generation Limited; 7% held by Huaneng Liaocheng Thermal Power Limited; 7% held by Huaneng Zibo Baiyanghe Power Generation Limited; 7% held by Huaneng Linyi Power Generation Limited; 7% held by Huaneng Yantei Power Generation Limited; 7% held by Huaneng Jinan Huangtai Power Generation Limited	7,863.57	Income approach	9,000.00	1,136.43	14%
Huaneng Shandong Sishui New Energy Limited	100%	4,827.04	Asset based approach	4,659.08	-167.96	-3%
Huaneng Rongcheng New Energy Limited	60%	1,224.76	Income approach	1,700.00	475.24	39%
Huaneng Laiwu New Energy Limited	100%	3,300.00	Asset based approach	3,300.00	—	0%
Huaneng Zibo Boshan Photovoltaic Power Generation Limited	100%	2,019.18	Asset based approach	2,019.18	—	0%
Shandong Changdao Wind Power Generation Limited	60%	1,572.34	Asset based approach	4,301.84	2,729.49	174%

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Huaneng Shandong Information Technology Limited	100%	7,890.07	Asset based approach	7,957.08	67.01	1%
Huaneng Dezhou Thermal Power Limited	85%	2,000.00	Asset based approach	2,128.55	128.55	6%
Huaneng Zhanhua New Energy Limited	100%	250.03	Asset based approach	250.03	–	0%
Yantai Huangtai Thermal Power Limited	65%	62.70	Asset based approach	62.70	–	0%
Yantai Bohai Thermal Power Limited	35%	10,701.87	Asset based approach	10,701.87	–	0%
Huaneng Rizhao Thermal Limited	100%	1,000.00	Asset based approach	1,000.00	–	0%
Huaneng Shandong Power and Thermal Sales Limited	100%	167.75	Asset based approach	167.73	-0.01	0%

Note 1: For the Target Company level, the figure has taken into account the subsidiaries held by the Target Company.

According to applicable laws, the above asset valuation report (a summary of such report is set out in Appendix I (i) to this circular) has been duly filed in compliance with state- owned asset valuation procedure.

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2. Assumptions for valuation

The principal assumptions are as follow:

General assumptions

1. Assume that the object valued is in the process of trading, the valuer shall make assessment according to the similar market situations such as the transaction conditions of the objects valued, and the evaluation results is the estimate of transaction price of the object valued that most likely obtained;
2. Assume the appraisal target and assets are traded in the open market, the buyer and seller compete each other on equal basis in the market, and both purchasers and sellers who have ample opportunity and time to acquire market information and strike a deal on volunteering, rational, and mandatory basis;
3. Assume the entity evaluated will continuously operate after the base date of assets valuation, the usage of the business assets entrusted to be appraised remains unchanged and will continue to be deployed in the current position, the business scope and method will be kept unchanged;
4. Assume after the base date of assets evaluation, the relevant credit interest rates, exchange rates, tax bases and tax rates, and policy-related fees will have no significant changes;
5. Assume the prevailing laws, regulations, systems and social politic and economic policies that required to conform to by the enterprises valued in the operation have no material change to the current one; and
6. Assume that there will be no force majeure or unpredictable factors that may cause material adverse effects.

Specific assumptions

1. Assume the technical team and senior managers of the entity evaluated remain relatively stable in each year, the enterprise will not experience a severe loss of highly-qualified core professionals;
2. Assume the appraised entity obeys the relevant national laws and regulations during the asset purchasing, obtaining, construction and sale;
3. Assume the current and future managers of the operating entities in the appraised company are responsible, and the managers can steadily promote the development plan of the company and the company can maintain a favorable operating situation;

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4. Assume that all the assets within the scope of the valuation as set out in the balance sheet on the valuation base date provided by the entities evaluated were real, and the assets related to the objects valued did not attach any flaw that affect its value;
5. Assume each asset corresponding to the valuation object make no impact on key technology failure under continuous operation, and such assets are free from harmful substances adverse to their value, and the place of such assets are free from dangerous matters and other harmful environment conditions which make adverse impacts on such assets;
6. As to the tangible assets of the valuation object, the valuer only check the assets appearance by eyes, and have not performed a dedicated technology inspection for the technique data, working conditions, structure, and invisible portion;
7. The earnings forecast offered by the managers of the entity evaluated is made on the premise that the enterprise will continue to operate and its operations remain stable in the future, and they have objectively considered the future development plan of the enterprise and the possible influences of the industry's master planning;
8. The on-grid tariffs applied in this revenue forecast are based on the latest benchmark of on-grid tariffs (before the date of the issue of the report) as announced by the Shandong Province Price Bureau, taking into account the effect of desulphurization, denitration, deducting tariff, ultra clean emission tariff (each tariff subject to the prevailing policies of the country on the valuation base date) that obtained after reconstruction and acceptance during the income forecast period, and except the above factors, the effect other factors on the tariffs will not be taken into consideration;
9. The heating price adopted in this income forecast is based on the actual selling price as at the valuation Base Date, and is assumed to remain unchanged during the period for this income forecast (not considering the impact on exemption from VAT on heat supply income obtained from residents);
10. Assume that the non-base power generation (the transacted power generation, straight power supply in the electricity market) in each plant in the future could maintain its annual increase to its stable operation period during the forecast period; and the on-grid tariffs of non-base power generation during the forecast period will maintain stable during the forecast period with reference to the prevailing market price in the Shandong province;
11. Assume that the future coal prices remain stable during the income forecast period; and



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12. Assume that each investment projects of the entities evaluated and its subsidiaries approved on the valuation base date have been completed as schedule and are put into use.

The Company confirms that the assumptions above also apply to all the subsidiaries of Shandong Power.

Summary of income approach

The income type adopted by this assessment is all the free cash flow generated by all the capital of the enterprise. The free cash flow is equal to the interest-free net profit (after tax) of the enterprise (that is, the total amount of profit of the Company without interest income less the actual amount paid for income tax) plus non cash expenses such as depreciation and amortization less the remainder of additional contributions to the operator capital appoint capital expense. This product is the total amount of cash flow (after tax) generated by the Company which can be distributed to the contributors of the capital of the Company including creditors and shareholders.

Total value of shareholders equity = corporate value-liabilities with interest

Corporate value = operating assets value + overage assets value + non-operating assets value + long-term equity investment value

Liabilities with interest, including short-term borrowing, bills payable with interest, long-term borrowing falling due within a year and long-term borrowing, refers to the debts which need to pay interest in the book of enterprise evaluated on the valuation base date.

Operating assets value

Productive assets refer to assets and liabilities which related to entities evaluated' production management and that free cash flow estimation involves after valuation base date. The formula of operating assets value is as follows:

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among which: P: operating assets value on valuation base date;

R<sub>i</sub>: estimated free cash flow in the *i*th year after valuation base date;

R<sub>n+1</sub>: estimated free cash flow in the last year of forecast period;

r: discount rate, determined by weighted average cost of capital;

n: forecast period;

Calculation of estimated free cash flow (R<sub>i</sub>):

Estimated free cash flow in the *i*th year = earnings before interest and tax × (1 - income tax rate) + depreciation and amortization – capital expenditure - additional working capital amount

About cost of sales

1. Income from power generation constitutes most of the income of power plants. The indicators that have a bigger impact on the income from power generation are the on-grid tariffs and utilisation rates, in particular:

1) On-grid tariffs

According to the “Notice in relation to Reducing the On-grid Tariffs for Coal Power Generation and the Price of Electricity for General Industrial and Commercial Use” (Faigai Jiage [2015] No. 3105) issued by the National Development and Reform Commission and the benchmark price of electricity for Shandong Province, since 2016, the benchmark on-grid tariff (including desulfuration, denitration and dust elimination) was RMB0.3729/KWhr (inclusive of tax). The price for the generators conforming to ultra-low emission standards was RMB0.3829/KWhr (inclusive of tax). The actual on-grid benchmark tariffs and green electricity tariffs of each power plant are basing on the tariff approved by the Pricing Bureau of Shandong Province:

- a) Notice Regarding Lowering the On-grid Tariffs and Retail Tariffs (Lu Jia Ge Yi Fa [2015] No. 131);
- b) Notice Regarding the Implementation of Green Electricity Tariff for Coal-fired Generating Units with Environmental Protection Facilities Accepted in December 2015 (Lu Jia Ge Yi Han [2016] No. 4);

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- c) Notice Regarding the Implementation of Improving the Tariff Policy of Onshore Wind and Photovoltaic Power Generation (the document of Fa Gai Jia Ge [2015] No. 3044) (Lu Jia Ge Yi Fa [2016] No. 7);
- d) Notice Regarding the Implementation of Green Electricity Tariff for Coal-fired Generating Units with Environmental Protection Facilities Accepted in January 2016 (Lu Jia Ge Yi Han [2016] No. 8);
- e) Letter Regarding the Implementation of Ultra-low Emission Tariff for Certain Coal-fired Generating Units (Lu Jia Ge Yi Han [2016] No. 43);
- f) Letter Regarding the Implementation of Ultra-low Emission Tariff for Coal-fired Generating Units Accepted by the Provincial Environmental Protection Authorities in the First Quarter of 2016 (Lu Jia Ge Yi Han [2016] No. 48);
- g) Notice Regarding the Implementation of Green Electricity Tariff for Coal-fired Generating Units with Environmental Protection Facilities Accepted in February and March 2016 (Lu Jia Ge Yi Han [2016] No. 49);
- h) Reply Regarding the On-grid Tariffs for Renewable Energy Generation Projects Including Yinan Linuo Solar Energy Power Engineering Co., Ltd. (Lu Jia Ge Yi Fa [2016] No. 59);
- i) Reply Regarding the On-grid Tariffs for Coal-fired Generating Units Including No. 7 Generating Unit of Huaneng Laiwu Power Plant (Lu Jia Ge Yi Fa [2016] No. 97);

2)

Generation hours

In 2015, affected by the importation of power, and that supply was greater than demand in the power industry, the power generation amount was reduced compared against 2014. According to the latest business directives for assessed companies, the power generation amount in 2016 is forecasted to continue to reduce. It is forecasted that the generation hours may reduce slightly in 2018 and gradually stabilise from 2019 onwards. The trend for the generation hours for each power plant is the same, save for variations as a result of partial grid adjustments etc.

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2. The main cost is fuel cost, mainly reflected in coal consumption and unit costs. The particular assessment criteria is as follows:

1) Coal consumption

Coal consumption for power generation is one of the important assessment indicators for thermal power plants. Each power plant continuously conducts technical improvement, with a decrease in coal consumption each year in the past years. A portion of the power plants have coal consumption levels better than the industry average and are in leading positions.

The forecast for the coal consumption during the forecast period for the assessed companies mainly made reference to the historical coal consumption levels.

2) Coal price

Coal price is affected by market prices and fuel coal price. In recent years, the price of coal had continuously stayed low, the procurement costs for power plants have been reducing each year. Affected by factors in 2016 such as the reduction in production capacity of the coal and charcoal industry, the prices of coal and charcoal showed a rising trend. This forecast is based on the financial forecasts from companies in recent years and recent procurement data, with the rise in coal and charcoal prices in consideration. The coal price during the forecast period of June 2016 to December 2016 is based on the coal prices upon arrival at each respective power plant during January 2016 to August 2016 and the loss on entering the furnace, and with an increase rate of 1% per year for the years following until stabilisation.

The forecast for other costs such as inspection and maintenance costs, management costs etc all made reference to the historical levels of companies.

About discount rates

In relation to the selection of discount rates, the weighted average cost of capital (“WACC”) was adopted. The WACC model can be expressed by the following formula:

$$WACC = K_e \times [E \div (D+E)] + K_d \times (1-T) \times [D \div (D+E)]$$

Where:  $K_e$  = Cost of equity capital

E = The market value of equity capital

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D = The market value of debt capital

Kd = Cost of debt capital

T = Income tax rate

Calculation of cost of equity is made by using Capital and Asset Pricing Model (“CAPM”):

$$K_e = R_f + \beta (R_m - R_f) + R_c$$

Where:

Rf = Risk-free yield

$\beta$  = Index of equity risk

Rm-Rf = Equity risk premiums (“ERP”)

Rc = Enterprise-specific risks

1.

Risk-free yield

Treasury bond yields are commonly deemed as risk-free. It can be excluded from calculation as there is minimal risk of failing to redeem upon maturity. Risk-free yield is based on treasury bonds with years to maturity of 10 years or longer on the valuation base date (or recently).

2.

Index of equity risk

The relevant data of the comparable listed companies are selected according to the business features of the assessed company against comparable Shanghai and Shenzhen A share listed companies with the same or similar business as the assessed companies obtained through the WIND information system.

3.

Equity risk premiums

Equity risk premiums reflect the risk compensation required by investors due to investing in capital markets with higher risks (compared to bond markets with lower risks). On one hand, China’s history of stock market development is relatively shorter, and that the speculative atmosphere in the market was intense, and that there is higher level of volatility. On the other hand, China currently has a stricter resolution over foreign exchange for capital projects in addition to the unique share fragmentation on the Chinese market. Hence, directly determining the equity risk premiums based on historical data is unreliable, as opposed to a developed market, which has longer historical data and where the equity risk premiums could be directly determined based on historical data. Reference is

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made to the latest research results of an American financial expert, Aswath Damodaran, on the market risk premium, of which the calculation formula is as follows:

$MRP = \text{basic compensation rate in mature stock market} + \text{national compensation rate}$

In the formula above, the basic compensation rate in mature stock market takes the arithmetic average revenue difference of 6.18% between the American stock and treasury in 1928-2015; for the national compensation amount, according to China's debt level, which is Aa3 as made by Moody' Investors Service, the national debt-rating agency, the national risk compensation rate is 0.93%.

4. Ascertaining adjustments of enterprise-specific risks

1) Ascertaining the rate of return for scaling risks

Compared to listed companies, the assessed company is of a smaller scale, hence we need to take into consideration the rate of return for scaling risks.

2) Ascertaining individual rate of return of risks

Individual risks means certain risks of the company as against industry competitors. Individual risks include: (1) The operation stage at the location where the company is operating; (2) historical operation conditions; (3) developmental stage of main products; (4) operating business of the company, product and geographical distribution; (5) internal management and control mechanism of the company; (6) experience and qualifications of management; (7) dependency on major clients and suppliers; (8) financial risks.

5. Ascertaining debt capital cost

This assessment of the debt capital cost made reference to bank long term loan interest rates, analysed the actual loan interest rates of the assessed company in previous years, and considered the current finance conditions and the company's own features within the industry.

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3. Explanatory notes on appreciation of valuation

As for Shandong Power, the book value of all equity interest held by the shareholders amounted to RMB6,814.4385 million, the all equity interests held by the shareholders is valued to be RMB15,515.92 million, and the added value was RMB8,701.4815 million with a value-added rate of 127.69%, of which the added value of long-term equity investment amounted to RMB8,624.1317 million, representing 99.11% of the total added value Note.

(1) Valuation methods and appreciation reasons for long-term equity investment enterprises

1) Appraisal methods for long-term equity investment enterprises

For main power plants of long-term equity investment enterprises, assets-based method and income method are adopted for evaluation:

The assets-based method is for assets reorganization and reconstruction with reflection to current reset value of enterprises; income method is for the future profitability of enterprises, aiming to reflect the aggregate profitability of each asset.

According to the Asset Valuation Standards and the Guidelines for Valuation Report of State-owned Assets, if various appraisal methods are adopted for the same target, it requests analysis of conclusion for initial value, and a reasonable evaluation conclusion should be formed basing on comprehensive consideration for various appraisal methods the reasonability of the initial value conclusion as well as both quality and quantity of relevant data.

a. Selecting evaluation results derived by income method

For the main power plants including Huaneng Jinan Huangtai Power Generation Co., Ltd, Shandong Rizhao Power Generation Co., Ltd., Huaneng Laiwu Power Generation Co., Ltd., Huaneng Linyi Power Generation Co., Ltd., Huaneng Jining Yunhe Power Generation Co., Ltd., results derived by income method are selected as evaluation conclusions. Details are set out as follows:

In recent years, the economic trend and benefit of the power industry obviously improved, which is mainly due to the industrial structure adjustment in China. Though the on-grid price was lowered twice in 2015, as a relatively developed province with large power consumption, and based on thermal power, the operation of power enterprises has been

Note: Such valuation results have taken into account the land and properties of defective title (with the value of RMB3,870.52 million) as well as the fact that certain subsidiaries (with an aggregate appraised value of the effective interest amounting to RMB6,978,066,080) have not obtained electric power business license.

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significantly improved. In addition, electric power enterprises in Shandong province will be affected to some extent due to the electric power reform and some electric power enterprises from other provinces tapping into Shandong market. However, all plants are taking active measures such as accelerating the emitting and heating transformation, expanding market and increasing the non- basic power, to steady the power generation and hours as well as rationalize the utilization of facilities.

The power plants above are the important power plants under the unified management in the power grid of Shandong and the important local units for supplying heat. By analyzing the operation conditions and financial data in recent years, the operation conditions of power plants keep stable basically and well, and transformations for environmental protection have been completed continuously, so that those power plants have the greater advantages in the power generation area in Shandong Province, no material changes will occur in the future operation situation and conditions, and the relevant data can be estimated reasonably, therefore the income method is adopted as evaluation conclusion.

b. Selecting evaluation results derived by assets-based method

For the power plants including Huaneng Taian Zhongtai Power Generation Co., Ltd., Linyi Blue Sky Thermal Power Co., Ltd., Huaneng Zibo Boshan Photovoltaic Power Generation Co., Ltd., assets-based method is adopted to assess due to the larger uncertainty of future profit.

2) The major reasons for appreciation are as follows:

a. Stable growth advantage in power market

In 2015, the power consumption in the whole society in Shandong Province amounted to 511.7 billion kWh, representing a year-on-year growth of 2.8%; the generating capacity in Shandong amounted to 461.94 billion kWh, representing a growth of 2.8%; the installed electricity capacity amounted to 97.157 million kWh, of which the proportion of new energy generation capacity was increased to 11.5%; due to the acceleration in implementing the strategy of “transmission from outside to Shandong”, the electricity outside the province accepted by the power grid amounted to 49.76 billion kWh in that year, representing 9.7% of the power consumption in the whole society.



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From January to May 2016, the generating capacity in Shandong Province amounted to 188.985 billion kWh, representing a year-on-year growth of 2.51%; the electricity outside the province amounted to 20.56 billion kWh, representing a year-on-year growth of 5.07%. The thermal power utilization hours in Shandong Province amounted to 1,915 hours, representing a year-on-year increase of 44 hours. The power consumption in the whole province amounted to 209.545 billion kWh, representing a year-on-year growth of 2.76%. From the perspective of electricity consumption structure, the industrial power consumption (representing 77.29% of power consumption in the whole province) has a year-on-year growth of 1.12%, the power consumption of primary industry increased by 15.94%, and the power consumption for living of urban and rural residents increased by 7.22%. Both the generating capacity and power consumption in Shandong Province remained a stable growth.

b. Scale advantage

As of the end of February 2016, the total installed generation capacity in Shandong province was 98.18 million kW, in which, the installed capacity of public power plants of provincial dispatcher and direct dispatcher was 50.96 million kW (National Energy Administration- situation of power operation in Shandong province in February 2016). Shandong Power has 13 thermal power plants, 6 wind power plants and 3 photovoltaic power stations in Shandong Province. Its installed gross capacity amounted to 11,502,650 kW (including the enterprises under construction and the holding enterprises), representing 11.72% of installed gross capacity of Shandong Province and 22.57% of capacity of units scheduled by Shandong Province. It is a power generating company with the largest installed capacity in Shandong Province and has a relatively strong scale advantage in Shandong Province.

c. Environmental protection and energy saving advantages

During “The 12th Five-Year”, the coal consumption of electricity supply generated by Shandong Power has lowered 14.29 g/kWh in total, and all power plants with the unit capacity of more than 300,000 kWh has passed the acceptance of “excellent cost-effective and environmental- friendly enterprise” by Huaneng Group. The Company led to carry out the transformation of ultra-low emissions in Shandong Province and Huaneng System. The ultra-low emission technology of Shandong and Huaneng Group succeeded in Baiyanghe Power Plant and Huangtai Power Plant of Shandong Power respectively.

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In November 2015, all units of Rizhao Power Plant successfully passed the completion acceptance of environmental protection organized by Environmental Protection Department of Shandong Province. Rizhao Power Plant became the first power generation enterprise with all units passing the acceptance of ultra-low emissions.

In December 2015, No. 5 Generating Unit of Shandong Linyi Power Plant started successfully in the first time upon the completion of high back-pressure heating transformation, and operated in series of high back-pressure heating circulating water with No. 6 Generating Unit, which realized the first operation of two 140,000 kW generating units in series of high back-pressure heating circulating water. Through technology novelty search, this technology is industry-leading.

On 24 December 2015, No. 6 Generating Unit of Wulai Power Plant successfully finished the trial operation with full load for 168 hours, marking the formal operation of the first 1000 MW ultra-supercritical secondary reheating unit in Shandong Power and Shandong Province. The generating unit adopts the most advanced secondary intermediate reheating technology in the world, and mainly improves the efficiency by increasing the thermal cycling times. It is the most environment-friendly thermal power generating unit with highest efficiency, minimum energy consumption and optimal indexes. During the trial operation, both the major and auxiliary equipment of the generating unit operates safely and stably. Dedusting, desulfurization and denitration facilities are put in operation together with the main work. The emission concentrations of Sulphur dioxide, nitrogen oxides and dust are 10, 15 and 1.5 mg/m<sup>3</sup>, all superior to the ultra-low emission standards in Shandong, thus realizing the ultra-clean emission.

Shandong Power plans to complete the transformation of ultra-low emission technology for all generating units at the end of 2017, and other energy-saving renovation projects are also executed as planned. Therefore, the Company has a relatively strong advantage over environmental protection and energy saving.

In light of the above, under the guarantee of national policy and the continuous growth of power market in Shandong, the total installed capacity of Shandong Power constantly grows, and the environmental protection and energy saving technology are improved gradually, all providing powerful safeguard for the production, operations and profitability of each power plant in the future. Therefore, an appreciation is valued.

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## (2) Valuation methods and appreciation reasons for other assets

In addition to the following power plants, other assets of Shandong Power are headquarter office building and merchandise houses. Those properties are mainly located in Jinan and Beijing. The market comparison approach is adopted for valuation. Since 2016, the real estate market has become rebound for all tire cities in China, and both the trading volume and trading amount have a relatively large growth. Therefore, an appreciation is valued for the office building and merchandise houses.

## 2. Jilin Power

## 1. Valuation method and valuation results

In accordance with the Asset Valuation Report Zhong Lian Ping Bao Zi [2016] No. 1171 issued by Hubei Zhonglian Asset Appraisal Co., Ltd., which is qualified to practise securities and futures related businesses, with 31 May 2016 as the Base Date. The valuation approach and results are as follows:

Unit: RMB10,000

Number	Company Name	Shareholding percentage	Book value of shareholders' total equity Note 1	Adopted approach	Appraised value of shareholders' total equity Note 1	Difference	Appreciation rate
Target Company							
1	Huaneng Jilin Power Generation Limited	100% held by Huaneng Group	-33,241.74	Asset based approach	55,500.57	88,742.31	266.96%
Jilin Power Subsidiaries							
2	Huaneng Linjiang Jubao Hydroelectric Power Limited	100%	6,704.30	Asset based approach	21,416.32	14,712.02	219.44%
3	Huaneng Jilin Biomass Power Generation Limited	100%	-9.59	Asset based approach	-641.14	-631.55	-6,584.79%
4	Huaneng Zhenlai Wind Power Generation Limited	100%	-26,148.86	Asset based approach	-23,674.99	2,473.87	9.46%

Note 1: For the Target Company level, the figure has taken into account the subsidiaries of the Target Company.

According to applicable laws, the above asset valuation report (a summary of the valuation report is set out in Appendix I (ii) to this circular) has been duly filed in compliance with state-owned asset appraisal procedure.

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2. Assumptions for valuation

The principal assumptions for the valuation are as follows:

Basic assumptions

1. Going-concern Assumption. The existing use of assets will be the same and its business will keep on operating.
2. Open Market Assumption. Each asset premises on the physical inventory on the valuation base date, and current market price of related assets is based on the domestic price level.
3. Transaction Assumption. The valuer simulates a market for valuation according to transaction conditions of the valuation object, etc. The valuation conclusion is estimation for the most likely transaction price of the valuation object.
4. No material changes in the current national macroeconomic, finance and industry, resource utilization, energy, laws of environmental protection, as well as massive technological innovation in industry.
5. No material changes in social economic environment and policies of tax and tax rate of entities evaluated.
6. No material changes in industrial policy and technology of entities evaluated.
7. Exchange rate, significant interest rate fluctuations and influences of inflation to the currency will not be taken into account in the valuation.
8. The accounting policy adopted by entities evaluated will maintain consistency in the key aspects. No changes on key accounting policies and the provision of financial accounting and other information is true, accurate and complete, and the provision of future performance is reasonable, scientific and solid.
9. Contingent matters, litigations, subsequent events and other material events are fully disclosed, and asset ownership covered in valuation scope is clear, and the provision of documents of asset ownership is legally effective.
10. Influences from assets in the valuation scope and other liability related pledge, collateral, guarantee, contingent assets and contingent liabilities after the valuation base date to Valuation Conclusions will not be taken into account in the valuation.
11. The issues of law outside the valuation scope will not be taken into account in the valuation, as well as the influences of changes in asset markets after the valuation base date to Valuation Conclusions.

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12. No material adverse effect of force majeure and unforeseeable factors.

Special assumptions

1. Technical team and its senior managements of entities evaluated will be relatively stable in each year and no core professional staff loss.
2. Entities evaluated will keep on operating, and electric power production and sales will still be the main business.
3. Income forecast provided by the management of entities evaluated is based on the sustainable and well operation of the enterprise in the future, with influences from objective and reasonable consideration of enterprise of future plan and overall development plan of local government.
4. Pricing in electric network adopted in the income forecast is determined by the newly implemented electricity price of the company, and assume it will not be adjusted in the forecast period; and no material changes in provision and price of raw material and accessories used by entities evaluated in the future operating periods.
  5. Entities evaluated will comply with relevant national laws and regulations in the future, and no significant non-compliance that has adverse effect on the development and profit of the Company.
  6. Entities evaluated have well-distributed revenue, cost, renewal and other expense during each year.
7. The structure of main business, sale strategies and cost control of the entities evaluated will stay the same as previous years without material changes. No changes in management, operation strategies and business environment, that is, the valuation is based on the production capacity, assets structure and business scale on the valuation base date.
8. No significant changes on the expenses of operation and management of entities evaluated based on the existing infrastructure in the future operating periods, keeping on the trend of previous years and changing with movement of business scale. Financial expenses in the valuation refer to the interest on the borrowing generated from the production and operation of the enterprise. Interest income and service fee of settlement business will not be taken into account in the valuation in light of frequent changes or significant changes of enterprise bank deposit.
9. Enterprise income tax rate adopted by the entities evaluated is 25%, without regard to tax preference in the future.

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10. Enterprises need to update its operating facilities, equipment and production capacity in the future operating periods, and take into account the capital expenses generated from the electronic equipment and office equipment due to the increase of the staff.

11. Enterprises can obtain borrowing through financial channel in the future.

12. The increase of operating capital of the company keeps abreast of the business scale.

3. Explanatory notes on appreciation of valuation

As for Jilin Power, the book value of all equity interest held by the shareholders amounted to RMB-332.4174 million, the equity interests held by the shareholders is valued to be RMB555.0057 million, and the appreciation of value was RMB887.4231 million with an appreciation rate of 266.96% Note. The main reasons for appreciation are as follows:

- (1) Appreciation of the current assets was mainly due to the valuation of provisioning for bad debts being zero.
- (2) The appraised value of financial assets available for sale increased by RMB2,444,900, representing a value-added rate of 2.6%. The valuation for book value of Jilin Provincial Electrical Power Science Research Institute Co., Ltd. is made by cost method, which realizes profit in an accumulative manner with a better and effective operation, resulting added value compared to the origin investment cost.
- (3) The appraisal impairment value of investment real estate is RMB4,080,500, with an impairment rate of 100.00%, which is mainly due to the investment real estate being merged into the appraisal of housing buildings.
- (4) The valuation appreciation of fixed assets is RMB654,350,400, with an appreciation rate of 9.42%, which is mainly due to the valuation of provisioning for depreciation of fixed assets being zero.
- (5) The valuation value of intangible assets increased by RMB80,269,000, representing an appreciation rate of 64.44%, which is due to the increase of value in valuation of land use right.

Note: Such valuation results have taken into account the land and properties of defective title (with the value of RMB939.46 million).

## LETTER FROM THE BOARD

## 3. Heilongjiang Power

## 1. Valuation method and valuation results

In accordance with the Asset Valuation Report Zhong Tian Hua Zi Ping Bao Zi [2016] No. 1468 issued by China Appraisal Associates which is qualified to practise securities and futures related businesses, with 31 May 2016 as the Base Date, the detailed valuation approach and results are as follows:

Unit: RMB10,000

Company name	Shareholding percentage	Book value of shareholders' total equity Note 1	Adopted approach	Appraised value of shareholders' total equity Note 1	Difference	Appreciation rate
Target Company						
Huaneng Heilongjiang Power Generation Limited	100% held by Huaneng Group	96,485.59	Asset based approach	209,806.62	113,321.03	117.45%
Heilongjiang Power Subsidiaries						
Daqing Wind Power Generation Limited	100%	38,593.99	Asset based approach	34,556.88	-4,037.11	-10.46%
Huaneng Yichun Thermal Power Limited	100%	49,096.99	Asset based approach	50,328.38	1,231.39	2.51%
Huaneng Tongjiang Wind Power Generation Limited	83%	37,799.82	Asset based approach	30,200.66	-7,599.16	-20.10%
Huaneng Daqing Thermal Power Limited	100%	68,490.16	Asset based approach	63,767.26	-4,722.90	-6.90%
Huaneng Hegang	64%	33,151.37	Asset based	104,859.30	71,707.93	216.30%



Power Generation Limited			approach			
Huaneng Xinhua Power Generation Limited	70%	38,332.40	Asset based approach	90,875.31	52,542.91	137.07%
Zhaodong Huaneng Thermal Limited	100%	7,424.50	Asset based approach	15,686.47	8,261.97	111.28%

Note 1: For the Target Company level, the figure has taken into account the subsidiaries held by the Target Company.

According to applicable laws, the above asset valuation report (a summary of the report is set out in Appendix I (iii) to this circular) has been duly filed in compliance with state- owned asset appraisal procedure.

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2. Assumptions for valuation

The principal assumptions for the valuation are as follows:

1. There is no major change to relevant laws, regulations and policies as well as the macro economic situation of China; there is no major change in the political, economic and social environments of the regions in which all parties to the proposed transfer are located, and no other unforeseeable and uncontrollable factors result in any significant adverse impact;
2. In light of the actual state of the evaluated assets on the valuation base date, it is presumed that the company will operate on a continuous basis;
3. It is assumed that the managers of the company are responsible and the management of the company is competent for their offices;
4. It is assumed that on the basis of its current management model and management capabilities, the future business scope and approach will be consistent with what they currently are;
5. It is assumed that the accounting policies that the company subject to the valuation will adopt is consistent with the accounting policy that it followed at the time when this report was prepared in all important aspects;
6. No major change will happen to interest rate, exchange rate, base rates of taxes and duties, and policy-based fees and charges;
7. The valuation is based on the current operational capacity of the company on the reference day. No consideration is given to expansion in the operational capabilities of the company, which is caused by the management and operational strategy of or additional investment in the company;
8. All assets evaluated were subject to the amount actually held by the company on the valuation base date. The current market price of relevant assets was subject to the valid domestic price on the valuation base date;
9. The electricity price and unit of heating in profit forecast period would remain unchanged;
10. The influences of foreign equity investments to value of entities evaluated project after the valuation base date would not be taken into account;
11. For the purpose of the present valuation, it is assumed that the basic materials and financial materials provided by the clients and the company subject to the valuation are genuine, accurate and complete; and

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12. The valuation scope is subject to the valuation declaration forms provided by the company undergoing the valuation. No consideration is made to the possibility that the client or the company may provide assets or liabilities not included on the list they provided.

3. Explanatory notes on appreciation of valuation

As for Heilongjiang Power, the book value of all equity interest held by the shareholders amounted to RMB964.8559 million, all equity interests held by the shareholders is valued to be RMB2,098.0662 million, and the appreciation of value was RMB1,133,210,300 with an appreciation rate of 117.45% Note. The main reasons for appreciation are as follows:

- a) The main reason for the increase in the valuation of vehicles' net value is that depreciation term is shorter than that required in the valuation, which resulted in the increase in the valuation of net value;
- b) The increase in the valuation of houses' original value is due to the early date of purchasing the appraised real estate and the lower price. In recent years, the significantly increased price in commodity houses in Harbin resulted in the increase in the original value. The increase in net value is due to that the net value after withdrawal and depreciation of enterprises' houses was lower than the added value of real estate market; and
- c) The reason for the increase in the valuation of long-term equity investments. The book value of each subsidiary included in the valuation scope at the valuation base date was the investment cost, and the appraised value of net assets of each subsidiary, which was in profitable condition at the valuation base date, has higher added value compared to the investment cost, which resulted in the increase in the valuation of long-term equity investments.

Note: Such valuation results have taken into account the land and properties of defective title (with the value of RMB1,685.87 million).

## LETTER FROM THE BOARD

## 4. Zhongyuan CCGT

## 1. Valuation method and valuation results

In accordance with the Asset Valuation Report ZT Huazi Pingbao Zi [2016] No. 1501 issued by ZhongHe Appraisal Co., Ltd., which is qualified to practise securities and futures related businesses, with 31 May 2016 as the Base Date, the detailed valuation approach and results are as follows:

Unit: RMB10,000

Company Name	Shareholding percentage	Book value of shareholders' total equity	Adopted approach	Appraised value of shareholders' total equity	Difference	Appreciation rate
Target Company						
Huaneng Henan Zhongyuan CCGT Turbine Limited	90% held by Huaneng Group	-14,680.13	Asset based approach	5,335.32	20,015.45	136.34%

According to applicable laws, the above asset valuation report (a summary of the report is set out in Appendix I (iv) to this circular) has been duly filed in compliance with state-owned asset valuation procedure.

## 2. Assumptions for valuation

The principal assumptions for the valuation are as follows:

1. There is no major change to relevant laws, regulations and policies as well as the macro economic situation of China; there is no major change in the political, economic and social environments of the regions in which all parties to the proposed transfer are located, and no other unforeseeable and uncontrollable factors result in any significant adverse impact;
2. In light of the actual state of the evaluated assets on the valuation base date, it is presumed that the company will operate on a continuous basis;
3. It is assumed that the managers of the company are responsible and the management of the company is competent for their offices;
4. It is assumed that on the basis of its current management model and management capabilities, the future business scope and approach will be consistent with what they currently are;



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5. It is assumed that the accounting policies that the company subject to the valuation will adopt is consistent with the accounting policy that it followed at the time when this report was prepared in all important aspects;
6. No major change will happen to interest rate, exchange rate, base rates of taxes and duties, and policy-based fees and charges;
7. The valuation is based on the current operational capacity of the company on the valuation Base Date. No consideration is given to expansion in the operational capabilities of the company, which is caused by the management and operational strategy of or additional investment in the company;
8. All assets evaluated were subject to the amount actually held by the company on the valuation base date. The current market price of relevant assets was subject to the valid domestic price on the valuation Base Date;
9. Assume the tariff price and heating price of the company remain the same during income estimation period as of the Base Date;
10. The valuation does not take into account the effect imposed by the outward equity investment projects of the entity appraised after the valuation Base Date on its value;
11. For the purpose of the present valuation, it is assumed that the basic materials and financial materials provided by the clients and the company subject to the valuation are true, accurate and complete; and
12. The valuation scope is subject to the valuation declaration forms provided by the company undergoing the valuation. No consideration is made to the possibility that the client or the company may provide assets or liabilities not included on the list they provided.

3. Explanatory notes on appreciation of valuation

As for Zhongyuan CCGT, the book value of all equity interest held by the shareholders amounted to RMB-146.8013 million, the equity interests held by the shareholders is valued to be RMB53.3532 million, and the appreciation of value was RMB200,154,500 with an appreciation rate of 136.34% Note. The reasons are as follows:

- a) The main reasons of the net value appreciation of equipment is mainly because the depreciation life provided by enterprise is shorter than economic use life in machineries and equipment assessment;
- b) the appreciation of net value of vehicles in valuation is mainly due to the shorter depreciation term as compared to the economic use life of vehicles;

Note: Such valuation results have taken into account the properties of defective title (with the value of RMB112.09 million).

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- c) The added original value of valuation of house buildings and pipelines and channels is due to the appreciation of replacement value as a result of the added cost of labors, management fees and prices of building materials such as armored concrete. The added net value of valuation of house buildings is due to the lower depreciation life of house buildings of enterprises as compared to the economic use life of buildings; and
- d) The added value of intangible assets is from the transfer of land use rights with book value of enterprises as land acquisition costs, while the historical cost method is adopted by enterprises. The land value in this assessment represents the actual value thereof, resulting in an added value of RMB15,648,500 of the land of Zhu Shi Guo Yong (2011) No. 8606.

### H. PRICING OF THE TRANSFERS

The pricing of the Transfers is determined by taking into account various factors including the production, operation and financial position, future planning for development and strategic synergy with the Company of each of the Target Companies, while also taking into consideration the trend of the capital market, valuation of comparable companies in the same industry, valuation level of the past transactions and results of asset valuation of each of the Target Companies. The transaction consideration for the Transfers is fixed at RMB15,113,825,800.

### I. OTHER ARRANGEMENTS CONCERNING THE TRANSACTION

According to the arrangements under the relevant agreements, in relation to the financings or guarantees provided to the Target Companies by Huaneng Group, both parties agree that, unless otherwise agreed, such financing or guarantee will continue to be performed until those agreements are completed. After the completion of the Transaction, the transactions entered into between the Target Companies and the connected persons of the Company including Huaneng Group, will be budgeted and reviewed in accordance with the connected transactions monitoring system of the Company. The transactions entered into between the Target Companies and the connected persons of the Company following the Completion of the Transaction will also comply with the Chapter 14A requirements of the Hong Kong Listing Rules where applicable.

The Company has been strictly separate from Huaneng Group in terms of assets and financial matters. The Transfers will not cause any change to such separation and independence of the Company. The Company will further separate the Huaneng Group employees in the Target Companies from Huaneng Group as soon as possible after Completion in accordance with the applicable PRC laws, regulations and rules. The Company will finance the Transfers with internal resources. The Transfers will help further reduce the potential competition between the Company and its connected persons relating to the business currently conducted by the existing power plants.

## LETTER FROM THE BOARD

## J. SPECIAL CIRCUMSTANCES IN RELATION TO TRANSFER OF ASSETS AT PREMIUM

The valuation results of certain Target Companies and their subsidiaries (as shown in the table below) are at a premium of above 100% of the book value. The high premium in the valuation result of Shandong Power is mainly attributable to the following factors: (1) Shandong province has a developed economy and a power mix that mainly relies on thermal power, while Shandong Power is the largest power generation company in the province, whose installed capacity secures a strong competitive edge in the market in terms of both scale and market share. Also, Shandong Power owns some important power plants under unified management within the Shandong power grid and over half of its installed capacities are cogeneration units, which makes it a major heat supplier with good economic benefits on the local market; (2) The increase in the value of Jilin Power is mainly due to appreciation of valuation of fixed assets under asset based approach; (3) the increase in the value of the Heilongjiang Power is mainly due to the relatively lower book value of Huaneng Hegang Power Generation Limited and Huaneng Xinhua Power Generation Limited given their early establishment; and (4) The increase in value of Zhongyuan CCGT is not huge, but the relatively high debt-to-assets ratio and low net assets of Zhongyuan CCGT together lead to a premium of over 100% of the book value.

According to and for the purpose of complying with the Guidelines of the Shanghai Stock Exchange for the Implementation of the Connected Transactions of Listed Companies and other relevant PRC laws and regulations, KPMG Huazhen LLP and PricewaterhouseCoopers Zhong Tian LLP respectively issued the reports on examination of profit forecast for 2016 and 2017 in relation to the Target Companies and their subsidiaries whose valuation results are at a premium of above 100% of the book value.

Unit RMB10,000

No.	Company	Forecasted net profit for 2016	Forecasted net profit for 2017
1.	Huaneng Shandong Power Generation Limited	244,598.8	172,101.4
2.	Huaneng Laiwu Power Generation Limited	39,524.0	69,036.1
3.	Huaneng Shandong Ruyi Coal Power Limited	-5,276.1	3,947.7
4.	Huaneng Jiaxiang Power Generation Limited	7,213.7	6,728.8
5.	Huaneng Qufu Heat Power Limited	-7,010.7	-1,550.3
6.	Huaneng Jining Gaoxin District Heat Power Limited	-4,642.7	-345.9
7.	Huaneng Jining Canal Power Generation Limited	16,788.2	15,033.5
8.	Huaneng Liaocheng Thermal Power Limited	9,923.2	8,153.7
9.	Huaneng Yantai Power Generation Limited	5,719.7	2,941.4
10.	Shandong Liaocheng Heat Power Property Limited Liability Company	26.3	32.1
11.	Huaneng Taian Zhongtai Power Generation Limited	-4,023.0	1,638.7



12. Linyi Lantian Thermal Limited	2,254.0	2,552.6
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No.	Company	Forecasted net profit for 2016	Forecasted net profit for 2017
13.	Shandong Changdao Wind Power Generation Limited	-3,332.4	50.8
14.	Huaneng Jilin Power Generation Limited (pro forma entity)	9,826.6	6,704.0
15.	Huaneng Linjian Jubao Hydroelectric Power Limited	412.1	438.0
16.	Huaneng Henan Zhongyuan Gas Turbine Limited	3037.7	878.6
17.	Huaneng Hegang Power Generation Limited	10,493.6	8,361.5
18.	Huaneng Xinhua Power Generation Limited	2,626.1	132.5
19.	Zhaodong Huaneng Thermal Limited	1,894.7	2,443.5

## Waiver in relation to A Share Profit Forecast Prepared Under PRC Laws and Regulations

Pursuant to the Guidelines of the Shanghai Stock Exchange for the Implementation of the Connected Transactions of Listed Companies and other relevant PRC laws and regulations, the Target Companies have prepared profit forecast reports (“A Share Profit Forecast”) for those companies whose valuation results are at a premium of 100% or above over their book value, which have been reviewed by KPMG Huazhen LLP and PricewaterhouseCoopers Zhong Tian LLP.

The A Share Profit Forecast are regarded as the profit forecast under Rule 14.61 of the Hong Kong Listing Rules. The Company has applied to the Hong Kong Stock Exchange for, and the Hong Kong Stock Exchange has granted, waivers from strict compliance with the requirements under the Rules 14.62, 14A.70(13), 14A.68(7) and paragraph 29(2) of Appendix 1B of the Hong Kong Listing Rules on the following grounds:

- (i) the A Share Profit Forecast was required to comply with the PRC laws and regulations;
- (ii) the A Share Profit Forecast was prepared by the Target Companies where the Company has no involvement in the preparation;
- (iii) the A Share Profit Forecast was irrelevant in the determination of the Consideration of the Transaction by the Board (for which the Board has taken into consideration various factors as set out in this circular under the section headed “Consideration”);
- (iv) there are practical difficulties for the Company’s auditor or reporting accountant to confirm on the accounting policies because the A Share Profit Forecast was prepared based on accounting standard which is different from the Company’s, and for the financial adviser to render an opinion as required under the Hong Kong Listing Rules because the Directors did not prepare the A Share Profit Forecast; and

## LETTER FROM THE BOARD

(v) full compliance with Rule 14.62, Rule 14A.70(13), 14A.68(7) and paragraph 29(2) of Appendix 1B of the Hong Kong Listing Rules will be practically burdensome and commercially not feasible for the Company.

For information purpose, the Company has included disclosures of the assumptions in respect of the A Share Profit Forecast in Appendix IV to this circular.

### K. PURPOSE OF THE TRANSACTION AND THE EFFECT ON THE COMPANY

The Transaction implements Huaneng Group's commitment to avoid business competition with the Company in line with the Non-compete Undertaking. This is conducive to further expanding scale, increasing the market share and improve the competitiveness of the Company. The Non-compete Undertaking was provided specifically in line with the requirements under the "Regulatory Guidelines for Listed Companies No.4 – Undertakings and performance by Listed Companies and Listed Companies' de facto Controllers, Shareholders, Related Parties and Acquirers" issued by China Securities Regulatory Commission. The Transfers contemplated under the Transfer Agreements are consistent with the terms of the Non-compete Undertaking. After the completion of the Transaction, Huaneng Group will have injected such conventional energy business assets which meet the conditions for listed company into the Company by end of 2016 in accordance with the Non-compete Undertaking in order to support the sustainable, stable development of the Company, and as a result, the Company's business scale and geographical reach will be further expanded and its profitability will also be enhanced.

After completion of the Transaction, the Company will increase the total installed capacity of generating units in operation by 15.937 million KW, equity installed capacity by 13.389 million KW, total installed capacity of generating units under construction by 3.666 million KW. The capacity of generating units will allow the Company to further expand its business scale, increase its market share and enter the Jilin and Heilongjiang market for the first time.

Calculated in accordance with the China Accounting Standards for Business Enterprises, the total assets and total liabilities of the Target Companies of the Transfers amounts to RMB65.571 billion and RMB55.33 billion respectively as at 31 May 2016. From January to May 2016, the aggregate profit (after tax) of the Target Companies amounted to RMB2.197 billion. After the completion of the Transfers, the earnings of the Target Companies will change due to the actual market conditions.

If the financial statements of the Target Companies are prepared in accordance with the International Financial Reporting Standards, the depreciation and amortisation items in the financial statements will be different from those shown in the financial statements prepared in accordance with the China Accounting Standards for Business Enterprises, and financial data including net profit attributable to shareholders of the Company will therefore be different.

Upon completion of the Transfers, Shandong Power, Jilin Power, Heilongjiang Power and Zhongyuan CCGT will become the subsidiaries of the Company. The table below sets out details of the guarantees provided by the Target Companies (which will all become intra-group transactions among members within the Company and its subsidiaries and hence will not constitute continuing connected transactions with in the meaning of the Hong Kong Listing Rules after the Completion of the Transaction, except that the provision of guarantee provided by Jilin Power to Huaneng Baishan Meiganshi Power Generation Limited which will



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be released prior to the Completion), which will continue to be performed according to the underlying agreements after the Completion (pursuant to the Transfer Agreement, Huaneng Group shall procure that a guarantee granted by Jilin Power and its subsidiaries for Jilin Baishan Meiganshi Power Generation Limited amounting to RMB334,938,462 as of 31 May 2016 be released by the Completion Date):

Creditor	Guarantee	Guarantor	Guarantee amount (as at 31 May 2016) (RMB)	Commencement date of debt obligation	Maturity date of debt obligation	Period of guarantee	Form of guarantee
China Agricultural Bank Jiaxiang County Sub-branch	Huaneng Jiaxiang Power Generation Limited	Huaneng Shandong Ruyi Coal Power Limited	100,000,000	November 2005	July 2019	Two years onwards from the maturity date of the principal	Joint liability
Agricultural Bank of China Baishanjiangyuan branch	Huaneng Baishan Meiganshi Power Generation Company	Jilin Power (Note: Will be released before Completion Date)	40,384,615.40	October 2013	October 2026	Two years onwards from the maturity date of the principal	Joint liability
			76,153,846.16	December 2013	December 2026	Two years onwards from the maturity date of the principal	Joint liability
			42,000,000	March 2014	September 2026	Two years onwards from the maturity date of the principal	Joint liability
			58,800,000	May 2014	May 2027	Two years onwards from the maturity date of the principal	Joint liability
			82,400,000	May 2014	May 2027	Two years onwards from the maturity date of the	Joint liability

			35,200,000	June 2014	June 2027	principal Two years onwards from the maturity date of the principal	Joint liability
Industrial and Commercial Bank of China Daqing Tieren Branch	Huaneng Daqing Heat Power Limited	Heilongjiang Power	550,320,000	February 2013	February 2028	Two years onwards from the maturity date of the principal	Joint liability
Industrial and Commercial Bank of China Daqing Ha'erbin Development Zone Branch	Daqing Green Source Wind Power Limited	Heilongjiang Power	730,000,000	November 2011	November 2025	Two years onwards from the maturity date of the principal	Joint liability
Industrial and Commercial Bank of China Ha'erbin Development Zone Branch	Daqing Green Source Wind Power Generation Limited	Heilongjiang Power	5,700,000	June 2014	June 2028	Two years onwards from the maturity date of the principal	Joint liability

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Creditor	Guarantee	Guarantor	Guarantee amount (as at 31 May 2016) (RMB)	Commencement date of debt obligation	Maturity date of debt obligation	Period of guarantee	Form of guarantee
The Export-Import Bank of China Heilongjiang Branch	Huaneng Yichun Cogeneration Limited	Huaneng Daqing Heat Cogeneration Limited	200,000,000	March 2015	November 2026	Two years onwards from the maturity date of the principal	Joint liability
Bank of China Hegang Branch	Huaneng Hegang Power Generation Limited	Heilongjiang Power	108,000,000	February 2012	February 2017	Two years onwards from the maturity date of the principal	Joint liability
Shanghai Pudong Development Bank Ha'erbin Branch	Huaneng Tongjiang Wind Power Generation Limited	Heilongjiang Power	120,000,000	March 2010	March 2023	Two years onwards from the maturity date of the principal	Joint liability
Shanghai Pudong Development Bank Ha'erbin Branch	Huaneng Tongjiang Wind Power Generation Limited	Heilongjiang Power	80,000,000	October 2010	October 2022	Two years onwards from the maturity date of the principal	Joint liability
The Export-Import Bank of China Heilongjiang Province Branch	Huaneng Tongjiang Wind Power Generation Limited	Heilongjiang Power	300,000,000	July 2015	June 2029	Two years onwards from the maturity date of the principal	Joint liability
The Export-Import Bank of China Heilongjiang Province Branch	Huaneng Tongjiang Wind Power Generation Limited	Heilongjiang Power	100,000,000	December 2015	December 2029	Two years onwards from the maturity date of the principal	Joint liability

Notes:

In January 2016, Shandong Power applied to ICBC Jinan Jinger Road Sub-branch for the opening of a financing bond of US\$ 70,000,000 (standby L/C) to provide security for the US\$ 70,000,000 loan borrowed by Huaneng Shandong Ruyi (Pakistan) Energy (Private) Limited from ICBC Lahore Branch for a term from 29 January 2016 to 20 January 2017.

In April 2016, Shandong Power applied to CCB Jinan Quancheng Sub-branch for the opening of a financing bond of US\$ 210,000,000 (standby L/C) to provide security for the US\$ 210,000,000 loan borrowed by Huaneng Shandong Ruyi (Pakistan) Energy (Private) Limited from CCB Seoul Branch for one year starting from 7 April 2016.

In August 2016, Shandong Power applied to BOC Jinan Licheng Sub-branch for the opening of a financing bond of US\$ 100,000,000 (standby L/C) to provide a joint and several guarantee for the US\$ 100,000,000 loan borrowed by Huaneng Shandong Ruyi (Pakistan) Energy (Private) Limited from BOC Singapore Branch for a term from 30 August 2016 to 13 March 2017.

In September 2016, Shandong Power applied to CCB Jinan Quancheng Sub-branch for the opening of a performance bond of US\$ 1,320,000 to provide security for the obtaining and development of the power station project from local government by Huaneng Shandong Ruyi (Pakistan) Energy (Private) Limited for a term from 18 September 2016 to 17 January 2018.



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L. IMPLICATIONS UNDER THE HONG KONG LISTING RULES

Under the Hong Kong Listing Rules, the Transaction constitutes a discloseable and connected transaction of the Company. As one or more of the applicable percentage ratios (as defined under Rule 14.07 of the Hong Kong Listing Rules) in respect of the scale of the Transaction, in aggregate, are more than 5% but less than 25%, the Transaction is subject to the reporting, announcement, annual review requirement and shall comply with the Independent Shareholders' approval requirements set out in the Hong Kong Listing Rules.

The "Proposal regarding the Acquisition of the Shandong Power Interests, the Jilin Power Interests, the Heilongjiang Power Interests and the Zhongyuan CCGT Interests" (including but not limited to the Transfer Agreement, the Profit Forecast Compensation Agreement and the transactions contemplated thereunder) was considered and approved by the Board on 14 October 2016. Cao Peixi, Guo Junming, Liu Guoyue, Li Shiqi, Huang Jian and Fan Xiaxia, all being Directors of the Company who are connected to the Transaction given their management positions in the Huaneng Group or its associate (please refer to the section of "Disclosure of Interest" in Appendix VIII of this circular for details thereof), had abstained from voting on the board resolution relating to the Transaction. The resolution was voted by Directors who are not connected to the Transaction. The Directors (including the independent non-executive Directors) of the Company are of the view that the Transaction Agreements including the transactions contemplated thereunder were entered into: (1) on normal commercial terms (on arm's length basis or on terms no less favourable to the Company than terms available from independent third parties); (2) on terms that are fair and reasonable and in the interests of the Company and its shareholders as a whole; and (3) in the ordinary and usual course of business of the Company.

As disclosed herein, the valuation of certain subsidiaries of Shandong Power was prepared based on income approach (the "Profit Forecast of the Relevant Subsidiaries") and therefore constitutes a profit forecast under Rule 14.61 of the Hong Kong Listing Rules. As such, the requirements under Rules 14.60A and 14.62 of the Hong Kong Listing Rules are applicable.

In accordance with Rule 14.62(2) of the Hong Kong Listing Rules, the Company has engaged, KPMG to report on the calculations of the discounted future cash flow under Profit Forecast of the Relevant Subsidiaries. KPMG has reviewed the calculations of the discounted future cash used and contained in the valuation report prepared by Zhong He Appraisal Co., Ltd..

Also, in accordance with Rules 14.62(3) of the Hong Kong Listing Rules, the Company has engaged the Financial Adviser to review the procedures undertaken by the Directors of the Company in preparing the forecast underlying the valuation prepared by the valuer of the Profit Forecast of the Relevant Subsidiaries. The Financial Adviser is satisfied that the forecast has been made by the Board after due and careful enquiry.

The report from KPMG for the purpose of Rule 14.62(2) of the Hong Kong Listing Rules on the Profit Forecast of the Relevant Subsidiaries is set out in Appendix II of this circular. The letter from the Financial Adviser for the purpose of Rule 14.62(3) of the Hong Kong Listing Rules on the Profit Forecast of Relevant Subsidiaries is set out in Appendix III to this circular.

LETTER FROM THE BOARD

M. EXTRAORDINARY GENERAL MEETING

The Company will convene an Extraordinary General Meeting on 30 November 2016 to table the “Proposal regarding the Acquisition of the Shandong Power Interests, the Jilin Power Interests, the Heilongjiang Power Interests and the Zhongyuan CCGT Interests” to seek the Independent Shareholders' approval to such discloseable and connected transaction as contemplated under the Transaction Agreements. Huaneng Group and their associates including HIPDC, Huaneng HK and China Huaneng Finance Corporation Limited (holding an aggregate of 7,167,926,520 ordinary shares in the Company, representing approximately 47.16% of the total issued shares of the Company as of the Latest Practicable Date) will abstain from voting in the resolution with respect to the Transaction at the Extraordinary General Meeting, at which the proposed resolution will be passed by way of ordinary resolution and voting will be taken by way of poll in accordance with the requirements of Hong Kong Listing Rules.

N. RECOMMENDATION FROM THE INDEPENDENT BOARD COMMITTEE

Your attention is drawn to the letter from the Independent Board Committee to the Independent Shareholders of the Company, which is set out on page 64 of this circular, and which contains their recommendation in respect of the Transaction and the Transaction Agreements.

The letter of advice from Gram Capital to the Independent Board Committee and the Independent Shareholders on the fairness and reasonableness of the terms of the Transaction Agreement and whether the Transfers and the Transaction Agreements are on normal commercial terms and in the interests of the Company and its shareholders as a whole is set out on pages 65 to 88 of this circular.

The Independent Board Committee, having taken into account the advice of Gram Capital, considers that (i) the terms of the Transaction are fair and reasonable so far as the Independent Shareholders are concerned; (ii) the Transaction is on normal or better commercial terms, and in the normal and usual course of business of the Company; and (iii) the Transaction is in the interests of the Company and its shareholders as a whole. Accordingly, it recommends that the Independent Shareholders vote in favour of the relevant resolutions to approve the Transaction Agreements and the Transaction contemplated thereunder.

O. RECOMMENDATION FROM THE BOARD

The Directors (including independent non-executive Directors) are of the view that the Transaction Agreements were entered into: (i) in the ordinary and usual course of business of the Company; (ii) on normal commercial terms (i.e. on arm's length basis on terms no less favourable to the Company than terms available from third parties); and (iii) on terms that are fair and reasonable and the Transaction is in the interests of the Company and its shareholders as a whole. The Board accordingly recommends the Shareholders to vote in favour of the relevant resolutions to approve the Transaction Agreements and the transactions contemplated thereunder.

LETTER FROM THE BOARD

P. OTHER INFORMATION

Your attention is drawn to the general information set out in the appendices to this circular.

Yours faithfully  
By order of the Board  
Huaneng Power International, Inc.  
Cao Peixi  
Chairman

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LETTER FROM THE INDEPENDENT BOARD COMMITTEE

(Stock Code: 902)

Legal Address:  
Huaneng Building  
6 Fuxingmennei Street  
Xicheng District Beijing  
100031  
PRC  
15 November 2016

To the Independent Shareholders

Dear Sir or Madam,

DISCLOSEABLE AND CONNECTED TRANSACTION

We, the Independent Board Committee of Huaneng Power International, Inc., are advising the Independent Shareholders in connection with the Transaction (and the Transaction Agreements), details of which are set out in the letter from the Board contained in the circular (“Circular”) of the Company to the Shareholders dated 15 November 2016, of which this letter forms a part. Terms defined in the Circular shall have the same meanings when used herein unless the context otherwise requires.

Under the Hong Kong Listing Rules, the transactions contemplated under the Transaction Agreements constitute discloseable and connected transaction of the Company. Accordingly, the conduct of transactions contemplated under the Transaction Agreements will require the approval of the Independent Shareholders at the EGM.

We wish to draw your attention to the letter of advice from Gram Capital set out on pages 65 to 88 of the Circular. We have discussed the letter and the opinion contained therein with Gram Capital.

Having considered, inter alia, the factors and reasons considered by and the opinion of Gram Capital as stated in its aforementioned letter, we consider the terms of the Transaction to be fair and reasonable so far as the Independent Shareholders are concerned. We are of the view that the Transaction is on normal or better commercial terms, in the ordinary and usual course of business of the Company and in the interests of the Company and its shareholders as a whole. Accordingly, we recommend that the Independent Shareholders vote in favour of the relevant ordinary resolution as set out in the Notice of EGM to be proposed at the EGM to be held on 30 November 2016 to approve the Transaction Agreements and the transactions contemplated thereunder.

Yours faithfully,  
Li Zhensheng    Yue Heng    Geng Jianxin    Xia Qing    Xu Mengzhou  
Independent Directors

LETTER FROM GRAM CAPITAL

Set out below is the text of a letter received from Gram Capital, the Independent Financial Adviser to the Independent Board Committee and the Independent Shareholders in respect of the Transaction for the purpose of inclusion in this circular.

Room 1209, 12/F.  
Nan Fung Tower  
88 Connaught Road Central/  
173 Des Voeux Road Central  
Hong Kong

15 November 2016

To: The independent board committee and the independent shareholders of  
Huaneng Power International, Inc.

Dear Sirs,

DISCLOSEABLE AND CONNECTED TRANSACTION

INTRODUCTION

We refer to our appointment as the Independent Financial Adviser to advise the Independent Board Committee and the Independent Shareholders in respect of the Transaction, details of which are set out in the letter from the Board (the “Board Letter”) contained in the circular dated 15 November 2016 issued by the Company to the Shareholders (the “Circular”), of which this letter forms part. Terms used in this letter shall have the same meanings as defined in the Circular unless the context requires otherwise.

On 14 October 2016, the Company entered into the Transaction Agreements with Huaneng Group, pursuant to which the Company proposes to acquire from Huaneng Group the Shandong Power Interests, the Jilin Power Interests, the Heilongjiang Power Interests and the Zhongyuan CCGT Interests at a total price of RMB15,113,825,800 (the “Consideration”). The Company will pay all such Consideration in cash with its own funds.

With reference to the Board Letter, the Transaction constitutes a discloseable and connected transaction of the Company. Accordingly, the Transaction is subject to the reporting, announcement, annual review requirement and shall comply with the Independent Shareholders’ approval requirements set out in the Hong Kong Listing Rules.

The Independent Board Committee comprising Li Zhensheng, Yue Heng, Geng Jianxin, Xia Qing and Xu Mengzhou (all being independent non-executive Directors) has been established to advise the Independent Shareholders on (i) whether the terms of Transaction Agreements are on normal commercial terms and are fair and reasonable so far as the Independent Shareholders are concerned; (ii) whether the Transaction is in the interests of the Company and the Shareholders as a whole and is conducted in the ordinary and usual course of business of the Group; and (iii) how the Independent Shareholders should vote in respect of the resolution(s)

## LETTER FROM GRAM CAPITAL

to approve the Transaction Agreements and the transactions contemplated thereunder at the EGM. We, Gram Capital Limited, have been appointed as the Independent Financial Adviser to advise the Independent Board Committee and the Independent Shareholders in this respect.

### BASIS OF OUR OPINION

In formulating our opinion to the Independent Board Committee and the Independent Shareholders, we have relied on the statements, information, opinions and representations contained or referred to in the Circular and the information and representations as provided to us by the Directors. We have assumed that all information and representations that have been provided by the Directors, for which they are solely and wholly responsible, are true and accurate at the time when they were made and continue to be so as at the Latest Practicable Date. We have also assumed that all statements of belief, opinion, expectation and intention made by the Directors in the Circular were reasonably made after due enquiry and careful consideration. We have no reason to suspect that any material facts or information have been withheld or to doubt the truth, accuracy and completeness of the information and facts contained in the Circular, or the reasonableness of the opinions expressed by the Company, its advisers and/or the Directors, which have been provided to us. Our opinion is based on the Directors' representation and confirmation that there are no undisclosed private agreements/arrangements or implied understanding with anyone concerning the Transaction. We consider that we have taken sufficient and necessary steps on which to form a reasonable basis and an informed view for our opinion in compliance with Rule 13.80 of the Hong Kong Listing Rules.

We have not made any independent evaluation or appraisal of the assets and liabilities of the Group or the Target Companies, and we have not been furnished with any such evaluation or appraisal, save as and except for (i) the asset valuation report on Shandong Power issued by ZhongHe Appraisal Co., Ltd. ("ZhongHe") as contained in Appendix I(i) to the Circular (the "Shandong Power Valuation Report"); (ii) the asset valuation report on Jilin Power issued by Hubei Zhonglian Asset Appraisal Co., Ltd. ("Zhonglian") as contained in Appendix I(ii) to the Circular (the "Jilin Power Valuation Report"); (iii) the asset valuation report on Heilongjiang Power issued by China Appraisal Associates ("China Appraisal") as contained in Appendix I(iii) to the Circular (the "Heilongjiang Power Valuation Report"); and (iv) the asset valuation report on Zhongyuan CCGT issued by China Appraisal as contained in Appendix I(iv) to the Circular (the "Zhongyuan CCGT Valuation Report"), all with 31 May 2016 as the Base Date. Since we are not experts in the valuation of assets or business, we have relied solely upon the aforesaid asset valuation reports for the appraised value of the Target Companies as at 31 May 2016.

The Circular, for which the Directors of the Company collectively and individually accept full responsibility, includes particulars given in compliance with the Hong Kong Listing Rules for the purpose of giving information with regard to the Company. The Directors, having made all reasonable enquiries, confirm that to the best of their knowledge and belief the information contained in the Circular is accurate and complete in all material respects and not misleading or deceptive, and there are no other matters the omission of which would make any statement herein or the Circular misleading. We, as the Independent Financial Adviser, take no responsibility for the contents of any part of the Circular, save and except for this letter of advice.

## LETTER FROM GRAM CAPITAL

We consider that we have been provided with sufficient information to reach an informed view and to provide a reasonable basis for our opinion. We have not, however, conducted any independent in-depth investigation into the business and affairs of the Company, Huaneng Group, the Target Companies or their respective subsidiaries or associates, nor have we considered the taxation implication on the Group or the Shareholders as a result of the Transaction. Our opinion is necessarily based on the financial, economic, market and other conditions in effect and the information made available to us as at the Latest Practicable Date. Shareholders should note that subsequent developments (including any material change in market and economic conditions) may affect and/or change our opinion and we have no obligation to update this opinion to take into account events occurring after the Latest Practicable Date or to update, revise or reaffirm our opinion. In addition, nothing contained in this letter should be construed as a recommendation to hold, sell or buy any Shares or any other securities of the Company.

Lastly, where information in this letter has been extracted from published or otherwise publicly available sources, it is the responsibility of Gram Capital to ensure that such information has been correctly extracted from the relevant sources.

## PRINCIPAL FACTORS AND REASONS CONSIDERED

In arriving at our opinion in respect of the Transaction, we have taken into consideration the following principal factors and reasons:

### 1. Background of and reasons for the Transaction

#### Business overview of the Company

With reference to the Board Letter, the Company and its subsidiaries mainly develop, construct, operate and manage large-scale power plants in the PRC. It is one of the largest listed power producers in the PRC, with a controlled generation capacity of 82,571 MW as at 30 June 2016.

## LETTER FROM GRAM CAPITAL

Set out below are the consolidated financial information of the Group for the six months ended 30 June 2016 and the two years ended 31 December 2015 as extracted from the interim report of the Company for the six months ended 30 June 2016 (the “2016 Interim Report”) and the annual report of the Company for the year ended 31 December 2015 (the “2015 Annual Report”):

	For the six months ended 30 June 2016 (unaudited) RMB'000	For the year ended 31 December 2015 (audited) RMB'000	For the year ended 31 December 2014 (audited) RMB'000	Change from 2014 to 2015 %
Operating revenue	52,924,371	128,904,873	125,406,855	2.79
– Sales of power and heat	52,484,142	127,849,408	124,561,854	2.64
– Port service	98,880	211,685	204,763	3.38
– Transportation service	46,219	104,721	135,256	(22.58)
– Others	295,130	739,059	504,982	46.35
Profit from operations	12,738,555	29,142,926	25,274,642	15.31
Net profit	7,595,274	17,259,107	13,562,372	27.26

  

	As at 30 June 2016 (unaudited) RMB'000	As at 31 December 2015 (audited) RMB'000	As at 31 December 2014 (audited) RMB'000	Change from 2014 to 2015 %
Bank balances and cash	8,917,868	7,537,813	12,608,192	(40.21)
Total equity	102,426,830	101,693,689	84,782,706	19.95

As depicted from the table above, operating revenue of the Group for the year ended 31 December 2015 (“FY2015”) amounted to approximately RMB128.90 billion, representing an increase of approximately 2.79% as compared to that for the year ended 31 December 2014 (“FY2014”). Revenue derived from sales of power and heat for FY2015 amounted to approximately RMB127.85 billion, representing (i) an increase of approximately 2.64% as compared to that for FY2014; and (ii) approximately 99.18% of the operating revenue of the Group for FY2015.

With reference to the 2015 Annual Report, it is predicted by China Electricity Council (a joint organization of the PRC’s power enterprises and institution) that, in 2016, total electricity consumption nationwide will grow by 1% to 2%.

With reference to the 2016 Interim Report, the Company will continue to focus on safety production, quality and efficiency, accelerate structural adjustment of power supply, and strive to improve its operation efficiency, proactively participate in the reform of power system and cope with market changes, and persistently create a long-term, stable



and growing return to shareholders of the Company. The Company will also reinforce communication and coordination with all levels of governments and the grid companies, actively participate in electricity reforms, place more effort to analyse the market situation, seize market opportunities, and maintain and expand market shares (the “Strategy”).

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## LETTER FROM GRAM CAPITAL

## Information on Huaneng Group

With reference to Board Letter, Huaneng Group is principally engaged in the investment in and construction and operation of power plants and relevant works, including raising of domestic and foreign funds, import of complete and ancillary equipment, machines and tools, as well as provision of spare parts, materials and fuels for the construction and operation of power plants.

According to the website of Huaneng Group, Huaneng Group is committed to building itself into a large enterprise group with international competitiveness. By the end of 2015, the company had total installed capacity of 160 GW, with assets distributed all over the PRC and overseas. Huaneng Group is also engaged in sectors of coal, finance, technology research and development, transportation, etc. that support the core business of power. Huaneng Group was the first Chinese power producer listed in the ranks of Fortune 500 Companies, ranking 224th in 2015.

## Information on Target Companies

## Shandong Power

With reference to Board Letter, Shandong Power is a wholly-owned subsidiary established by Huaneng Group and was registered at the relevant authority of industry and commerce in May 2008. Shandong Power acquired certain power assets in Shandong Province from Shandong Luneng Development Group Limited in December 2008. In addition, Huaneng Group has transferred its certain power assets in Shandong Province to Shandong Power since June 2009.

Set out below is a summary of consolidated financial information of Shandong Power as extracted from the Board Letter:

	For the five months ended 31 May 2016	For the year ended 31 December 2015
	RMB'000	RMB'000
Operating revenue	7,282,047	21,498,276
Net profit	1,797,422	2,443,925
	As at	As at
	31 May 2016	31 December 2015
	RMB'000	RMB'000
Total assets	38,680,472	43,946,603
Total liabilities	29,659,246	35,848,778
Total equity	9,021,225	8,097,825

The unaudited profit before income tax expenses and unaudited net profit (each on a consolidated basis) of Shandong Power for FY2014 were RMB486.7395 million and RMB235.9862 million respectively.



## LETTER FROM GRAM CAPITAL

We noted that for FY2015, Shandong Power recorded net profit of approximately RMB2.44 billion, representing a significant improvement as compared to net profit of approximately RMB235.99 million for FY2014. The net profit of Shandong Power for the five months ended 31 May 2016 also represented approximately 73.55% of the net profit of Shandong Power for FY2015.

## Jilin Power

With reference to Board Letter, Jilin Power was invested and established by Huaneng Group as its wholly owned subsidiary, the registration of which with the authority of industrial and commercial administration was conducted in September 2007. On 29 October 2015, Huaneng Group agreed to increase Jilin Power's share capital in cash by RMB200 million, and such capital injection has been completed as at the Latest Practicable Date, as per the Approval in relation to the Increase of the Share Capital in Jilin Power (Huaneng Cai. [2015]487) for the purpose of lowering the debt asset ratio and improving the conditions of operation.

Set out below is a summary of consolidated financial information of Jilin Power (on a pro forma consolidated basis) as extracted from the Board Letter:

	For the five months ended 31 May 2016 RMB'000	For the year ended 31 December 2015 RMB'000
Operating revenue	1,069,413	2,447,549
Net profit/(loss)	106,433	(44,098)
	As at 31 May 2016 RMB'000	As at 31 December 2015 RMB'000
Total assets	11,700,088	11,717,186
Total liabilities	11,985,453	12,108,009
Total equity	(285,365)	(390,823)

The unaudited total loss and unaudited net loss (each on a pro forma consolidated basis) of Jilin Power for FY2014 were RMB245.6876 million and RMB246.1706 million respectively.

We noted that for FY2015, Jilin Power recorded net loss of approximately RMB44.10 million, representing a significant reduction as compared to the net loss of approximately RMB246.17 million for FY2014. For the five months ended 31 May 2016, Jilin Power made a turnaround in its loss making position and recorded net profit of approximately RMB106.43 million.

## LETTER FROM GRAM CAPITAL

## Heilongjiang Power

With reference to Board Letter, on 23 November 2007, Heilongjiang Power was established through industrial and commercial registration. Since December 2009, Huaneng Group transferred all its interest in the original branch company to Heilongjiang Power as its share capital increase in Heilongjiang Power. As at the Latest Practicable Date, Heilongjiang Power is a wholly-owned subsidiary of Huaneng Group. In June 2016, Huaneng Group issued the “Approval relating to the Increase of Share Capital of Heilongjiang Power by RMB100 million” (Huaneng Caihan [2016] No.

302) and agreed to inject RMB100 million in cash into the Heilongjiang Power as share capital, and such capital injection has been completed as of the Latest Practicable Date.

Set out below is a summary of consolidated financial information of Heilongjiang Power (on a pro forma consolidated basis) as extracted from the Board Letter:

	For the five months ended 31 May 2016 RMB'000	For the year ended 31 December 2015 RMB'000
Operating revenue	1,640,694	3,656,269
Net profit	282,756	209,150
	As at 31 May 2016 RMB'000	As at 31 December 2015 RMB'000
Total assets	13,409,615	13,283,123
Total liabilities	11,757,745	11,914,009
Total equity	1,651,870	1,369,114

The unaudited total profit and unaudited net profit (each on a pro forma consolidated basis) of Heilongjiang Power for FY2014 were RMB139.25 million and RMB108.44 million respectively.

We noted that for FY2015, Heilongjiang Power recorded net profit of approximately RMB209.15 million, representing a significant improvement as compared to net profit of approximately RMB108.44 million for FY2014. The net profit of Heilongjiang Power for the five months ended 31 May 2016 also represented approximately 135.19% of the net profit of Heilongjiang Power for FY2015.

## Zhongyuan CCGT

With reference to Board Letter, the predecessor of Zhongyuan CCGT is Henan Province Zhongyuan CCGT Electricity Limited Company which was established and registered in 2003 with industrial and commercial authority. On 24 December 2007, Huaneng Group entered into an equity transfer agreement in relation to Henan Zhongyuan CCGT Electricity Limited with Henan Lantian Group Company and Guangshan Yiguang Shiye Limited Company (the shareholders of Henan



## LETTER FROM GRAM CAPITAL

Province Zhongyuan CCGT Electricity Limited Company), pursuant to which each of Henan Lantian Group Guangshan Yiguang Shiye Limited transferred its 85% and 5% interests in Henan Zhongyuan CCGT Electricity Limited Company to Huaneng Group, respectively. As at the Latest Practicable Date, Huaneng Group holds 90% interest in Zhongyuan CCGT while Henan Lantian Group Company holds the remaining 10%. Henan Lantian Group Limited Company has given its written consent to the Transfer and waived its pre-emptive right with respect to the Transfer.

Set out below is a summary of consolidated financial information of Zhongyuan CCGT as extracted from the Board Letter:

	For the five months ended 31 May 2016 RMB'000	For the year ended 31 December 2015 RMB'000
Operating revenue	405,156	832,439
Net profit	10,570	2,219
	As at 31 May 2016 RMB'000	As at 31 December 2015 RMB'000
Total assets	1,781,137	1,814,673
Total liabilities	1,927,938	1,972,044
Total equity	(146,801)	(157,371)

The unaudited total profit and unaudited net profit of Zhongyuan CCGT for the year 2014 were RMB1.38 million and RMB1.38 million respectively.

We noted that for FY2015, Zhongyuan CCGT recorded net profit of approximately RMB2.22 million, representing a significant improvement as compared to net profit of approximately RMB1.38 million for FY2014. The net profit of Zhongyuan CCGT for the five months ended 31 May 2016 also represented approximately 476.34% of the net profit of Zhongyuan CCGT for FY2015.

## Reasons for the Transaction

With reference to the Board Letter, Huaneng Group previously provided an undertaking in favour of the Company on 17 September 2010 as supplemented by a clarification provided by Huaneng Group in favour of the Company on 28 June 2014 (collectively, the "Non-compete Undertakings"). Pursuant to the Non-compete Undertakings and in support of the sustainable and stable development of the Company, Huaneng Group undertook to the Company that, among other things, it will inject into the Company such assets of which the profitability should have been improved and meet with the requirements for injecting into a listed company (such requirements include, amongst others, such assets will not lower the earnings per share of the Company after injection). The Company shall have a right of first refusal to acquire from Huaneng Group the newly developed, acquired or invested projects as engaged in the conventional energy business of Huaneng





LETTER FROM GRAM CAPITAL

Group located in Shandong Province and the other non-listed conventional energy business assets of Huaneng Group located in other provincial administrative regions. Details of the Non-compete Undertakings are set out under the section headed “Business competition with controlling shareholders” of the 2015 Annual Report.

With reference to the Board Letter, the Transaction implements Huaneng Group’s commitment to avoid business competition with the Company in line with the Non-compete Undertakings. This is conducive to further expanding scale, increasing the market share and improve the competitiveness of the Company. The Non-compete Undertakings were provided specifically in line with the requirements under the “Regulatory Guidelines for Listed Companies No. 4 – Undertakings and performance by Listed Companies and Listed Companies’ de facto Controllers, Shareholders, Related Parties and Acquirers” issued by China Securities Regulatory Commission. The Transfers contemplated under the Transfer Agreements are consistent with the terms of the Non-compete Undertakings. After the completion of the Transaction, Huaneng Group will have injected such conventional energy business assets which meet the conditions for listed company into the Company by end of 2016 in accordance with the Non-compete Undertaking in order to support the sustainable, stable development of the Company, and as a result, the Company’s business scale and geographical reach will be further expanded and its profitability will also be enhanced.

In light of (i) the improvement in profitability of the Target Companies as demonstrated under the section headed “Information on Target Companies” above; and (ii) the Transactions do not involve any issuance of the Shares and, based on the latest available public information, the Target Companies as a whole have positive income for the five months ended 31 May 2016, hence, the earnings per share of the Company upon the Completion will not be diluted, we concur with the Directors that the Transaction is in line with and meet with the requirements of the Non-compete Undertakings.

After completion of the Transaction, the Company will increase the total installed capacity of generating units in operation by 15.937 million KW, equity installed capacity by 13.389 million KW, total installed capacity of generating units under construction by 3.666 million KW. The capacity of generating units will allow the Company to further expand its business scale, increase its market share and enter the Jilin and Heilongjiang market for the first time.

Having considered that:

- (i) the Group’s core business is the sales of power and heat, the revenue from which represented over 99% of the operating revenue of the Group for FY2015; and all the Target Companies are principally engaged in power generation and related works;
- (ii) the financial performance of the Target Companies ((a) save as Jilin Power, each of the Target Companies recorded net profit for FY2015; (b) the Target Companies recorded net profit for the five months ended 31 May 2016; and (c) the improvement in profitability of the Target Companies as demonstrated under the section headed “Information on Target Companies” above);

LETTER FROM GRAM CAPITAL

- (iii) given the business nature and the improvement in profitability of the Target Companies as demonstrated under the section headed “Information on Target Companies” above, the Transaction implements Huaneng Group’s commitment to avoid business competition with the Company;
- (iv) the Transaction is in line with and meet with the requirements of the Non-compete Undertakings;
- (v) the Transaction allows the Company to expand its business scale and increase its market share and enter the Jilin and Heilongjiang market for the first time; and
- (vi) the Transaction is in line with the Strategy as set out under the section headed “Business overview of the Company” above, in particular, to seize market opportunities, maintain and expand market shares,

we consider that the Transaction is in the interests of the Company and the Shareholders as a whole and is conducted in the ordinary and usual course of business of the Group.

2. Principal terms of the Transaction Agreements

A. Transfer Agreement

Date: 14 October 2016

Parties: Huaneng Group (seller) The Company (buyer)

Consideration: The Company agrees to pay RMB15,113,825,800 as Consideration for the Transfers.

Method of Payment: The Company will pay the Consideration by way of cash with its own funds.

Payment Schedule: Unless otherwise agreed between the parties, the Company shall pay the Consideration in three instalments according to the ratios of 50%, 20% and 30%, of which the first payment shall be payable within 5 working days after the Completion Date, the second payment shall be payable within 3 months from the Completion Date and the third within 6 months from the Completion Date.

LETTER FROM GRAM CAPITAL

Adjustment of the Consideration: If Shandong Power, in accordance with the “Agreement on the Transfer of All the Assets of Rizhao Construction Heat Power Company Limited at Nil Consideration to Huaneng Shandong Power Generation Co., Ltd.” with the People’s Government of Rizhao Municipal entered into on 13 April 2016, transfers the assets contemplated by such agreement to Shandong Power or its subsidiaries at nil consideration prior to the Completion Date, such assets will form part of the Transfers. The consideration for such transfer shall be negotiated and determined by the parties based on the asset valuation report issued by a jointly appointed valuer but shall in no event exceed RMB500,000,000.

For other details regarding the Transfer Agreement and the Transfers, please refer to the section headed “D. TRANSACTION AGREEMENTS” of the Board Letter.

Consideration

With reference to the Board Letter, the Consideration is agreed by both parties after arm’s length negotiation taking into account the key factors set out under the sub-section headed “1. Transfer Agreement” of the Board Letter, which include, amongst others, the arrangements (the “Arrangements”) regarding (i) the undistributed profits of the Target Companies as of the Base Date (i.e. 31 May 2016); and (ii) the profit and loss and other aggregate income of the Target Companies arising from 1 June 2016 to the Completion Date.

In view of that (i) the undistributed profits formed part of the assets of the Target Companies as at the Base Date; and (ii) it is a norm for profit and loss of the target under an acquisition to be entitled to the purchaser after completion, whereas the Company shall be entitled to and assume the portion of the profit and loss and other aggregate income of Shandong Power arising from 1 June 2016 to the Completion Date that is proportional to the Target Interests, we consider the Arrangements to be fair and reasonable and in the interests of the Company and the Shareholders as a whole.

Valuation of Shandong Power

The Shandong Power Valuation Report was issued by ZhongHe, an independent valuer. With reference to the Board Letter, according to applicable laws, the Shandong Power Valuation Report has been duly filed in compliance with state-owned asset valuation procedure. According to the Shandong Power Valuation Report, the appraised value of shareholders’ total equity in Shandong Power was RMB15,515,920,000 as at 31 May 2016. Hence, the appraised value of the Shandong Power Interests as at 31 May 2016 would be RMB12,412,736,000.

The Shandong Power Valuation Report was prepared by Zhonghe using the income approach and asset-based approach. As confirmed by ZhongHe, the asset-based approach and income approach are commonly adopted approaches for valuation of companies and are also consistent with normal market practice. Based on our observation on valuation performed for

LETTER FROM GRAM CAPITAL

acquisition/disposal of business entities, we noted that there is adoption of asset-based or income approach and the professional valuers usually consider that the asset-based approach and income approach are generally accepted approach.

We also understood from ZhongHe that:

- (i) the asset-based method is for assets reorganization and reconstruction to reflect the current reset value of enterprises; income method is for the future profitability of enterprises, aiming to reflect the aggregate profitability of each asset;
- (ii) Shandong Province is a relatively developed province. The installed capacity of the main power plants of Shandong Power has size advantage and better market share in Shandong Province. In addition, such power plants are important power plants in the power grid of Shandong Province. ZhongHe considered that the market value of the subsidiaries of Shandong Power which are principally engaged in the operation of main power plants of Shandong Power can be better reflected by adopting income approach;
- (iii) for other subsidiaries of Shandong Power, asset-based method is adopted to assess due to the larger uncertainty of future profit; and
- (iv) according to the characteristic, operation condition and status of the entity evaluated, it is hard to find companies which have comparable business model, and ZhongHe did not adopt the market method for the valuation.

For our due diligence purpose, we found an article in relation to the gross domestic product (“GDP”) ranking (2015) of Shandong Province published on 28 January 2016 by (www.iqilu.com), which is a news releasing website organised by Shandong Radio & Television ( ) with the approval of the State Council Information Office of the PRC. As illustrated by the aforesaid article, the GDP of Shandong Province ranked no. 3 in 2015 among all provinces, autonomous regions and municipalities of the PRC. The above findings demonstrated that Shandong Province is a relatively developed province. In addition, we have obtained statistics regarding the market share of the main power plants of Shandong Power in Shandong Province from ZhongHe. Given the above, the future income of the main power plants of Shandong Power can be reasonably estimated to form the basis of valuation. Having considered aforesaid reasons, observation and ZhongHe’s experience and qualification, we do not doubt the valuation approaches adopted by ZhongHe.

As the valuation of certain subsidiaries of Shandong Power was prepared based on income approach and therefore constitutes a profit forecast under Rule 14.61 of the Hong Kong Listing Rules. In such case, it is stipulated under Rule 14.62 of the Hong Kong Listing Rules that the Company is required to obtain (i) a letter from its auditors or reporting accountants confirming that they have reviewed the accounting policies and calculations for the forecast and containing their report; and (ii) a report from its financial advisers confirming that they are satisfied that the forecast in the Shandong Power Valuation Report has been made by the

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Directors after due and careful enquiry; if no financial advisers have been appointed in connection with the transaction, the Company must provide a letter from the Board confirming they have made the forecast after due and careful enquiry. We consider that the above stipulation of the Hong Kong Listing Rules could safeguard the interest of the Shareholders and we noted that the Company has complied with the said requirements.

For our due diligence purpose, we have reviewed and enquired into (i) the terms of engagement of ZhongHe with the Company; (ii) ZhongHe's qualification and experience in relation to the preparation of the Shandong Power Valuation Report; and (iii) the steps and due diligence measures taken by ZhongHe for conducting the Shandong Power Valuation Report. From the mandate letter and other relevant information provided by ZhongHe and based on our interview with them, we are satisfied with the terms of engagement of ZhongHe as well as their qualification and experience for preparation of the Shandong Power Valuation Report. ZhongHe have also confirmed that they are independent to the Group and the Huaneng Group.

With reference to the Shandong Power Valuation Report and as confirmed by ZhongHe, for the preparation of the Shandong Power Valuation Report, ZhongHe had complied with the valuation standards, measures and basis as set out in the section headed "VI. VALUATION BASIS" of the Shandong Power Valuation Report as contained in Appendix I(i) to the Circular. Given the above, we have no doubt on the steps and due diligence measures taken by ZhongHe for the Shandong Power Valuation Report.

We have also discussed and interviewed with ZhongHe to understand the methodology of, and basis and assumptions adopted for the Shandong Power Valuation Report. In this relation, we have also requested, obtained and reviewed the supporting documents (including but not limited to the underlying forecasts of the Shandong Power Valuation Report, documents showing how ZhongHe determined certain parameters in arriving at the appraised value of the Shandong Power Interests (e.g. weighted average cost of capital, risk free rate, tax, etc.) and financial information of each of subsidiaries of Shandong Power) for the Shandong Power Valuation Report from ZhongHe. During our discussion with the ZhongHe, we have not identified any major factors which caused us to doubt the fairness and reasonableness of the principal bases and assumptions adopted for the Shandong Power Valuation Report.

At the same time, we noted from the report from the Company's auditors dated 14 October 2016 that, so far as the calculations are concerned, the discounted future cash flows under the Shandong Power Valuation Report have been properly compiled in all material respects in accordance with the bases and assumptions adopted by the Directors as set out in the Shandong Power Valuation Report. Furthermore, based on confirmation letter dated 14 October 2016 of CITIC CLSA Capital Markets Limited, the financial adviser to the Company, we understand that they are of the view that the underlying forecasts of the Shandong Power Valuation Report have been made after due and careful enquiry by the Directors.

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Valuation of Jilin Power:

The Jilin Power Valuation Report was issued by Zhonglian, an independent valuer. With reference to the Board Letter, according to applicable laws, the Jilin Power Valuation Report has been duly filed in compliance with state-owned asset valuation procedure. According to the Jilin Power Valuation Report, the appraised value of the Jilin Power Interests was RMB555,005,700 as at 31 May 2016.

For our due diligence purpose, we have reviewed the Jilin Power Valuation Report and enquired into Zhonglian on the methodology, basis and assumptions adopted in arriving at the Jilin Power Valuation in order for us to understand the Jilin Power Valuation Report. The Jilin Power Valuation Report was concluded by Zhonglian using the asset-based approach.

Furthermore, we have reviewed and enquired into (i) the terms of engagement of Zhonglian with the Company; (ii) Zhonglian's qualification and experience in relation to the preparation of the Jilin Power Valuation Report; and (iii) the steps and due diligence measures taken by Zhonglian for conducting the Jilin Power Valuation Report. From the mandate letter and other relevant information provided by Zhonglian and based on our interview with them, we are satisfied with the terms of engagement of Zhonglian as well as their qualification and experience for preparation of the Jilin Power Valuation Report. Zhonglian have also confirmed that they are independent to the Group and the Huaneng Group.

With reference to the Jilin Power Valuation Report and as confirmed by Zhonglian, for the preparation of the Jilin Power Valuation Report, Zhonglian had complied with the valuation standards, measures and basis as set out in the section headed "VI. VALUATION BASIS" of the Jilin Power Valuation Report as contained in Appendix I(ii) to the Circular. Given the above, we have no doubt on the steps and due diligence measures taken by Zhonglian for the Jilin Power Valuation Report.

We have also discussed and interviewed with Zhonglian to understand the methodology of, and basis and assumptions adopted for the Jilin Power Valuation Report. As confirmed by Zhonglian, the asset-based approach is a commonly adopted approach for valuation of companies and is also consistent with normal market practice. Based on our observation on valuation performed for acquisition/disposal of business entities, we noted that there is adoption of asset-based approach and the professional valuers usually consider that the asset-based approach is generally accepted approach.

We also understood from Zhonglian that the grid tariffs of Jilin Power are affected by the national pricing policy and the rigid increase in cost is not expected to be absorbed in the future, which results in the lower income level in the future. As such, asset-based approach was adopted for concluding the appraised value of the Jilin Power. In addition, as the number of the same industry as entity evaluated or property right transaction case in the similar industry is rare and difficult to obtain, Zhonglian did not adopt the market method for the valuation.

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For our due diligence purpose, we noted that the grid tariff for power generation enterprises in Jilin Province was adjusted downward in accordance with [NDRC's Notice on Reduction of On-grid Tariffs for Coal-fired Power Generation and Electricity Prices for General Industrial and Commercial Use\\*](#)) issued by National Development and Reform Commission of the PRC (“NDRC”) ([www.ndrc.gov.cn](#)) on 27 December 2015 and [Jilin Province Price Bureau's Notice on the Execution of Reduction of On-grid Tariffs for Coal-fired Power Generation and Electricity Prices for General Industrial and Commercial Use\\*](#)) issued by [Jilin Province Commodity Price Bureau\\*](#)) ([wj.jl.gov.cn](#)) on 5 January 2016. The above findings indicated that the future income of Jilin Power and its subsidiaries can be affected by the national pricing policies.

In addition, we noted from an article regarding the economy of Northeast China published by China Economic Weekly ([www.ceweekly.cn](#)) on 9 May 2016 (the “Northeast Article”) that (i) the GDP growth rates of Liaoning Province, Jilin Province and Heilongjiang Province in 2013 were ranked the bottom ten among all provinces, autonomous regions and municipalities of the PRC; (ii) the economy in Northeast China further deteriorated in 2014; and (iii) among 14 prefecture-level cities in the PRC which recorded negative GDP growth rate in 2015, there were 6 in Northeast China. The sluggish economy of Northeast China may also post uncertainty and risks to the profitability of Jilin Power and its subsidiaries.

Furthermore, we noted from [NEA's Opinion on Promoting the Coordinated Development of Electric Power in Northeast China\\*](#)) published on 11 July 2016 (the “NEA Northeast Opinion”) by the National Energy Administration of the PRC (“NEA”) ([www.nea.gov.cn](#)) that there is excess supply of electricity in Northeast China. According to the NEA Northeast Opinion, NEA targets to balance the supply and demand of electricity in Northeast China, adjust its thermal/wind power structure and reduce the wind energy curtailment rate. In view of the excess supply in electricity in Northeast China, the profitability of Jilin Power and its subsidiaries may not be stable and any government policies to be implemented to achieve the aforesaid targets of NEA may also give rise to uncertainty to the profitability of Jilin Power and its subsidiaries (which include both thermal and wind electricity generating units).

Having considered aforesaid reasons, observations and Zhonglian’s experience and qualification, we do not doubt the valuation approach adopted by Zhonglian.

Valuation of Heilongjiang Power:

The Heilongjiang Power Valuation Report was issued by China Appraisal. With reference to the Board Letter, according to applicable laws, the Heilongjiang Power Valuation Report has been duly filed in compliance with state-owned asset valuation procedure. According to the Heilongjiang Power Valuation Report, the appraised value of the Heilongjiang Power Interests was RMB2,098,066,200 as at 31 May 2016.

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For our due diligence purpose, we have reviewed the Heilongjiang Power Valuation Report and enquired into China Appraisal on the methodology, basis and assumptions adopted in arriving at the Heilongjiang Power Valuation Report in order for us to understand the Heilongjiang Power Valuation Report. The Heilongjiang Power Valuation Report was concluded by China Appraisal using the asset-based approach.

Furthermore, we have reviewed and enquired into (i) the terms of engagement of China Appraisal with the Company; (ii) China Appraisal's qualification and experience in relation to the preparation of the Heilongjiang Power Valuation Report; and (iii) the steps and due diligence measures taken by China Appraisal for conducting the Heilongjiang Power Valuation Report. From the mandate letter and other relevant information provided by China Appraisal and based on our interview with them, we are satisfied with the terms of engagement of China Appraisal as well as their qualification and experience for preparation of the Heilongjiang Power Valuation Report. China Appraisal have also confirmed that they are independent to the Group and the Huaneng Group.

With reference to the Heilongjiang Power Valuation Report and as confirmed by China Appraisal, for the preparation of the Heilongjiang Power Valuation Report, China Appraisal had complied with the valuation standards, measures and basis as set out in the section headed "VI. VALUATION BASIS" of the Heilongjiang Power Valuation Report as contained in Appendix I(iii) to the Circular. Given the above, we have no doubt on the steps and due diligence measures taken by China Appraisal for the Heilongjiang Power Valuation Report.

We have also discussed and interviewed with China Appraisal to understand the methodology of, and basis and assumptions adopted for the Heilongjiang Power Valuation Report. As confirmed by China Appraisal, the asset-based approach is commonly adopted approach for valuation of companies and is also consistent with normal market practice. Based on our observation on valuation performed for acquisition/disposal of business entities, we noted that there is adoption of asset-based approach and the professional valuers usually consider that the asset-based approach is generally accepted approach.

We also understood from China Appraisal that the operation and profitability of Heilongjiang Power and its subsidiaries might not be stable for the coming years and it might be mainly engaged in investment and management. Accordingly, income approach might not give a true view of the Heilongjiang Power's real value and asset-based approach was adopted for concluding the appraised value of the Heilongjiang Power. In addition, due to the lack of sufficient market data and comparable cases of transaction in the open market, China Appraisal did not adopt the market method for the valuation.

As aforementioned, we noted from the Northeast Article that (i) the GDP growth rates of Liaoning Province, Jilin Province and Heilongjiang Province in 2013 were ranked the bottom ten among all provinces, autonomous regions and municipalities of the PRC; (ii) the economy in Northeast China further deteriorated in 2014; and (iii) among 14 prefecture-level city in the PRC which recorded negative GDP growth rate in 2015, there were 6 in Northeast China. The sluggish economy of Northeast China may post uncertainty and risks to the profitability of Heilongjiang Power and its subsidiaries.



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In addition, we noted from the NEA Northeast Opinion that there is excess supply of electricity in Northeast China. According to the aforesaid opinion, NEA targets to balance the supply and demand of electricity in Northeast China, adjust its thermal/wind power structure and reduce the wind energy curtailment rate. In view of the excess supply in electricity in Northeast China, the profitability of Heilongjiang Power and its subsidiaries may not be stable and any government policies to be implemented to achieve the aforesaid targets of NEA may also give rise to uncertainty to the profitability of Heilongjiang Power and its subsidiaries (which include both thermal and wind electricity generating units). Having considered aforesaid reasons, observations and China Appraisal's experience and qualification, we do not doubt the valuation approach adopted by China Appraisal.

In addition, we have also requested, obtained and reviewed the supporting documents (including but not limited to document showing how China Appraisal determined certain parameters in arriving at the appraised value of the Heilongjiang Power and financial information of each of subsidiaries of Heilongjiang Power) for the Heilongjiang Power Valuation Report from China Appraisal. During our discussion with the China Appraisal, we have not identified any major factors which caused us to doubt the fairness and reasonableness of the principal bases and assumptions adopted for the Heilongjiang Power Valuation Report.

### Valuation of Zhongyuan CCGT

The Zhongyuan CCGT Valuation Report was issued by China Appraisal. With reference to the Board Letter, according to applicable laws, the Zhongyuan CCGT Valuation Report has been duly filed in compliance with state-owned asset valuation procedure. According to the Zhongyuan CCGT Valuation Report, the appraised value of shareholders' total equity in Zhongyuan CCGT was RMB53,353,200 as at 31 May 2016. Hence, the appraised value of the Zhongyuan CCGT Interests as at 31 May 2016 would be RMB48,017,880.

For our due diligence purpose, we have reviewed the Zhongyuan CCGT Valuation Report and enquired into China Appraisal on the methodology, basis and assumptions adopted in arriving at the Zhongyuan CCGT Valuation Report in order for us to understand the Zhongyuan CCGT Valuation Report. The Zhongyuan CCGT Valuation Report was concluded by China Appraisal using the asset-based approach.

Furthermore, we have reviewed and enquired into (i) the terms of engagement of China Appraisal with the Company regarding the Zhongyuan CCGT Valuation Report; (ii) China Appraisal's qualification and experience in relation to the preparation of the Zhongyuan CCGT Valuation Report; and (iii) the steps and due diligence measures taken by China Appraisal for conducting the Zhongyuan CCGT Valuation Report. From the mandate letter and other relevant information provided by China Appraisal and based on our interview with them, we are satisfied with the terms of engagement of China Appraisal as well as their qualification and experience for preparation of the Zhongyuan CCGT Valuation Report. China Appraisal have also confirmed that they are independent to the Group and the Huaneng Group.

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With reference to the Zhongyuan CCGT Valuation Report and as confirmed by China Appraisal, for the preparation of the Zhongyuan CCGT Valuation Report, China Appraisal had complied with the valuation standards, measures and basis as set out in the section headed “VI. VALUATION BASIS” of the Zhongyuan CCGT Valuation Report as contained in Appendix I(iv) to the Circular. Given the above, we have no doubt on the steps and due diligence measures taken by China Appraisal for the Zhongyuan CCGT Valuation Report.

We have also discussed and interviewed with China Appraisal to understand the methodology of, and basis and assumptions adopted for the Zhongyuan CCGT Valuation Report. As confirmed by China Appraisal, the asset-based approach is commonly adopted approach for valuation of companies and is also consistent with normal market practice. Based on our observation on valuation performed for acquisition/disposal of business entities, we noted that there is adoption of asset-based approach and the professional valuers usually consider that the asset-based approach is generally accepted approach.

We also understood from China Appraisal that there is adjustment to the time-of-use pricing policies (electricity pricing policies which govern the pricing of electricity under different timeframe (e.g. high peak hour, peak hour, normal hour and slack hour) of Henan Province) and the on-grid price of the electricity on certain enterprises in Henan Province (including the on-grid price of the electricity of Zhongyuan CCGT) was adjusted downward, causing certain risks on the growth potential of its profitability. As such, asset-based approach was adopted for concluding the appraised value of the Zhongyuan CCGT. In addition, due to the lack of sufficient market data and comparable cases of transaction on the open market, China Appraisal did not adopt the market method for the valuation. For our due diligence purpose, we noted from [Henan Province Development and Reform Commission \(www.hndrc.gov.cn\)](#) (2016\*) published by the Henan Province Development and Reform Commission (www.hndrc.gov.cn) on 7 June 2016 that with the consent of the government of Henan Province and the approval of the NDRC, the time-of-use pricing policies of Henan province were adjusted such that the high peak hour timeframe and peak hour timeframe were combined to one single timeframe and the electricity on-grid price of certain enterprises in Henan Province (including Zhongyuan CCGT) was adjusted downward. The above findings indicated that the governmental pricing policies may cause risks and uncertainty to the future income of Zhongyuan CCGT. Having considered aforesaid reasons, observation and China Appraisal’s experience and qualification, we do not doubt the valuation approach adopted by China Appraisal.

In addition, we have also requested, obtained and reviewed the supporting documents (including but not limited to document showing how China Appraisal determined certain parameters in arriving at the appraised value of the Zhongyuan CCGT and financial information of Zhongyuan CCGT) for the Zhongyuan CCGT Valuation Report from China Appraisal. During our discussion with the China Appraisal, we have not identified any major factors which caused us to doubt the fairness and reasonableness of the principal bases and assumptions adopted for the Zhongyuan CCGT Valuation Report.

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In light of the above and that the Consideration of RMB15,113,825,800 is about the same with the sum of the appraised values of the Shandong Power Interests, the Jilin Power Interests, the Heilongjiang Power Interests and the Zhongyuan CCGT Interests (i.e. RMB12,412,736,000 + RMB555,005,700 + RMB2,098,066,200 + RMB48,017,880 = RMB15,113,825,780), we are of the view that the Consideration is fair and reasonable so far as the Independent Shareholders are concerned.

We noticed that the valuers include (i) the lands and properties of the Target Companies with defective title in the scope of the valuations (as the case may be); and (ii) certain generating units/power plant of the Target Companies (as the case may be) which have yet to obtain, and are in the process of applying for the electric power business licenses, in the scope of the valuations (as the case may be). Having considered the indemnifying clauses as set out below, we consider that the inclusion of such lands and properties and generating units/power plant in the scope of the valuations (as the case may be) to be acceptable.

Having considered the aforementioned reasons for selection of appropriate approaches for the valuation of the Shandong Power Interests, the Jilin Power Interests, the Heilongjiang Power Interests and the Zhongyuan CCGT Interests, we have not considered other analysis to assess the fairness and reasonableness of the Consideration.

Adjustment of the Consideration

With reference to the Board Letter, if Shandong Power, in accordance with the “Agreement on the Transfer of All the Assets of Rizhao Construction Heat Power Company Limited at Nil Consideration to Huaneng Shandong Power Generation Co., Ltd.” with the People’s Government of Rizhao Municipal entered into on 13 April 2016, transfers the assets contemplated by such agreement to Shandong Power or its subsidiaries at nil consideration prior to the Completion Date, such assets will form part of the Transfers. The consideration for such transfer shall be negotiated and determined by the parties based on the asset valuation report issued by a jointly appointed valuer but shall in no event exceed RMB500,000,000.

Having considered that the consideration for such transfer shall be negotiated and determined by the parties based on the asset valuation report, we consider the adjustment to the Consideration is acceptable.

Indemnity

With reference to the Board Letter,

- (i) certain generating units of the 11 subsidiaries of Shandong Power have yet to obtain, and are in the process of applying for the electric power business licenses;
- (ii) certain land parcels owned by Shandong Power, its subsidiaries and branch companies are pending for the issuance of land use rights certificates or in the process of being transferred to and re-registered in the name of Shandong Power as the owner;

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- (iii) Shandong Power, its subsidiaries and branch companies are yet to obtain property ownership certificates for, or register in their name, a number of house properties (the area of which is subject to surveying and measurement);
- (iv) Shandong Power has certain on-going and outstanding litigations or arbitrations initiated by subsidiaries of Shandong Power or against subsidiaries of Shandong Power by third parties with an amount in dispute greater than RMB5 million;
- (v) a power plant of a branch company of Jilin Power has yet to obtain, and is in the process of applying for electric power business license;
- (vi) certain land parcels owned by Jilin Power, its subsidiaries and branch companies are yet to apply for state-owned land use rights certificates;
- (vii) the application for property ownership certificates by Jilin Power and its subsidiaries and branch companies in relation to the certain premises (with total gross floor area subject to surveying and measurement) are yet to be completed;
- (viii) certain land parcels owned by Heilongjiang Power, its subsidiaries and branch companies are yet to apply for state-owned land use rights certificates or are yet to be transferred to and reregistered in the name of Heilongjiang Power;
- (ix) the application for property ownership certificates by Heilongjiang Power in relation to certain premises (with total gross floor area subject to surveying and measurement) are yet to be completed; and
- (x) application for properties ownership certificates for certain premises in the plant area of Zhongyuan CCGT (total area subject to surveying and measurement) are yet to be completed.

Pursuant to the Transfer Agreement,

- (i) Huaneng Group agrees to promptly indemnify the Company from and against any and all losses incurred by any of the Target Companies or their subsidiaries as a result of or in connection with the punishment imposed by any government authority, or the perfection of the land use rights or property ownership certificates, in relation to any land parcel or house property which is used or owned by the Target Company or its subsidiaries but has not been registered in the name of the Target Companies and their subsidiaries and to any allocated land use rights without the documents issued by relevant land authority confirming the retention of the allocation method;

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- (ii) Huaneng Group agrees to promptly indemnify the Company from and against any and all losses incurred by any of the Target Companies or their subsidiaries as a result of or in connection with the payment liabilities, compensation, administrative punishment or replacement in relation to the leased assets which are used prior to the Completion Date;
- (iii) if any Target Company or any of its subsidiaries has/have difficulty in conducting normal business operation due to any of the aforesaid defects in the relevant land parcels or house properties, Huaneng Group agrees to repurchase or cause a third party to repurchase, at the request of the Company, such Target Company or its subsidiary in cash based on the consideration of the Transfers (subject to deduction of any gains of the Company derived from such Target Company or subsidiary prior to the repurchase);
- (iv) with respect to any significant proceedings involving an amount over RMB5 million which is on-going or pending enforcement, if any judicial or arbitral authority with competent jurisdiction makes a final ruling or award to such proceedings that requires any Target Company or any of its subsidiaries to indemnify/make payment to any third party, or if the amounts claimed by any Target Company or any of its subsidiaries under such proceedings are not recoverable in full, Huaneng Group agrees to promptly indemnify the Company from and against all the losses incurred thereby upon the Target Company or its subsidiaries making indemnification/payment to the said third party or being subject to enforcement by any judicial authority or where it is determined that the claimed amounts are not recoverable in full under judicial enforcement.

Having considered the indemnifying provisions as mentioned above, we are of the view that the Company's risk exposure under the Transfers can be covered.

In light of the above, we consider the terms of the Transfer Agreement are on normal commercial terms and are fair and reasonable so far as the Independent Shareholders are concerned.

B. Profit Forecast Compensation Agreement

As mentioned above, during the course of appraisal, income approach was adopted to value certain subsidiaries of Shandong Power of which the valuation results were over 100% of the book value. Huaneng Group guaranteed that the Actual Net Profit will not be less than the forecasted net profit as set out in the relevant asset valuation reports. In this regards, Huaneng Group and the Company entered into the Profit Forecast Compensation Agreement on 14 October 2016.

Pursuant to the Profit Forecast Compensation Agreement, after the issue of specific audit report according to the agreement, Huaneng Group should compensate the Company in cash for the differences between the accumulated Actual Net Profit and the accumulated forecast net profit at the end of the period of Each Profit Forecast Company as in the specific audit report. If the accumulated Actual Net Profit for Each Profit Forecast Company at the end of the compensation period is equal to

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or higher than the accumulated forecasted net profit at the end of the compensation period, then Huaneng Group is not required to compensate the Company (namely, the compensation payable for the relevant period is zero), nor is the Company required to compensate Huaneng Group.

During the compensation period, the Company should audit any discrepancies between the Actual Net Profit and the forecasted profit for Each Profit Forecast Company each year. Such audit should be conducted by a registered accountant (the “Registered Auditor”) appointed by the Company with qualifications to practice in securities-related business, and such accountant should issue a specific audit report.

F o r o u r d u e d i l i g e n c e p u r p o s e , w e n o t e d f r o m the &#28023;&#35657;&#21048;&#20132;&#26131;&#25152; &#24066;&#20844;&#21496; &#32879;&#20132;&#26131;&#23526;&#26045;&#25351; &#24341;&#12299;(Guidelines for the Implementation of Connected Transactions of Listed Companies on the Shanghai Stock Exchange\*) (the “Guidelines”), among other things, the counterparty to the acquisition transaction (as vendor and being the connected person of A Share listed companies (as purchaser)) should enter into profit forecast compensation agreement with A Share listed companies (as purchaser) for the purpose of the provision of profit compensation for the differences between the actual net profit and the forecast net profit for the three years after the completion of the acquisition transaction, when (i) the valuation of the target asset exceeding 100% of its book value; and (ii) the approach which is based on future income being adopted for the valuation.

Furthermore, we have discussed with the Directors and understood the aforementioned approach and formula for profit compensation and compensation on impairment. In addition, we have searched over the internet and found certain agreements entered into by Hong Kong listed companies in 2015 and 2016 in relation to (i) acquisition of companies by companies which listed in both Hong Kong and the PRC (the “Type I Transactions”); and (ii) disposals of companies by Hong Kong listed companies to A share listed companies (the “Type II Transactions”, together with the Type I Transaction, the “Reference Transactions”), details of which are set out below:

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Company	Date of agreement	Type of transaction	Terms for profit compensation Years	Valuation method	Appointment of registered auditor	Profit compensation
China National Materials Co. Ltd. (1893)	21 August 2015	Type II Transaction	3	Income approach	Yes	Yes
China Railway Group Ltd. (390 & SH601390)	2 December 2015	Type II Transaction	3	Information not available	Yes	Yes
Powerleader Science & Technology Group Ltd. (8236)	4 January 2016 and 22 December 2015	Type II Transaction	3	Income approach	Yes	Yes
Shanghai Electric Group Co. Ltd. (2727 & SH601727)	11 March 2016 and 22 March 2016	Type I Transaction	3	Asset-based approach and income approach	Yes	Yes
COSCO Shipping Energy Transportation Co., Ltd. (formerly known as China Shipping Development Co. Ltd.) (1138 & SH600026)	29 March 2016	Type I Transaction	3	Income approach	Yes	Yes
Yanzhou Coal Mining Co. Ltd. (1171 & SH600188)	13 June 2016	Type I Transaction	3.5	Income approach	Information not available	Yes
Shandong Weigao Group Medical Polymer Co. Ltd. (1066)	14 June 2016	Type II Transaction	3	Income approach	Yes	Yes
BBMG Corporation (2009 & SH601992)	6 July 2016	Type II Transaction	3	Asset-based approach and market	Yes	Yes

approach

To the best of our knowledge and endeavor, the above list of Reference Transactions are exhaustive. We noted that the Reference Transactions were associated with profit compensation arrangements to the A share listed companies or A and H share listed companies (as purchasers) which are comparable to the profit compensation arrangements under the Profit Forecast Compensation Agreement.

Details of the Profit Forecast Compensation Agreement are set out under the section headed “Profit Forecast Compensation Agreement” of the Board Letter.

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Given also that (i) the Profit Forecast Compensation Agreement was entered into in accordance with the Guidelines; and (ii) a Registered Auditor will be engaged to provide an audit opinion on the Actual Net Profit, we are of the view that the terms of the Profit Forecast Compensation Agreement are fair and reasonable so far as the Shareholders are concerned.

3. Financial effect on the Transaction

As confirmed by the Directors, upon Completion, the Target Companies will become the subsidiaries of the Company and their financial results will be consolidated and accounted for subsidiaries of the Company.

With reference to the 2016 Interim Report, the unaudited consolidated net asset value of the Group was approximately RMB102.43 billion as at 30 June 2016. As advised by the Directors, the Transaction is expected to have no material impact on the consolidated net asset value of the Group.

It should be noted that the aforementioned analysis is for illustrative purposes only and does not purport to represent how the financial position of the Group will be upon the Completion.

RECOMMENDATION

Having taken into consideration the factors and reasons as stated above, we are of the opinion that (i) the terms of Transaction Agreements are on normal commercial terms and are fair and reasonable so far as the Independent Shareholders are concerned; and (ii) the Transaction is in the interests of the Company and the Shareholders as a whole and is conducted in the ordinary and usual course of business of the Group. Accordingly, we recommend the Independent Board Committee to advise the Independent Shareholders to vote in favour of the resolution(s) to be proposed at the EGM to approve the Transaction Agreements and the transactions contemplated thereunder and we recommend the Independent Shareholders to vote in favour of the resolution(s) in this regard.

Yours faithfully, For  
and on behalf of  
Gram Capital Limited  
Graham Lam  
Managing Director

APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

ASSETS VALUATION REPORT (SUMMARY)

FOR THE PROJECT OF PROPOSED TRANSFER OF EQUITY IN  
HUANENG SHANDONG POWER GENERATION CO., LTD.  
BY CHINA HUANENG GROUP TO HUANENG POWER  
INTERNATIONAL, INC.

Zhong He Ping Bao Zi (2016) No. BJV6027

10 OCTOBER 2016

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APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

CONTENTS OF ASSETS VALUATION REPORT (SUMMARY)

Statement of Certified Public Valuer

Summary

Assets Valuation Report

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III.	Object and scope of valuation
IV.	Type of value and its definition
V.	Valuation base date
VI.	Valuation basis
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VIII.	Implementation and status of valuation procedures
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X.	Valuation conclusions
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APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

STATEMENT OF CERTIFIED PUBLIC VALUER

1. During the process of implementing asset valuation, we complied with relevant laws, regulations and asset appraisal guidelines, and abided by the principle of independence, objectivity and impartiality; according to the information we collected during the course of valuation, the matters stated in the valuation report are objective and we bear the corresponding legal responsibility for the reasonableness of the valuation conclusions.
2. The asset valuation statement and income forecast statement of the valuation object shall be reported, forecasted by the clients and the entities appraised and should be confirmed by them with seal; the authenticity, legality and integrity of the information provided, and the proper use of the valuation report are the responsibility of the clients and relevant entrusting parties.
3. We are not and will not be interested in the valuation object of the valuation report, and have and will have no beneficial relationship with the entrusting parties involved, thus we have no prejudice against the entrusting parties concerned.
4. We have carried a site investigation (except for the area outside the mainland of China) into the valuation object of the valuation report and the assets involved; we have paid necessary attention to their legal ownership status, carried inspections of the information about their legal ownership, and disclosed problems that had been found. We have requested the clients and the related entrusting parties to perfect their ownership to meet the requirements for issuance of the valuation report.
5. Our analysis, judgment and conclusion in the valuation report are subject to assumptions and qualifications in the report, report users shall take full consideration of the effect of the assumptions, qualifications, statement of special issues on the valuation conclusions.
6. Report users shall properly understand and use this Asset Valuation Report, certified public valuer and the valuation agency bear no liability for the consequences of improper use of the report by the clients or relevant entrusting parties.
7. Apart from the laws, requirements of regulations and otherwise agreed by relevant entrusting parties, the contents of the valuation report shall not be wholly or partially excerpted, quoted or disclosed through public medias prior to the review of the valuation agency.

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ASSETS VALUATION REPORT (SUMMARY)  
FOR THE PROJECT OF PROPOSED TRANSFER OF EQUITY IN  
HUANENG SHANDONG POWER GENERATION CO., LTD.  
BY CHINA HUANENG GROUP TO HUANENG POWER  
INTERNATIONAL, INC.

Zhong He Ping Bao Zi (2016) No. BJV6027

SUMMARY

To China Huaneng Group and Huaneng Power International, Inc.:

Under the commission of both enterprises, ZhongHe Appraisal Co., Ltd. appraised the market value of the total equity of shareholders of Huaneng Shandong Power Generation Co., Ltd. at the valuation base date in accordance with relevant laws, regulations and asset appraisal guidelines, following the principles of independence, objectivity and impartiality as well as necessary valuation procedures, and adopting appropriate valuation method. The valuation report is summarized as follows:

Valuation purpose: China Huaneng Group intends to transfer the equities of Huaneng Shandong Power Generation Co., Ltd. to Huaneng Power International, Inc., thus require appraising the market value of the total equity of shareholders of Huaneng Shandong Power Generation Co., Ltd. at the valuation base date and present reference opinions to the value for this economic activity.

Valuation object: the total equity of shareholders of Huaneng Shandong Power Generation Co., Ltd..

Valuation scope: all assets and liabilities of Huaneng Shandong Power Generation Co., Ltd. Assets including current assets and non-current assets (specifically including long-term receivables, long-term equity investments, fixed assets, construction in progress, intangible assets), with a book value of RMB15,252.8094 million; liabilities including current liabilities and non-current liabilities, with a book value of RMB8,438.3709 million.

Valuation base date: 31 May 2016

Type of value: market value

Valuation method: assets-based method and income method

Valuation conclusions: we adopt the valuation results of assets-based method as the valuation conclusion of the valuation report

As of the valuation base date, subject to the valuation purpose, valuation assumptions and qualifications stated in the report, China Huaneng Group intended to transfer the equity interest in Huaneng Shandong Power Generation Co., Ltd. held by it to Huaneng Power International, Inc., and the total audited book value of the assets attributable to the equity interest to be transferred was RMB15,252.8094 million; the total value of assets was RMB23,954.2909 million; the total book value of liabilities was



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RMB8,438.3709 million; the total value of liabilities was RMB8,438.3709 million; the net book value of assets was RMB6,814.4385 million; the value of total equity of shareholders (net assets) was RMB15,515.9200 million; the added value was RMB8,701.4815 million, with a value-added rate of 127.69%. The valuation results are set out as follows:

## SUMMARY TABLE OF THE VALUATION RESULTS

Unit: RMB0'000

No.	Items	Book value A	Assessed value B	Increased or decreased value C=B-A	Value-added rate (%) D=C/A×100%
1	Current assets	173,053.54	173,053.54	—	—
2	Non-current assets	1,352,227.39	2,222,375.55	870,148.15	64.35
3	Long-term receivables	34,000.00	34,000.00	—	—
4	Long-term equity investments	1,240,315.85	2,102,729.02	862,413.17	69.53
5	Fixed assets	59,809.35	63,469.93	3,660.58	6.12
6	Construction in progress	861.14	861.14	—	—
7	Intangible assets	6,281.71	7,875.45	1,593.73	25.37
8	Other non-current assets	10,959.33	13,440.00	2,480.67	22.64
9	Total assets	1,525,280.94	2,395,429.09	870,148.15	57.05
10	Current liabilities	672,715.77	672,715.77	—	—
11	Non-current liabilities	171,121.31	171,121.31	—	—
12	Total liabilities	843,837.09	843,837.09	—	—
13	Net assets	681,443.85	1,551,592.00	870,148.15	127.69

The valuation results are valid for one year since the valuation base date, which means that the valuation conclusion will be invalid subsequent to 30 May 2017.

## SPECIAL ISSUES:

(I) The buildings included in the valuation scope are exposed to the risk of having no building ownership certificate, state-owned land use rights certificate and the name of owner has not been changed, the specific rights matters are as follows:

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1. Buildings		Land Area (m2)	Book Value (RMB)
Content of Items			
Property with certificate (no defects)		85,904.02	270,952,299.77
Property with certificate (defects)		242,483.62	449,704,855.13
Property without certificate		1,032,606.14	4,132,772,268.54
Total		1,360,993.78	4,853,429,423.44
The ratio of property without certificate		75.87%	85.15%

  

2. Land use rights				
Content of Items	Land(s) Evaluated	Area sold	Transferred area	Land without certificate
Land with Certificate (no defects)	131	3,977,321.81	1,280,572.40	
Land with Certificate (defects)	99	1,793,128.69	255,573.13	
Land without certificate	21			957,060.77
Sub-total	251	5,770,450.50	1,536,145.53	957,060.77
Total area			8,263,656.80	
Ratio		69.83%	18.59%	11.58%

Defect mainly refers to the name of the owner has not been changed.

## 3. Part of the land use rights of transferred lands have expired

(1) A total of 11 land use rights are covered in the records of accounts in Rizhao Power Generation Co., Ltd. (&#26085;&#29031; &#26377;&#38480;&#20844;&#21496;), the registered total area of the land use rights as set out in the certificates is 2,332,618.38 square meters. These lands are located in Beijing Road, Haibin 5th Road, Rizhao city, for industrial and residential use, with the purpose of power generation, coal depot and family residential land. The types for useful term belong to transferred lands, and the maturity date of each land is 28 March 2016. Most family buildings erected on the family residential lands have experienced housing reform and the ownerships have transferred to each individual staff. While there still portion houses have not been disposed and the corresponding residential land certificates have not been divided. Up to the valuation base date, all of the 11 lands above-mentioned have been amortized.





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According to Opinion on the Application for Extension of the Land Use Right Period by Huaneng Rizhao Plant (&#33775;&#33021;&#26085;&#29031; &#24288;) submitted by the Rizhao Land and Resources Bureau to the Rizhao government and its reply on 7 June 2016, the abovementioned 11 lands are classified by use as follows:

- 1) For industrial land, extension shall be applied by the entities valued and intends to be extended by agreement through the execution of Grant Contract of State-owned Construction Land Use Rights and payment of grant fee. The estimated payment of entities valued is RMB150 million, with an extension of 30 years;
- 2) For railway lands, recovery intends to be made without payment;
- 3) For residential lands, no renewal procedures will be conducted at present.

According to the above municipal government documents, the above 11 lands are disposed of as follows:

For the 3 railway lands (Ri Guo Yong 2000 Zi No. 0008, Ri Guo Yong 2000 Zi No. 0146, Ri Guo Yong 2000 Zi No. 0147), with a total area of 487,777.80 square meters as set out in the certificates, they are intended to be recovered by the government without payment. Therefore, they were not included in the scope of this evaluation;

For 1 residential land (Ri Guo Yong 2000 Zi No. 0121), the land area is 58,135.80 square meters as set out in the certificate and no renewal procedures will be conducted at present;

For 7 industrial lands (Ri Guo Yong 2000 Zi No. 0001-No. 0007), the total land area is 1,786,704.78 square meters, of which 1,267,329.73 square meters of ash yard and part ash pipeline is planned to be recovered by the government, while the remaining 6 parcels of industrial land with land use right area of 519,375.05 square meters (approximately 780 acres) intends to pay the land granting fee by way of agreement, with the granting period of 30 years. The amount of the land granting fees is estimated to be RMB150 million.

In summary, there were a total of 7 lands included in the scope of this evaluation, of which total area for industrial land was 519,375.05 square meters, residential land area of 58,135.80 square meters, in a total of 577,510.85 square meters.

Beijing Zhongdi Huaxia Land and Real Estate Evaluation Co. Ltd. was appointed by the entrusting party to conduct evaluation on the value of land use rights for 6 parcels of land (land use right area of 519,375.05 square meters) for the same valuation purpose on the same base date, net of the estimate land granting fees. The effect of the difference between the final land areas recovered and the expected recovered areas has not been taken into account in this valuation.

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(2) One industrial transferred land use right of Huaneng Zibo Baiyanghe Power Generation Co., Ltd. (33775; 33021; 28100; 21338; 30333; 26954; 27827; 26377; 38480; 20844; 21496;) expired on 19 February 2015, with an area of approximately 104,428.5 square meters. Currently, the relevant renewal procedures are being handled, thus it is unable to reasonably estimate the amount of land granting fee that expected to pay for the renewal.

Beijing Zhongdi Land and Real Estate Appraisal Co. Ltd. was engaged by the client to conduct valuation on the value of land use rights for the land for the same valuation purpose on the same base date, the estimated land granting fees did not deduct at present. The effect of payment of grant fee in the future and possible change of land use right area has not been taken into account in the valuation.

4. The phase I construction project of Huaneng Penglai Wind Power Co., Ltd. (33775; 33021; 34028; 33802; 39080; 21147; 26377; 38480; 20844; 21496;) has been put into operation, and the phase II construction project is in the construction stage, which is expected to be put into operation by the end of September 2016. Due to the land of the two phases construction projects (a total area of approximately 37,578.1 square meters) which overlaid on gold, the follow-up land use procedures were unable to be conducted. The effect of the above events has not been taken into account in this valuation.

(II) The 22nd floor of Huaneng Building which used for office space and included in the valuation scope of the house buildings of fixed assets is located at Quancheng Road, Jinan. The house is the fixed asset left in the historical reconstruction and is only the asset-in-account but not actually controlled by the entities valued, thus the asset is unable to be verified. The site investigation performed by the valuation personnel only observed external condition of the asset without entered into the house and valued based on the carrying amount, which did not considered the effect of ownership situation and actual use of asset on the conclusion evaluated.

The above content is abstract from the Asset Valuation Report. Please read the full text of report for the details of the valuation project and reasonable understanding of the valuation conclusions.

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ASSETS VALUATION REPORT (SUMMARY)

FOR THE PROJECT OF PROPOSED TRANSFER OF EQUITY IN  
HUANENG SHANDONG POWER GENERATION CO., LTD.  
BY CHINA HUANENG GROUP TO HUANENG POWER  
INTERNATIONAL, INC.

Zhong He Ping Bao Zi (2016) No. BJV6027

To China Huaneng Group and Huaneng Power International, Inc.:

Under the commission of both enterprises, ZhongHe Appraisal Co., Ltd. appraised the market value of the total equity of shareholders of Huaneng Shandong Power Generation Co., Ltd. as regard to the proposed transfer of equity in Huaneng Shandong Power Generation Co., Ltd. by China Huaneng Group to Huaneng Power International, Inc. as at 31 May 2016, being the valuation base date, in accordance with relevant laws, regulations and asset appraisal guidelines, following the principles of independence, objectivity and impartiality as well as necessary valuation procedures, and adopting assets-based method and income method. Following sets out the details of assets valuation and valuation conclusions:

I. THE CLIENTS, THE ENTITIES EVALUATED AND OTHER USERS OF VALUATION REPORT

The clients of this valuation are China Huaneng Group and Huaneng Power International, Inc., and the entity evaluated is Huaneng Shandong Power Generation Co., Ltd.

(1) Profiles of client A

1. Registration

Company name:	China Huaneng Group
Address:	No. 23A, Fuxing Road, Haidian District, Beijing
Legal representative:	Cao Peixi
Registered capital:	RMB20 billion
Paid-in capital:	RMB20 billion
Company type:	state-owned

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Scope of business: investment, operation and management in industry; development, investment, construction, operation and management of power sources; production and sale of power and heat; development, investment, construction, production and sale of products in relation to information, transportation, new energy and environmental protection industries.

2. History and development

China Huaneng Group founded in 1985, is a key state-owned enterprise with the approval of the State Council. It is a state-authorized investment institution and a pilot of state holding company, with a registered capital of RMB20 billion. In accordance with the State Council's requirements of national electricity system reform, China Huaneng Group is an independent and self-financing corporate entity seeking integrated development, with operating power industries as its main business. The Company is mainly engaged in the following business: development, investment, construction, operation and management of power sources; production and sale of power and heat; development, investment, construction, production and sale of products in relation to finance, energy transportation, new energy and environmental protection industries; investment, operation and management in industry.

China Huaneng Group is committed to building itself into a large enterprise group with international competitiveness. By the end of 2015, the company had total installed capacity of 160.63GW, with assets distributed all over China and overseas, and sectors of coal, finance, technology R&D, and transportation etc. that supporting the development of core business of electric power has established basic structure. The Company is the first entity listed in the world top 500 enterprises among the power generation enterprises of China and ranked No. 217 in 2016.

(2) Profiles of client B

1. Registration

Company name: Huaneng Power International, Inc.

Address: Huaneng Building, No.4 Fuxingmennei Street, Xicheng District, Beijing

Legal representative: Cao Peixi

Registered capital: RMB14,055,383,440

Paid-in capital: RMB14,055,383,440

Company type: limited liability company

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Scope of business: investment, construction, operation and management of power plants; development, investment, operation of export-oriented business and other related businesses; production and supplying of heat (limited to branches approved by local government only).

2. History and development

Huaneng Power International, Inc. was established on 30 June 1994 in Beijing with the approval of the former State Commission for Restructuring Economy's Ti Gai Sheng [1994] No. 74 Document on the Reply of Establishment of Huaneng Power International, Inc. and the former Ministry of Foreign Trade and Economic Cooperation's Wai Jing Mao San Han Zi [1994] No.338 Document on the Reply of Establishment of Huaneng Power International, Inc. It was jointly initiated by Huaneng International Power Development Corporation (&#33775;&#33021;&#22283;&#38555; &#21147;&#38283; &#20844;&#21496;), Hebei Construction and Investment Company, Fujian Investment and Development Group, Jiangsu Investment Company, Liaoning Energy Investment Company, Dalian Construction Investment Group, Nantong Construction Investment Group and Shantou Power Development Company.

Huaneng Power International, Inc. was listed on the New York Stock Exchange, Hong Kong Stock Exchange and Shanghai Stock Exchange in October 1994, January 1998 and November 2001, respectively.

Being one of China's largest listed power producers, Huaneng Power International, Inc. is mainly engaged in the development, construction and operation of power plants home and abroad by making use of modern technology and equipment and financial resources available domestically and internationally, with an aim to provide safe, high efficient and clean power as well as other energy services to clients. As of the end of 2015, its generation capacity under management has amounted to 70.5137 million kW, among which, 67.9043 million kW located domestically, including coal-fired generating units of 59.42 million kW, gas turbine generating units of 6.8824 million kW, IGCC power plants of 265,000 kW, wind power generating units of 909,000 kW, hydropower units of 417,900 kW and photovoltaic power plants of 10,000 kW. Meanwhile, it wholly owns the Tuas Power Ltd. in Singapore, which has a generation capacity of 2.6094 million kW, accounted for approximately one-fifth of the power generation market in Singapore. As of the end of 2015, it has managed 16 regional branches at provincial level and 68 power plants and power stations across 18 provinces (regions and cities) in the country. Besides, it has port throughput of 55.12 million tons per year and shipping capacity of 2.2624 million tons.

(3) Profiles of the entity evaluated

1. Registration

Enterprise name: Huaneng Shandong Power Generation Co., Ltd.

Address: No.14900, Jingshi Road, Lixia District, Jinan city, Shandong Province

Legal representative: Wang Wenzong

Registered capital: RMB4,241,460,000



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Company type: limited liability company (sole proprietorship of legal person not invested or controlled by natural person)

Date of establishment: 30 May 2008

Scope of business: Development, Investment, construction and management of power (thermal) projects (subject to national requirements and shall be operated with permits) and investment in coal, transportation and related industries. (subject to approval pursuant to laws and shall be operated with the approval of relevant department)

2. History

Huaneng Shandong Power Ltd., a wholly-owned subsidiary of China Huaneng Group, was incorporated in May 2008 on the basis of the restructuring of the original Shandong Branch of China Huaneng Group, Shandong Branch of Huaneng Power International, Inc. and Dezhou Power Plant, and officially started operation on 25 December 2008. It is mainly engaged in the development, investment, construction, operation and management of power, thermal power, port and related industries.

Huaneng Shandong Power Ltd. operates and manages 17 coal-fired power plants, 7 wind power plants, 3 photovoltaic power plants and 1 port company (Huaneng Qingdao Port Limited Company) of Huaneng in Shandong. It constructed and is operating the Qinghai Xining Thermal Power Ltd. by means of contracting, and directly owns 4 companies, namely, the Huaneng Shandong Power Fuel Ltd., Huaneng Shandong Power Generation Maintenance Technology Ltd., Huaneng Shandong Information Technology Ltd. and Huaneng Shandong Power and Thermal Power Marketing Ltd. It also established the Huaneng Shandong Ruyi (Pakistan) Energy Ltd. which is responsible for the development, investment and management of 2 coal-fired units of 660MW in Sahiwal. As of the end of May 2016, Huaneng Shandong Power Generation Co., Ltd has had 18 thousand employees in 14 cities in Shandong Province.



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3. Shareholding structure of the companies comprising the entity evaluated

\*Notes:

Note Y a n t a i H u a n g h a i T h e r m a l P o w e r C o . , L t d .  
1: (&#29017; &#40643;&#28023;&#29105; &#26377;&#38480;&#20844;&#21496;) is proposed to be liquidated and deregistered

Note Y a n t a i B o h a i T h e r m a l P o w e r C o . , L t d .  
2: (&#29017; &#28196;&#28023;&#29105; &#26377;&#38480;&#20844;&#21496;) is under the process of liquidation and deregistration

Note Huaneng Shandong Power Generation Co., Ltd. is under the process of acquiring 100% equity interest of  
3: L i a o c h e n g C h a n g r u n G u o d i a n T h e r m a l P o w e r C o . , L t d .  
(&#32842;&#22478;&#26124;&#28516;&#22283; &#29105;&#21147;&#26377;&#38480;&#20844;&#21496;),  
and which has not completed yet at present

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4. The financial data for recent years and as at the valuation base date

The financial statement data of the parent company of Huaneng Shandong Power Generation Co., Ltd. is as follows:

## Balance sheet

Unit: RMB0'000

Items	2013	2014	2015	2016/5/31
Current assets	676,995.44	601,858.75	318,377.84	173,053.54
Non-current assets	1,584,988.26	1,570,012.60	1,347,565.05	1,352,227.39
Total assets	2,261,983.70	2,171,871.34	1,665,942.89	1,525,280.94
Current liability	1,098,139.62	1,227,138.08	774,821.19	672,715.77
Non-current liability	387,801.31	193,521.31	171,121.31	171,121.31
Total liabilities	1,485,940.93	1,420,659.39	945,942.50	843,837.09
Total owner's equity	776,042.77	751,211.95	720,000.38	681,443.85
Total liabilities and owner's equity	2,261,983.70	2,171,871.34	1,665,942.89	1,525,280.94

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## Income Statement

Unit: RMB0'000

Items	2013	2014	2015	May 2016
Operating income	18,877.72	13,880.91	14,104.37	5,605.91
Including: prime operating revenue	18,877.72	13,880.91	14,104.37	5,605.91
Less: cost of operation	4,928.58	3,699.55	2,500.41	929.07
Less: tax and additional expense	557.99	446.73	1,249.16	337.21
Less: operating expense	—	—	—	—
Less: management expense	10,502.29	10,449.42	11,664.74	4,508.60
Less: financial expense	31,248.08	32,056.31	44,173.02	13,017.90
Less: asset impairment loss	—	—	—	27,275.01
Add: investment returns	4,102.05	8,016.48	49,801.73	1,895.10
Operating profit	-24,257.17	-24,754.63	4,318.77	-38,566.78
Add: non-operating income	1,266.81	3.34	44.00	15.24
Less: non-operating expenses	79.79	79.53	0.02	5.00
Total profit	-23,070.14	-24,830.82	4,362.75	-38,556.54
Less: income tax expenditure	—	—	—	—
Net profit	-23,070.14	-24,830.82	4,362.75	-38,556.54

The financial data for the years from 2012 to 2014 in the above statement has been audited by WUYIGE Certified Public Accountants LLP and issued annual audit report; the financial data from 2015 to 31 May 2016 has been audited by KPMG Huazhen (Special General Partnership) and issued the audit report of Bi Ma Wei Hua Zhen Shen Zi No. [1602280].

## (II) Other users of valuation report

The valuation report could be used by other users approved by the Stated-owned Assets Supervision and Administration Department and as stipulated by laws and regulations.

## II. VALUATION PURPOSE

China Huaneng Group intends to transfer the equities of Huaneng Shandong Power Generation Co., Ltd. to Huaneng Power International, Inc., thus require appraising the market value of the total equity of shareholders of Huaneng Shandong Power Generation Co., Ltd. at the valuation base date and present reference opinions to the value for this economic activity.



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## III. OBJECT AND SCOPE OF VALUATION

## (1) Valuation object

The valuation object is the total equity of shareholders of Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;).

## (2) Valuation scope

## 1. Specific content

Our valuation scope includes all assets and liabilities of Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;). Assets include current assets and non-current assets (specifically including long-term receivables, long-term equity investments, fixed assets, construction in progress and intangible assets), with a book value of RMB15,252,809,355.05; liabilities include current liabilities and non-current liabilities, with a book value of RMB8,438,370,868.63. As of 31 May 2016, being the valuation base date, the book value of each assets and liabilities are set out as follows:

Unit: RMB

Assets	Amount	Liabilities	Amount
Current assets:	1,730,535,430.44	Current liabilities:	6,727,157,728.42
Monetary capital	398,308,268.74	Short-term borrowing	5,910,000,000.00
Financial assets held for trading		–Financial liabilities held for trading	–
Notes receivables		–Notes payables	–
Accounts receivables	7,672,595.17	Accounts payables	3,367,487.28
Prepayment	255,207.88	Accounts received in advance	–
Interest receivables	6,192,178.05	Payroll payables	4,738,498.33
Dividends receivables		Taxes and duties payables	-2,259,675.19
Other receivables	1,299,957,180.60	Interest payables	48,646,435.00
Net value of inventory		–Dividend payables	–
Non-current assets due within one year	18,150,000.00	Other payables	738,664,983.00
Other current assets		Non-current liabilities due within one year	24,000,000.00
		Other current liabilities	–
Non-current assets:	13,522,273,924.61	Non-current liabilities:	1,711,213,140.21

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Assets	Amount	Liabilities	Amount
Financial assets available for sale		–Long-term borrowings	1,574,000,000.00
Held-to-maturity investment		–Bonds payables	–
Long-term receivables	340,000,000.00	Long-term payables	137,213,140.21
Long-term equity investment	12,403,158,500.87	Special payables	–
Real estate held for investment		–Estimated liabilities	–
Net value of fixed assets	598,093,543.94	Deferred income tax liabilities	–
Construction in progress	8,611,428.70	Other non-current liabilities	–
Engineer material			–
Disposal of fixed assets			–
Productive biological assets			–
Oil and gas assets			–
Intangible assets	62,817,135.11		
Development expenditure			–
Goodwill			–
long-term deferred expenses			–
Deferred income tax assets			–
Other non-current assets	109,593,315.99		
Total assets	15,252,809,355.05	Total liabilities	8,438,370,868.63

Above book value of assets and liabilities have been audited by KPMG Huazhen (Special General Partnership), and issued audit report of Bi Ma Wei Hua Zhen Shen Zi No. [1602280] with standard audit opinion.

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## 2. General information of main assets

The main assets of Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;) include assets of branches, long-term receivables, long-term equity investments, fixed assets, construction in progress, intangible assets, other non-current assets, etc. Details of each asset are as set out as follows:

## 1. Branches

Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;) has three wind power branches, namely Muping wind power branch of Huaneng Shandong Power Generation Co., Ltd. ( & # 3 3 7 7 5 ; & # 3 3 0 2 1 ; &#26377;&#38480;&#20844;&#21496;&#29279;&#24179;&#39080; &#20998;&#20844;&#21496;), Rushan wind power branch of Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;&#20083; &#39080; &#20998;&#20844;&#21496;), Wendeng wind power branch of Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;&#25991;&#30331;&#39080; &#20998;&#20844;&#21496;).

(1)Muping wind power branch of Huaneng Shandong Power Generation Co., Ltd. ( & # 3 3 7 7 5 ; & # 3 3 0 2 1 ; & # 2 6 3 7 7 ; & # 3 8 4 8 0 ; & # 2 0 8 4 4 ; &#21496;&#29279;&#24179;&#39080; &#20998;&#20844;&#21496;)

Muping wind power branch of Huaneng Shandong Power Generation Co., Ltd. ( & # 3 3 7 7 5 ; & # 3 3 0 2 1 ; & # 2 6 3 7 7 ; & # 3 8 4 8 0 ; & # 2 0 8 4 4 ; &#21496;&#29279;&#24179;&#39080; &#20998;&#20844;&#21496;) was established on 11 May 2009, Phase I wind power project of which has installed a total of 28 sets of 1500KW wind power generators with a total installed capacity of 42MW. The project started construction on 11 May 2010, and put into full operation on 20 June 2011. The main assets include wind power generators, a parcel of allocated land (with land use right area of 9,220 square meters), production buildings and living buildings constructed on the ground and other ancillary facilities.

(2)Rushan wind power branch of Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;&#20083; &#39080; &#20998;&#20844;&#21496;)

On 28 February 2009, since Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;) acquired Shandong Luneng Development Group Co., Ltd. ( &#33021; &#23637;&#38598;&#22296;&#26377;&#38480;&#20844;&#21496;), Rushan wind power branch of Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;&#20083; &#39080; &#20998;&#20844;&#21496;) was established on 29 April of the same year after the approval of Rushan Municipal Industry and Commerce Administration Bureau to carry on the original business of Rushan wind power branch of Shandong Luneng Development Group Co., Ltd. ( &#33021; &#23637;&#38598;&#22296;&#26377;&#38480;&#20844;&#21496;&#20083; &#39080; &#20998;&#20844;&#21496;).

The company was responsible for the operation of Jiangge Phase I Works of Rushan wind power branch, which located at the ridge of Jiangge and Xiandao in Haiyangsuo Town of Rushan city. The project installed 28 sets of



1500KW wind power generators with a total installed capacity of 42MW, with a total investment amount of approximately RMB494.8688 million. The project started construction on 27 June 2009, and put into full operation on 31 October 2010.

On 30 May 2012, Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;) established a wholly-owned subsidiary, Huaneng Rushan Wind Power Co., Ltd. (&#33775;&#33021;&#20083; &#39080;&#21147; &#26377;&#38480;&#20844;&#21496;) after the approval of Rushan Municipal Industry and Commerce Administration Bureau.

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## APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

On 16 August of the same year, according to the Reply on the Free Transfer of the State-owned Assets of Rushan Wind Power Branch of Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021;&#26377;&#38480;&#20844;&#21496;&#20083; &#39080; &#20998;&#20844;&#21496;) (Hua Neng Zi [2012] No.503) and Agreement on the Free Transfer of State-owned Assets previously entered into, Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;) proposed to transfer all assets and corresponding liabilities of Rushan wind power branch of Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021; &#26377;&#38480;&#20844;&#21496;&#20083; &#39080; &#20998;&#20844;&#21496;) to H u a n e n g R u s h a n W i n d P o w e r C o . , L t d . (&#33775;&#33021;&#20083; &#39080;&#21147; &#26377;&#38480;&#20844;&#21496;) without consideration. Taking 31 December 2011 as the valuation base date, and according to the Audit Report of KPMG- A(2012)OR No.0463 issued by KPMG Huazhen on 10 July 2012, the confirmed assets, liabilities and owner's equity amounted to RMB385,971,929.47, RMB385,971,929.47 and nil, respectively. The implementation of the free transfer was delayed.

On 31 July 2014, pursuant to the Supplemental Agreement to the Transfer Agreement of State-owned Asset Without Consideration of Rushan Wind Power, the term of such transfer without consideration was changed into: 31 July 2014 shall be the audit base date and the transfer of asset of RMB329,703,703.48, liabilities of RMB254,293,703.48 and equity of owners of RMB75,410,000.00 of Rushan Branch shall be based on the Audit Report for Rushan Branch of Huaneng Shandong Power Ltd. (Da Xin Jing Zhuan Shen Zi [2014] No.00050) issued by WUYIGE Certified Public Accountants on 30 August 2014. Meanwhile, the transfer base date and asset transfer date were changed to 31 July 2014, and the equity of owners of RMB75,410,000.00 of Rushan branch of Huaneng Shandong Power Generation Co., Ltd. will be taken as an investment in Huaneng Rushan Wind Power Ltd.

As of the valuation base date, Rushan branch of Huaneng Shandong Power Generation Co., Ltd. has no asset and no practical business activity and has not been deregistered from the industry and business administration department.

## (3) Wendeng wind power branch of Huaneng Shandong Power Generation Co., Ltd.

Wendeng wind power branch of Huaneng Shandong Power Generation Co., Ltd. incorporated on 14 May 2009, Wendeng wind power branch of Huaneng Shandong Power Generation Co., Ltd. is under Huaneng Shandong Power Generation Co., Ltd. As of the valuation base date, it has not set up bookkeeping system and has no assets and no practical business activity. The preparation fee generated in the past for the constitution of Wendeng wind power project by it was credited to other receivables of Huaneng Rushan wind power Co., Ltd. The project is suspended at present.

Assets of the above branch have been included in the valuation scope of its parent company.

## 2. Long-term receivables

Long-term receivables refer to the entrusted loan receivables from Huaneng Shandong Ruyi Coal and Power Co., Ltd. by Huaneng Shandong Power Generation Co., Ltd., and the details are set out in the following table:

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SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

Unit: RMB

No.	Name of debtor (settlement target)	Content	Date	Carrying amount
1	Huaneng Shandong Ruyi Coal and Power Co., Ltd. (#33775;#33021; #22914;#24847; #26377;#38480;#20844;#21496)	Entrusted loan	March 2016	340,000,000.00

## 3. Long-term equity investment

Huaneng Shandong Power Generation Co., Ltd. (#33775;#33021; #26377;#38480;#20844;#21496;) has long-term equity investments in 31 entities, among which, 14 are wholly-owned subsidiaries, 16 are holding subsidiaries and the remaining one is an associate. Details are set out as follows:

Unit: RMB

No.	Name of the invested enterprise	Date invested
1	Huaneng Laiwu Power Generation Co., Ltd. (#33775;#33021;#33802;#34154; #26377;#38480;#20844;#21496;)	November 2009
2	Huaneng Jinan Huangtai Power Generation Co., Ltd. (#33775;#33021;#28639;#21335;#40643; #26377;#38480;#20844;#21496;)	March 2009
3	Huaneng Linyi Power Generation Co., Ltd. (#33775;#33021;#33256;#27778; #26377;#38480;#20844;#21496;)	March 2009
4	Huaneng Shandong Ruyi Coal and Power Co., Ltd. (#33775;#33021; #22914;#24847; #26377;#38480;#20844;#21496;)	December 2006
5	Huaneng Jining Yunhe Power Generation Co., Ltd. (#33775;#33021;#28639;#23527;#36939;#27827; #26377;#38480;#20844;#21496;)	March 2009
6	Huaneng Zibo Baiyanghe Power Generation Co., Ltd. (#33775;#33021;#28100;#21338;#30333;#26954;#27827; #26377;#38480;#20844;#21496;)	April 2009
7	Shandong Rizhao Power Generation Co., Ltd. ( #26085;#29031; #26377;#38480;#20844;#21496;)	October 2005
8	Huaneng Liaocheng Thermal Power Co., Ltd. (#33775;#33021;#32842;#22478;#29105; #26377;#38480;#20844;#21496;)	March 2009
9	Huaneng Yantai Power Generation Co., Ltd. (#33775;#33021;#29017; #26377;#38480;#20844;#21496;)	February 2010
10	Huaneng Taishan Electric Power Co., Ltd. (#33775;#33021;#27888; #21147;#26377;#38480;#20844;#21496;)	March 2009
11	Huaneng Yantai Bajiao Thermal Power Co., Ltd. (#33775;#33021;#29017; #20843;#35282;#29105; #26377;#38480;#20844;#21496;)	March 2009

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REPORT OF SHANDONG POWER

No.	Name of the invested enterprise	Date invested
13	Huaneng Taian Zhongtai Power Generation Co., Ltd. (#33775;#33021;#27888;#23433;#30526;#27888; #26377;#38480;#20844;#21496;)	December 2008
14	Linyi Blue Sky Thermal Power Co., Ltd. (#33256;#27778;#34253;#22825;#29105;#21147;#26377;#38480;#20844;#21496;)	March 2009
15	Huaneng Penglai Wind Power Co., Ltd. (#33775;#33021;#34028;#33802;#39080;#21147; #26377;#38480;#20844;#21496;)	July 2009
16	Huaneng Shandong Electric Power Fuel Co., Ltd. (#33775;#33021; #21147; #26009;#26377;#38480;#20844;#21496;)	June 2009
17	Huaneng Dongying New Energy Co., Ltd. (#33775;#33021; #29151;#26032;#33021;#28304;#26377;#38480;#20844;#21496;)	March 2009
18	Huaneng Rushan Wind Power Co., Ltd. (#33775;#33021;#20083; #39080;#21147; #26377;#38480;#20844;#21496;)	May 2009
19	Huaneng Shandong Power Maintenance Technology Co., Ltd. (#33775;#33021; #27298;#20462;#31185;#25216;#26377;#38480;#20844;#21496;)	March 2013
20	Huaneng Shandong Sishui New Energy Co., Ltd. (#33775;#33021; #27863;#27700;#26032;#33021;#28304;#26377;#38480;#20844;#21496;)	April 2009
21	Huaneng Rongcheng New Energy Co., Ltd. (#33775;#33021;#27054;#25104;#26032;#33021;#28304;#26377;#38480;#20844;#21496;)	March 2009
22	Huaneng Laiwu New Energy Co., Ltd. (#33775;#33021;#33802;#34154;#26032;#33021;#28304;#26377;#38480;#20844;#21496;)	January 2016
23	Huaneng Zibo Boshan Photovoltaic Power Generation Co., Ltd. (#33775;#33021;#28100;#21338;#21338; #20809;#20239;#26377;#38480;#20844;#21496;)	April 2009
24	Shandong Changdao Wind Power Co., Ltd. ( #38263;#23798;#39080;#21147; #26377;#38480;#36012;#20219;#20844;#21496;)	March 2009
25	Huaneng Shandong Information Technology Co., Ltd. (#33775;#33021; #36039;#35338;#25216;#34899;#26377;#38480;#20844;#21496;)	February 2014
26	Huaneng Dezhou Thermal Power Co., Ltd. (#33775;#33021;#24503;#24030;#29105;#21147;#26377;#38480;#20844;#21496;)	November 2015
27	Huaneng Zhanhua New Energy Co., Ltd. (#33775;#33021;#27838;#21270;#26032;#33021;#28304;#26377;#38480;#20844;#21496;)	June 2009
28	Yantai Huanghai Thermal Power Co., Ltd. (#29017; #40643;#28023;#29105; #26377;#38480;#20844;#21496;)	March 2009
29	Yantai Bohai Thermal Power Co., Ltd. (#29017; #28196;#28023;#29105; #26377;#38480;#20844;#21496;)	March 2009

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SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

No.	Name of the invested enterprise	Date invested
30	Huaneng Rizhao Thermal Power Co., Ltd. (#33775;#33021;#26085;#29031;#29105;#21147;#26377;#38480;#20844;#21496;)	February 2016
31	Huaneng Shandong Electric and Thermal Power Marketing Co., Ltd. (#33775;#33021; #21147;#29105;#21147;#29151;#37559;#26377;#38480;#20844;#21496;)	June 2011
Total long-term equity investment		
Less: impairment provision		
Net value of long-term equity investment		

## 4. Fixed asset (properties)

The company has 10 buildings, mainly including the head office building and Silver Garden (commercial residential buildings) located at Shijing Road of Jinan city, Huaneng Building (office building with 22 floors), commercial residential buildings (office) located at South Binhe Road of Beijing city and the office building, production building and ancillary facilities located at Muping wind power branch (#29279;#24179;#39080; #20998;#20844;#21496;), which are mainly steel-concrete and frame structure constructed in 2006 to 2012, with total floor area of 26,263.99 square meters.

Among which, the Huaneng Building (office building with 22 floors) is located at Quancheng Road of Jinan city. The building is remaining fixed asset from the historical reorganization and was only credited as asset in the account of the entity evaluated but not controlled by it, only observed external condition of the asset without entered into the house.

Among all the above, only the commercial residential buildings located in Jinan and Beijing had obtained Building Ownership Certificate. The owner of Silver Garden (commercial residential buildings) located in Jinan is Shandong Branch of China Huaneng Group (#20013;#22283;#33775;#33021;#38598;#22296;#20844;#21496; #20998;#20844;#21496;) and the ownership has not been transferred to Huaneng Shandong Power Generation Co., Ltd. (#33775;#33021; #26377;#38480; #20844;#21496;). All other buildings have not obtained building ownership certificate, and Huaneng Shandong Power Generation Co., Ltd. (#33775;#33021; #26377;#38480;#20844;#21496;) has issued a statement to clear to property ownership and stated that there is no property right dispute. According to the on-site inspection carried out, all buildings are in good condition.

## 5. Equipment

Machinery and equipment of the company are mainly wind power plant equipment of Phase I work of Muping wind power branch (#29279;#24179;#39080; #20998;#20844;#21496;), including 28 sets of 1500KW wind power generators with a total installed capacity of 42MW. The project started on 11 May 2010 and put into full operation on 20 June 2011.





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The transportation vehicles are 23 cars which are in normal conditions of annual inspection and can run normally on public roads and are in good service conditions;

The electronic equipment are mainly including servers, data center, firewall, copy machines, computers and other office equipment and some office furniture, which are equipped in the offices of the entity evaluated. All are in good service conditions at present except some computers purchased before 2011, which are out of service.

6. Projects in progress

The equipment installation projects of Huaneng Shandong Power Generation Co., Ltd. mainly include information construction and development project of SAP systems, project of changing the lifting equipment in 10 towers of Muping Wind Power, and the development and construction of projects are progressing as expected.

7. Land use rights

The land use right is attached to the land of Muping Wind Power Branch with a total area of 15,146 square meters allocated by transfer for public facilities use. 9,220.00 square meters of the land has obtained the State-owned Land Use Right Certificate (“LURCS”) (Yan Guo Yong (2015) No.43567), while the remaining area has not been granted.

8. Other intangible assets

Other intangible assets include software systems which are custom-made, commissioned to be developed or purchased by the company, a number of platform systems involving financing, documentation, information integration, human resources and safety and the use right of a car park in Yongda Qinghua Garden in Jinan (&#28639;&#21335;&#24066;&#27704;&#22823;&#28165;&#33775;&#22290;&#31038;&#21312;). No other intangible asset is reported by the company apart from those mentioned above.

9. Other non-current assets

Other non-current asset mainly comprises of the 30% interest held by the business under valuation in the 8# generation unit of Huaneng Jinan Huangtai Power Generation Co., Ltd. The 8# generation unit is located at the plant of Huaneng Jinan Huangtai Power Generation Co., Ltd., which is a subsidiary controlled by the entity evaluated, and is a separate accounting and non-corporate entity whose main asset included a generation unit of 330,000 kW and auxiliaries. The interest of the unit is detailed as follows:

In the early 1990s, Shandong Provincial Government conferred with the old Energy Department to construct the #8 generation unit in Huangtai Power Plant with funding from the central government and local stakeholders. It is said that the #8 generation unit in the sixth stage project of Huangtai Power Plant started construction in November 1988 and commenced operation in December 1990. The unit is a separate accounting entity with total investment of 473.97 million, among which, loan for fiscal allocations (&#25765;&#25913;&#36024; &#36024;&#27454;), loan from Shandong International Trust and investment from Shandong Power Generation Ltd. amounted to RMB80,000, RMB328.36 million and RMB145.53 million respectively, representing 0.02%, 70.08% and



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29.90% of the capital. The loan for fiscal allocations of RMB80,000 has been converted to capital fund in 1997. The shareholding of Shandong International Trust and Shandong Power Generation Ltd. changed to 70% and 30% respectively after the conversion. Subsequently in June 2000, Shandong Power Generation Ltd. entered into an Ownership Transfer Agreement with Luneng Development ( &#33021; &#23637;), pursuant to which the 30% interest was transferred to Luneng Development Group ( &#33021; &#23637;&#38598;&#22296;), to implement the “Separation of Power Grid and Power Plant” strategy. At the end of 2008, Luneng Group entered into an Equity Transfer Agreement with Huaneng Group, pursuant to which the 30% interest in the #8 unit was transferred to Huaneng Shandong Power Generation Co., Ltd. Currently, Huangtai Power Plant is authorised to manage the daily operation of the plant.

According to the Reply on Issues Related to the Agreed Transfer of State-owned Interest and Relevant Assets in 11 Companies Including the Yantai Huanghai Thermal Power Ltd. (Guo Zi Chan Quan [2009] No.70) published by SASAC in February 2009 and the Ownership Transfer Agreement entered into between Huaneng Shandong Power Generation Co., Ltd. and Shandong Luneng Development Group Co., Ltd. ( &#33021; &#23637;&#38598;&#22296;&#26377;&#38480;&#20844;&#21496;), Huaneng Shandong Power Generation Co., Ltd. is interested in 30% equity of the 8# generation unit in Huaneng Jinan Huangtai Power Generation Co., Ltd..

(3) Information about the intangible assets not recorded in the reporting accountant of enterprise

Nil.

(4) Type and amount of off-balance sheet assets declared by enterprise

Nil.

(5) Information about the assets involved in conclusions quoted from the reports issued by other institutions 251 parcels of land use rights in aggregate covering a total area of 8,263,656.80 square meters are included in the valuation scope of this valuation for Huaneng Shandong Power Generation Co., Ltd. and its long-term investment. Beijing Zhongdi Huaxia Land and Real Estate Evaluation Co., Ltd. was engaged to value land use rights of 231 parcels of lands covering land use right area of 7,621,008.03 square meters on the same base date for the same valuation purpose and a Summary Report on the Land Valuation ((Beijing) Zhong Di Hua Xia [2016] Ping (Gu) Zi No. 70) has been issued.

The land valuation institution was unable to issue land valuation report for the remaining 20 parcels of land using rights covering an area of 642,648.77 square meters as they were not granted the State-owned Land Use Right Certificate due to reasons such as usage limitation, no land grant contract or the land acquisition is still in progress. Details of each land in terms of quantity, area and valuation methods are set out in the following table:

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Name of enterprise	Issued land valuation report	
	Parcels	Area
Huaneng Shandong Electric Power Generation Co., Ltd. (&#33775;&#33021;&#26377;&#38480;&#20844;&#21496;)	1	9,220.00
Huaneng Laiwu Power Generation Co., Ltd. (&#33775;&#33021;&#33802;&#34154; &#26377;&#38480;&#20844;&#21496;)	3	282,430.00
Huaneng Jinan Huangtai Power Generation Co., Ltd. (&#33775;&#33021;&#28639;&#21335;&#40643; &#26377;&#38480;&#20844;&#21496;)	9	840,269.40
Huaneng Linyi Power Generation Co., Ltd. (&#33775;&#33021;&#33256;&#27778; &#26377;&#38480;&#20844;&#21496;)	37	1,121,386.84
Huaneng Jiaxiang Power Generation Co., Ltd. (&#33775;&#33021;&#22025;&#31077; &#26377;&#38480;&#20844;&#21496;)	9	630,722.20
Huaneng Qufu Thermal Power Co., Ltd. (&#33775;&#33021;&#26354;&#38428;&#29105; &#26377;&#38480;&#20844;&#21496;)	1	305,815.00
Huaneng Jining High-tech Zone Thermal Power Co., Ltd. (&#33775;&#33021;&#28639;&#23527;&#39640; &#26032;&#21312;&#29105; &#26377;&#38480;&#20844;&#21496;)	1	127,378.00
Huaneng Jining Yunhe Power Generation Co., Ltd. (&#33775;&#33021;&#28639;&#23527;&#36939;&#27827; &#26377;&#38480;&#20844;&#21496;)	11	684,785.89
	26	513,085.93

Huaneng Zibo Baiyanghe Power Generation Co., Ltd.

(#33775;#33021;#28100;#21338;#30333;#26954;  
#27827; #26377;#38480;#20844;#21496;)

Shandong Rizhao Power Generation Co., Ltd.

( #26085;#29031; #26377;#38480;#20844;#21496;)

6 519,375.00

Huaneng Liaocheng Thermal Power Co., Ltd.

(#33775;#33021;#32842;#22478;#29105; #26377;#38480;#20844;#21496;)

7 551,025.00

Huaneng Liaocheng Luxi Fuel Co., Ltd.

(#33775;#33021;#32842;#22478; #35199; #26009;#26377;#38480;#20844;#21496;)

5 240,967.40

Huaneng Yantai Power Generation Co., Ltd.

(#33775;#33021;#29017; #26377;#38480;#20844;#21496;)

7 485,997.00

Shandong Liaocheng Thermoelectric Property Co., Ltd.

( #32842;#22478;#29105; #29289;#26989;  
#26377;#38480;#36012;#20219;#20844;#21496;)

1 176,357.00

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SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

Name of enterprise	Issued land valuation report	
	Parcels	Area
Huaneng Yantai Bajiao Thermal Power Co., Ltd. (#33775;#33021;#29017; #20843;#35282;#29105; #26377;#38480;#20844;#21496;)	3	917,350.60
Huaneng Taian Zhongtai Power Generation Co., Ltd. (#33775;#33021;#27888;#23433;#30526;#27888; #26377;#38480;#20844;#21496;)	5	86,788.00
Huaneng Penglai Wind Power Co., Ltd. (#33775;#33021;#34028;#33802;#39080;#21147; #26377;#38480;#20844;#21496;)		
Huaneng Dongying New Energy Co., Ltd. (#33775;#33021; #29151;#26032;#33021;#28304;#26377;#38480;#20844;#21496;)	33	39,869.60
Huaneng Rushan Wind Power Co., Ltd. (#33775;#33021;#20083; #39080;#21147; #26377;#38480;#20844;#21496;)	29	16,141.00
Shandong Changdao Wind Power Co., Ltd. ( #38263;#23798;#39080;#21147; #26377;#38480;#36012;#20219;#20844; #21496;)	36	20,717.00
Huaneng Shandong Information Technology Co., Ltd. (#33775;#33021; #36039;#35338; #25216;#34899;#26377;#38480;#20844;#21496;)	1	51,327.00
Total	231	7,621,008.00

The data of above table has not included the corresponding land use right of commercial residential building, which is combined into the valuation of the corresponding commercial residential building.

The client and the entity evaluated have confirmed in the Statement of Related Matters about Assets Valuation of Enterprise that the object and scope of valuation entrusted complies with the object and scope of valuation involved in the economic activity.

## IV. TYPE OF VALUE AND ITS DEFINITION

According to the valuation purpose and characteristics of the assets evaluated, the type of the value for the valuation conclusion belongs to market value.

Market value means the estimated amount of valuation object on the valuation base date in an arm's length transaction between a voluntary buyer and a voluntary seller, and each acting rationally free from duress.

## V. VALUATION BASE DATE

The valuation base date is 31 May 2016.

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The valuation base date is determined by the client, which is in line with the valuation base date as agreed in the letter of engagement. The prices applied in valuation are all standard as at valuation base date.

VI. VALUATION BASIS

(A) Basis of the economic activity

1. The resolution minutes of the general manager meeting of China Huaneng Group (Edition 34, 2016);

(B) Legal basis

1. Enterprise State-owned Assets Law of the People's Republic of China (Adopted at the fifth meeting of the Standing Committee of the Eleventh National People's Congress on 28 October 2008);
2. Company Law of the People's Republic of China (revised at the sixth meeting of the Standing Committee of the Twelfth National People's Congress on 28 December 2013);
3. The property law of the People's Republic of China (adopted at the fifth meeting of the Tenth National People's Congress on 16 March 2007);
4. Land Administration Law of the People's Republic of China (revised at the eleventh meeting of the Standing Committee of the Tenth National People's Congress on 28 August 2004);
5. Law of the People's Republic of China on the Administration of Urban Real Estate (revised at the twenty-ninth meeting of the Standing Committee of the Tenth National People's Congress of People's Republic of China on 30 August 2007);
6. Administrative Measures for Valuation of State-owned Assets issued by the Order 91 of the State Council;
7. Detailed Rules for Implementation of the Administrative Measures for Valuation of State-owned Assets (Guo Zi Ban Fa [1992] No. 36) issued by former State-owned Assets Administration Bureau;
8. Detailed Rules for Implementation of the Administrative Measures for Valuation of State-owned Assets issued by Order 12 of State-owned Assets Supervision and Administration Commission of the State Council;
9. Regulations of Some Issues of Valuation of State-owned Assets issued by Order 14 of the Ministry of Finance;



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10. Interim Measures for the Administration of the Transfer of State-owned Property Rights of Enterprises issued by Order No.3 of State-owned Assets Supervision and Administration Commission and the Ministry of Finance;
11. Circular on Strengthening the Administration of the Appraisal of State-owned Assets of Enterprises issued by the State-owned Assets Supervision and Administration Commission (Guo Zi Wei Chan Quan [2006] No. 274);
12. Notice on the Relevant Matters Concerning the Transfer of State-owned Property Rights of Enterprises issued by SASAC (Guo Zi Chuan Quan Fa (2006) No. 306).
13. Notice on the Relevant Matters Concerning the Valuation and Verification of State-owned Assets of Enterprises (Guo Zi Chan Quan [2009] No. 941);
14. Circular on Issuing the Guidelines for the Review and Approval of Valuation Projects of Central Enterprises (Guo Zi Fa Chan Quan [2010] No. 71);
15. Guidelines for the Filing of State Owned Assets Valuation Project of Enterprises (Guo Zi Fa Chan Quan [2013] No. 64);
16. Other laws, regulations and documents related to the valuation.

(B)

Principle basis

1. Asset Valuation Standards – Basic Principles (Cai Qi [2004] No. 20);
2. Standards of Professional Ethics for Asset Valuation – Basic Principles (Cai Qi [2004] No. 20);
3. Standards of Professional Ethics for Asset Valuation – Independence (Zhong Ping Xie [2012] No. 248);
4. Guiding Opinions on Attention of Certified Public Valuers on Legal Ownership of Valuation Object (Hui Xie [2003] No. 18);
5. The Guiding Opinions on Types of Value in Asset Valuation (Zhong Ping Xie [2007] No. 189);
6. Asset Valuation Standards – Enterprise Value (Zhong Ping Xie [2011] No. 227);
7. Asset Valuation Standards – Valuation Report (Zhong Ping Xie [2011] No. 230);
8. Asset Valuation Standards – Valuation Procedure (Zhong Ping Xie [2007] No. 189);
9. Asset Valuation Standards – Letter of Engagement (Zhong Ping Xie [2011] No. 230);

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10. Asset Valuation Standards – Working Papers (Zhong Ping Xie [2007] No. 189);
11. Asset Valuation Standards – Machinery and Equipment (Zhong Ping Xie [2007] No. 189);
12. Asset Valuation Standards – Real Estate (Zhong Ping Xie [2007] No. 189);
13. Guidelines on Quality Control of Business Operations of Valuation Institutions (Zhong Ping Xie [2010] No. 214);
14. Asset Valuation Standards – Using Experts to Work (Zhong Ping Xie [2012] No. 244);
15. The Guidelines for the State-owned Asset Valuation Reports of Enterprises (Zhong Ping Xie [2008] No. 218);
16. Accounting Standard for Enterprises – Basic Standard (revised in 2014 by Ministry of Finance).

(C) The Property right basis

1. Building Ownership Certificate;
2. The State-owned Land Use Rights Certificate and Transfer Contract of Land Use Right;
3. Motor Vehicle Driving License;
4. Certificate of property title such as equipment purchase contract, invoice and other materials;
5. Other relevant certificate of property title;
6. Assets valuation declaration form provided by the entity evaluated;
7. Other relevant information provided by the entities.

(D) Pricing basis

1. Relevant market price information obtained by the valuer;
2. The loan interest rate and RMB exchange rate on the valuation base date announced by the People's Bank of China;
3. Commonly Used Data and Coefficient Handbook in Asset Valuation;
4. On-site survey and verification records by valuer;

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- 5.Procedures for Valuation of Urban Lands of the People's Republic of China national standard GB/T 18508&#8212;2014;
- 6.Standards of Valuation of Real Estates of the People's Republic of China national standard GB/T 50291&#8212;2015;
- 7.Circular of the MOF and the SAT regarding the Pilot Program on Comprehensive Implementation of Value Added Taxes from Business Taxes Reform (Cai Shui [2016] No. 36);
- 8.Notice on Making Preparation for the Pricing Basis Adjustment of Construction Works Charging Value-added Tax Instead of Business tax in Construction Industry (Jian Ban Biao [2016] No. 4);
9. The Price List of Construction Engineering with Definitive Consumption of Shandong Province (April 2016);
10. Construction Cost Information for Shandong Project (May 2016);
- 11.Notice on the Issuing of Provisions on the Administration of Charge for Engineering Survey and Design (Ji Jia Ge [2002] No.10) issued by National Development Planning Commission and Ministry of Construction;
- 12.Notice on Construction Project Supervision and the Related Service Charge Management Stipulation (Fa Gai Jia Ge [2007] No.670) Issued by the National Development and Reform Commission and the Ministry of Construction;
- 13.The 2013 Version of the Electric Power Construction Engineering Quota and Cost Calculation Rules Issued by National Energy Administration (Guo Neng Dian Li [2013] No. 289);
- 14.Thermal Power Project Construction Budgeting and Calculation Rules (2013), Budget Compilation and Calculation Standards in Electric Power Construction Projects (2013) (book 1-5);
15. Comprehensive Budget Price for Installation Material of Power Generation Project (2013 Edition);
- 16.Thermal Power Engineering Limited Design Reference Cost Indicators (level of 2015) by the Institute of Electric Power Planning and Design;
- 17.Master station file on cost and quota management in power construction projects, the Circular on Releasing the 2013 Version Pricing Level Adjustment for the Financial Estimates and Budget Quota of Power Construction Project (Ding E [2015] No. 44);

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18. Master station file on cost and quota management in power construction projects, the Circular on Releasing the Pricing of Electric Power Engineering is Basing on the Transitional Implementation Plan Made for Adapting the Transition from Business Tax to Value-added Tax (Ding E [2016] No. 9);
19. Onshore Wind Farm Project Budget Quota (2011) (NB/T31010-2011), Provisions and Standards for the Preparation of Budget of onshore wind farm project (2011) (NB/T31011- 2011);
20. The Notice on the Reduction of On-grid Tariffs for Coal-fired Power Generation and Electricity Prices for General Industrial and Commercial Use issued by National Development and Reform Commission (Fa Gai Jia Ge [2015] No. 3105);
21. Local government, financial regulation on electricity prices, subsidies and other related documents;
22. Notice on Perfection of Policies Regarding the Grid Tariffs of Wind Power Generation issued by National Development and Reform Commission (Fa Gai Jia Ge [2009] No. 1906);
23. Notice on the Issuing of Interim Measures for Administration of Subsidy Funds for Tariff Premium of Renewable Energy (Cai Jian [2012] No. 102);
24. Notice of National Development and Reform Commission, Ministry of Environmental Protection and National Energy Administration on Problems Regarding Implementation of Supporting Policies for Ultra-Low Emissions Electricity Price of Coal-fired Power Plants issued by the National Development and Reform Commission, the Ministry of Environmental Protection, National Energy Administration (Fa Gai Jia Ge [2015] No. 2835);
25. Notice on Improving Onshore Wind Benchmark Price of Photovoltaic Electricity Policy issued by the National Development and Reform Commission (Fa Gai Jia Ge [2015] No. 3044);
26. Feasibility study, design, budget, completion settlement and final settlement for each electric power project of target power plant.
27. Documents on the tariffs adjustment issued by Shandong Provincial Price Administration Bureau:
  - (1) Notice Regarding Lowering the On-grid Tariffs and Retail Tariffs (Lu Jia Ge Yi Fa [2015] No. 131) ( &#37559;&#21806; &#30340;&#36890;&#30693; &#26684; [2015]131&#34399;&#12299;);

Regarding the Implementation of Green Electricity Tariff for Coal-fired Generating Units with Environmental Protection Facilities A  
c e m b e r 2 0 1 5 ( L u J i a G e Y i H a n [ 2 0 1 6 ] N o  
015&#24180;12&#26376;&#29872;&#20445;&#35373;&#26045;&#36890;&#36942;&#39511;&#25910;  
231;&#32068;&#22519;&#34892;&#29872;&#20445; &#30340;&#36890;&#30693;&#65288; &#26684; &#20989;[2016]4&#

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- (3) Notice Regarding the Implementation of Improving the Tariff Policy of Onshore Wind and Photovoltaic Power Generation (the document of Fa Gai Jia Ge [2015] No. 3044) (Lu Jia Ge Yi Fa [2016] No. 7) ( &#36011;&#24505; &#25913; &#26684;[2015]3044&#34399;&#25991;&#20214;&#23436;&#21892;&#38520; &#39080; &#20809 &#20239; &#25919;&#31574;&#30340;&#36890;&#30693;&#65288; &#26684; [2016]7&#34399;&#65289;);
- (4) Notice Regarding the Implementation of Green Electricity Tariff for Coal-fired Generating Units with Environmental Protection Facilities Accepted in January 2016 (Lu Jia Ge Yi Han [2016] No. 8) ( 2016&#24180;1&#26376;&#29872;&#20445;&#35373;&#26045;&#36890;&#36942;&#39511;&#25910;&#30340; &#27231; &#22519;&#34892;&#29872;&#20445; &#30340;&#36890;&#30693;&#65288; &#26684; &#20989;[2016]8&#34399;&#65289;);
- (5) Letter Regarding the Implementation of Ultra-low Emission Tariff for Certain Coal-fired Generating Units (Lu Jia Ge Yi Han [2016] No. 43) ( &#37096;&#20998; &#27231;&#32068;&#22519;&#34892 &#36229; &#25490;&#25918; &#30340;&#20989;&#65288; &#26684; &#20989;[2016]43&#34399;&#65289;);
- low Emission Tariff for Coal-fired Generating Units Accepted by the Provincial Environmental Protection Authorities in the First 1 8 0 ; & # 2 3 3 9 5 ; & # 2 4 2 3 0 ; & # 3 6 8 9 0 ; & # 2 9 8 7 2 ; & # 3 9 5 1 1 ; & # 2 5 9 1 0 ; & # 3 0 3 4 0 ; & # 2 7 2 3 1 ; & # 3 2 0 6 8 ; & # 2 2 5 1 9 ; & # 3 4 8 9 2 ; & # 3 6 2 2 9 ; & # 2 5 4 9 0 ; & # 2 5 9 1 8 ; & # 3 0 3 4 0 ; & # 2 0 9 8 9 ;
- ricity Tariff for Coal-fired Generating Units with Environmental Protection Facilities Accepted in February 045;&#36890;&#36942;&#39511;&#25910;&#30340; &#27231;&#32068;&#22519;&#34892;&#29872;&#20445; &#30340;
- On-grid Tariffs for Renewable Energy Generation Projects Including Yinan Linuo Solar Energy Power ( &#21147;&#35582;&#22826;&#38525;&#33021; &#21147;&#24037;&#31243;&#26377;&#38480;&#20844;&#21496;) (L 2 1 3 3 5 ; & # 2 1 1 4 7 ; & # 3 5 5 8 2 ; & # 2 2 8 2 6 ; & # 3 8 5 2 5 ; & # 3 3 0 2 1 ; & # 2 1 1 4 7 ; & # 2 4 0 3 7 0 6 ; & # 3 1 5 6 1 ; & # 2 1 4 8 7 ; & # 2 0 8 7 7 ; & # 2 9 9 8 3 ; & # 3 3 0 2 1 ; & # 2 8 3 0 4 ; & # 3 8 9 1 7 ; & # 3 0 4 4 6 ; & # 3 0 3 4 0 ; & # 2 5 2 0 9 ; & # 2 4 4 8 9 ; & # 6 5 2 8 8 ;
- ling the On-grid Tariffs for Coal-fired Generating Units Including No. 7 Generating Unit of Huaneng La 5 ; & # 3 3 0 2 1 ; & # 3 3 8 0 2 ; & # 3 4 1 5 4 ; & # 2 4 2 8 8 ; ) ( Lu Jia Ge Yi Fa [ 2 0 1 6 ] No. 7 ) ( & # 3 3 0 2 1 ; & # 3 3 8 0 2 ; & # 3 4 1 5 4 ; & # 2 4 2 8 8 ; & # 1 9 9 7 1 ; & # 3 4 3 9 9 ; & # 2 7 2 3 1 ; & # 3 2 0 6 8 ; & # 3 1 5 6 1 ; & # 2 7 2 3 1 ; & # 3 2 0 6 8 ; & # 3 0 3 4 0 ; & # 2 0 9 8 9 ; & # 6 5 2 8 9 ; ) ;
28. Lease contracts and investment agreement provided by the enterprises;
  29. Equipment purchase contracts, engineering construction contract, settlement and other information about project cost provided by the enterprises;
  30. Annual earnings forecasts and related data provided by the enterprises;
  31. Other data about financial and accounting management provided by the enterprises;
  32. The loan interest rate and exchange rate on valuation base date;

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33. Recent treasury yields, financial index and risk index of similar listed company;

34. The Wind information;

35. Mechanical and Electronic Products Quotation Manual (2016) by the machinery press;

36. The Provisions on the Criteria for Compulsory Discard of Motor Vehicles (the ministry of commerce, national development and reform commission, ministry of public security, environmental protection, No.12 of 2012);

37. Evaluation Information Network of ZhongHe Assets Appraisal Co., Ltd.;

38. Inquiry information of key equipment;

39. Other financial and technology information in relation to valuation collected by the valuer.

(E) Other basis

1. Audit report issued by KPMG Huazhen (Special General Partnership) with standard audit opinion (Bi Ma Wei Hua Zhen Shen Zi No. [1602280]).

2. Summary Report on Land Valuation and it's sectional report issued by Beijing Zhongdi Huaxia Land and Real Estate Evaluation Co. Ltd ((Beijing) Zhong Di Hua Xia [2016] Ping (Gu) Zi No.70).

VII. VALUATION METHOD

(I) Selection of valuation method

According to the evaluation criteria and legislation in China and the international conventions, enterprise value evaluation has the following basic methods: market method, income method and asset-based method. One should choose one or more methods after analyzing their feasibility based on the information of the valuation object, its type of value and its data collection while evaluating.

The income method refers to determining the value of the company under evaluation by discounting its prospective earnings as per a certain discount rate or capitalization rate. Income method reflects the expectation principle – the value of an enterprise or its asset determines on its future profitability. Income method is mainly applicable for enterprises which can make relatively reasonable and reliable estimate of their prospective earning capacity in the future. Basically it requires the evaluated enterprise to have a relatively stable performance and capable of stable operation in the future, etc. According to the Assets Evaluation Standards – Enterprise Value (Article 23): Certified Public Valuer shall make appropriate consideration on the applicability of the income method according to the company's history of operation, the future earnings that can be predicted and the adequacy of the evaluation information obtained. As the evaluated company has been operating in good condition, and its future development and earnings can be predicted reasonably, we adopted the income method for the overall evaluation.

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The market method refers to the valuation methods which compares the valuation object with comparable listed companies or comparable transaction cases so as to determine the value of the valuation object. Comparison methods of listed companies refers to specific methods which obtains and analyzes the operating and financial information of comparable listed companies to calculate appropriate market value ratio, and based on comparison and analysis of assessed enterprises, to determine the value of the valuation object. Comparable enterprises in the comparison methods of listed companies should be listed companies traded normally in the open market, the evaluation conclusion should consider the impact of liquidity on the value of the valuation object. The market method uses real transaction cases as the reference to estimate the company's value. It has advantages such as direct evaluation process and market-based data, but it requires that the evaluated company is comparable with the reference companies. According to Article 33 of the Assets Evaluation Standards – Enterprise Value: Certified Public Valuer shall make appropriate consideration on the applicability of the market method according to the adequacy and reliability of the operation and financial data of the obtained comparable companies and the number of the comparable companies which information can be acquired. According to the characteristic, operation condition and status of the entity evaluated, it is hard to find companies which have comparable business model, and we will not adopt the market method for the valuation.

Asset-based method refers to evaluate all the single assets and liabilities on the company's balance sheet from the angle of rebuilding that means base its valuation of the total asset on the value equaling to the investment volume of rebuilding a company or an independent profitable entity that is equal to the valuation object on the valuation base date, which reflects the company's value from the company's building. As the entity evaluated classified as management company, its assets and liability is relatively clear, the entity evaluated could provide, and the valuer also could collect the necessary information for the asset-based method from outside, and it could carry out comprehensive verification and assessment progress. Therefore, we adopt asset-based method for the valuation.

## (II) The specific valuation method – Asset-based method

Asset-based method in the valuation of enterprises is based on the balance sheet of entities evaluated as at the valuation base date, using different valuation methods to determine the valuation of the assets and liabilities of each enterprise, thus to determine the valuation method of valuation object. The valuation process for all types of assets and liabilities is stated as follows:

## 1. Current assets

Current asset includes currency capital, account receivables, advance payment, interest receivables, other receivables and non-current assets due within one year.

- (1) Monetary current assets: including cash and bank deposit. Verify with means including cash verification, bank statements, bank confirmations, etc. The RMB currency assets will be evaluated according to the verified value, and the foreign currency assets will be valued according to the exchange rate on the valuation base date.

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(2) Receivable current asset: including accounts receivable, advance payment, interest receivables, other receivables and non-current assets due within one year. For current assets of receivables, the value should be determined mainly on basis of checking and verifying the balance of the carrying value of the subject with reference to every amount that could possibly be recovered.

2. Non-current assets

(1) Long-term receivables

The value of entrusted loan is determined mainly on basis of checking and verifying the balance of the carrying value of the subject with reference to each recoverable amount.

(2) Long-term equity investment

1) Wholly-owned, controlled or relative holding company

For controlled or actually controlled invested entities included in the scope of this assessment, the value of the long-term equity investment shall be determined with reference to Huaneng Shandong Power Generation Co., Ltd.'s entitlement calculated on proportion of its shareholdings (or actual contribution proportion), based on the all equity of the equity of shareholder value after the value of the invested entities being determined, through the valuation of invested entities' overall assets.



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## 2) Joint stock company

For long-term equity investment enterprises without control or equity, if the audited accounting statements as at the valuation base date could be obtained, the value shall be determined by the audited net assets multiplied by the percentage of shareholding of invested entities on the valuation base date.

Applicable methods of detailed assessment of the long-term equity investment, the selected assessment conclusion set out in the table below:

No.	Name of the invested enterprise	Date of investment	Proportion of investment
1	Huaneng Laiwu Power Generation Co., Ltd. (#33775;#33021;#33802;#34154; #26377;#38480;#20844;#21496;)	November 2009	80.00%
2	Huaneng Jinan Huangtai Power Generation Co., Ltd. (#33775;#33021;#28639;#21335;#40643; #26377;#38480;#20844;#21496;)	March 2009	90.00%
3	Huaneng Linyi Power Generation Co., Ltd. (#33775;#33021;#33256;#27778; #26377;#38480;#20844;#21496;)	March 2009	75.00%
4	Huaneng Shandong Ruyi Coal and Power Co., Ltd. (#33775;#33021; #22914;#24847;#26377;#38480;#20844;#21496;)	December 2006	50.00%
5	Huaneng Jining Yunhe Power Generation Co., Ltd. (#33775;#33021;#28639;#23527;#36939;#27827; #26377;#38480;#20844;#21496;)	March 2009	98.35%
6	Huaneng Zibo Baiyanghe Power Generation Co., Ltd. (#33775;#33021;#28100;#21338;#30333;#26954; #27827; #26377;#38480;#20844;#21496;)	April 2010	100.00%
7	Shandong Rizhao Power Generation Co., Ltd. ( #26085;#29031; #26377;#38480;#20844;#21496;)	October 2005	56.00%
8	Huaneng Liaocheng Thermal Power Co., Ltd. (#33775;#33021;#32842;#22478;#29105; #26377;#38480;#20844;#21496;)	March 2009	75.00%

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9	Huaneng Yantai Power Generation Co., Ltd. (#33775;#33021;#29017; #26377;#38480;#20844;#21496;)	February 2010	100.00%
10	Huaneng Taishan Electric Power Co., Ltd. (#33775;#33021;#27888; #21147;#26377;#38480;#20844;#21496;)	March 2009	56.53%
11	Huaneng Yantai Bajiao Thermal Power Co., Ltd. (#33775;#33021;#29017; #20843;#35282;#29105; #26377;#38480;#20844;#21496;)	March 2009	100.00%
12	Huaneng Shandong (HK) Investment Limited	May 2014	100.00%

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No.	Name of the invested enterprise	Date invested
13	Huaneng Taian Zhongtai Power Generation Co., Ltd. (#33775;#33021;#27888;#23433;#30526;#27888; #26377;#38480;#20844;#21496;)	December 2008
14	Linyi Blue Sky Thermal Power Co., Ltd. (#33256;#27778;#34253;#22825;#29105;#21147;#26377;#38480;#20844;#21496;)	March 2009
15	Huaneng Penglai Wind Power Co., Ltd. (#33775;#33021;#34028;#33802;#39080;#21147; #26377;#38480;#20844;#21496;)	July 2009
16	Huaneng Shandong Electric and Thermal Power Marketing Co., Ltd. (#33775;#33021; #21147;#29105;#21147;#29151;#37559;#26377;#38480;#20844;#21496;)	June 2009
17	Huaneng Dongying New Energy Co., Ltd. (#33775;#33021; #29151;#26032;#33021;#28304;#26377;#38480;#20844;#21496;)	March 2009
18	Huaneng Rushan Wind Power Co., Ltd. (#33775;#33021;#20083; #39080;#21147; #26377;#38480;#20844;#21496;)	May 2009
19	Huaneng Shandong Power Maintenance Technology Co., Ltd. (#33775;#33021; #27298;#20462;#31185;#25216;#26377;#38480;#20844;#21496;)	March 2013
20	Huaneng Shandong Sishui New Energy Co., Ltd. (#33775;#33021; #27863;#27700;#26032;#33021; #28304;#26377;#38480;#20844;#21496;)	April 2009
21	Huaneng Rongcheng New Energy Co., Ltd. (#33775;#33021;#27054;#25104;#26032;#33021;#28304;#26377;#38480;#20844;#21496;)	March 2009
22	Huaneng Laiwu New Energy Co., Ltd. (#33775;#33021;#33802;#34154;#26032;#33021;#28304;#26377;#38480;#20844;#21496;)	January 2016
23		April 2009

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Huaneng Zibo Boshan Photovoltaic Power Generation Co., Ltd. (33775;33021;28100;  
21338;21338; 20809;20239; 26377;38480;20844;21496;)

- |    |   |               |
|----|---|---------------|
| 24 | Shandong Changdao Wind Power Co., Ltd.<br>( 38263;23798;39080;21147; 26377;38480;36012; 20219;20844;21496;)           | March<br>2009 |
| 25 | Huaneng Shandong Information Technology Co., Ltd. (33775;33021; 20449;24687;<br>25216;34899;26377;38480;20844;21496;) | Febru<br>2014 |
| 26 | Huaneng Dezhou Thermal Power Co., Ltd.<br>(33775;33021;24503;24030;29105;21147;26377;38480;20844;21496;)              | Novem<br>2015 |
| 27 | Huaneng Zhanhua New Energy Co., Ltd.<br>(33775;33021;27838;21270;26032;33021;28304;26377;38480;20844;21496;)          | June 2        |

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No.	Name of the invested enterprise	Date invested
28	Yantai Huanghai Thermal Power Co., Ltd. (#29017; #40643;#28023;#29105; #26377;#38480;#20844;#21496;)	March 2009
29	Yantai Bohai Thermal Power Co., Ltd. (#29017; #28196;#28023;#29105; #26377;#38480;#20844;#21496;)	March 2009
30	Huaneng Rizhao Thermal Power Co., Ltd. (#33775;#33021;#26085;#29031;#29105;#21147;#26377;#38480;#20844;#21496;)	February 2016
31	Huaneng Shandong Electric and Thermal Power Marketing Co., Ltd. (#33775;#33021; #21147;#29105;#21147;#29151;#37559;#26377;#38480;#20844;#21496;)	June 2016

(3) Fixed assets

1) House buildings

The valuation method could be determined according to the purpose, way of acquisition and characteristics of the buildings. The valuation of commercial house (including residential, office) purchased conducted by using market comparison method, while valuation of houses for production and office use self-constructed by Muping Branch conducted by using replacement cost method, and for houses at level 22, Huaneng Building which were unable to verify, the value of which stated at carrying amounts.

Market comparison method

The market comparison method is to compare the evaluated building with the similar buildings that have been transacted around the valuation base date and make appropriate amendment on their known prices so as to estimate the objective and reasonable value of the building.

The evaluation value of the evaluated building = price of the reference building × correction coefficient of the transaction situation × correction coefficient of the transaction date × correction coefficient of region factors × correction coefficient of individual factors.

Replacement cost method

The evaluation result of buildings is calculated with the following formula:

Estimated value = replacement costs × comprehensive newness rate

A. Determining the replacement cost

Replacement costs = civil and erection costs + preliminary work and other costs + capital costs



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Among them:

Construction and installation engineering comprehensive cost refers to the construction cost paid by the construction unit directly to the contractor.

Construction and installation engineering comprehensive cost = building engineering cost + decoration engineering cost + installation project cost

The valuers will choose representative buildings from buildings with same applications and structures according to the category of buildings, and determine the construction and installation engineering comprehensive cost on the valuation base date based on the materials gathered that reflect the design, budget and final account, contract and the local construction project budget and building cost information.

Special buildings mainly refers to buildings built to meet the requirement of enterprise production process, equipment installation and product characteristics, such as main power house of thermal power projects, chimneys, cooling tower, coal conveying gallery etc. Their replacement cost should be calculated according to related industry quota respectively, and their pre-project cost should be calculated according to different type of projects.

Other buildings can be calculated with analogy approach as per the construction and installation cost of other representative buildings from buildings with same applications and structures, combining the common data and parameter used for evaluation of buildings and using comparison method to calculate the total cost of construction installation engineering through difference adjustment of such buildings.

Upfront fees and other expenses refer to expenses occurred during the project construction which should be paid to the government departments or the units other than the contractors. The amount will be determined respectively according to the billing items and standards set by the local supervision authorities and billing standards for professional services, and the characteristics of the assessed building project.

The cost of capital should be calculated respectively according to reasonable construction period and effective loan interest rates over the same period of the valuation base date, and assume that the construction fund is averagely invested.

For thermal power generation facilities, the cost of capital are calculated according to the 2013 Budgeting and Calculation Regulations of Thermal Power Projects:

Coefficient of the cost of capital = capital cost coefficient before the electricity generation of the first unit + capital cost coefficient after the electricity generation of the first unit.

Among them:

Capital cost coefficient before the electricity generation =  $\frac{1}{2} \times [(cumulative\ investment\ at\ the\ beginning\ of\ the\ year + investment\ of\ the\ year/2) \times annual\ interest\ rate]$

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Capital cost coefficient after the electricity generation of the first unit =  $\frac{\text{investment of the year}}{2} \times \text{annual interest rate}$

Cost of capital = (project cost + upfront fee and other expenses) x coefficient of cost of capital

B. Determining the comprehensive newness rate

The comprehensive newness rate is determined by the weighted average of the two calculate result of age limit approach and exploration approach. The calculation formula is as follows:

Comprehensive newness rate = age limit approach of newness rate x 40% + scoring approach x 60% Among them:  
Age limit approach of newness rate = remaining durable years of the building ÷ economic and durable years of the building x 100%

The remaining durable years of the buildings refers to the remaining durable years of the building till the valuation base date. Generally it uses the durable yeas of the building minus the years already spent and make appropriate amendment according to the actual maintenance condition of the building.

The newness rate of scoring approach is determined according to the scoring standard of the newness rate of buildings with different structures, combining the site survey result of the structure, decoration and equipment (facilities) of the buildings.

The newness rate of scoring approach = scoring of the structure newness x G + scoring of decoration newness x S + scoring of equipment (facilities) newness x B

Evaluation of G, S and B is determined respectively according to ratio of the structure, decoration and equipment (facilities) in the total cost of the building.

The scoring criteria of the newness of evaluated buildings are determined according to the national and local scoring criteria of the damage level and newness of the buildings, combining the requirement of design and usage of the buildings.

2) Equipment

According to the characteristics of the evaluated equipment, we mainly adopt the replacement cost method in the evaluation.

Assessed value = replacement cost x comprehensive newness rate

Determining the replacement cost

A. Machinery equipment and electronic equipment



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Replacement cost generally includes equipment purchase expense, freight and installation fee, upfront and other fees and cost of capital. The fees except for purchase expense (cost) are determined according to the relevant equipment characteristics and equipment prices obtained in the valuation and trading conditions.

Among them:

The equipment purchase expense is determined according to the recent transaction price and inquiry results from the suppliers of the related equipment, and other public price information gathered by the valuer. Equipment without direct price information will use information of alternative products. And when there is no alternative product, the value will be determined with the price index approach on the basis of implementing rationality verification of the original acquisition cost.

The freight cost mainly consists of fees of procurement, transportation, handling charge, the safekeeping, etc. and is determined according to the type, distance, and ways of transportation of the evaluated equipment.

The installation fee is determined according to the usage, features and installation of the evaluated equipment. For equipment with independent setting base, the basic expense should also be determined according to its usage, load, etc. (except for the ones under unified consideration in the construction of the workshop).

The cost of capital is that used in the normal construction period. The rate refers to the loan interest rates in the same period announced by the People's Bank of China and is calculated according to different project categories. The specific calculation process is described in the calculation method of the capital cost of buildings.

For equipment that does not need to install or with a short installation period, the cost of capital is not needed to be considered.

Office and electronic equipment are determined mainly by checking the relevant quotation material on the valuation base date.

B. Vehicles

It is determined according to the current market price of similar vehicles on the valuation base date, while the corresponding purchase surtax, license fees and charges, etc. would be taken into account.

For equipment that have been used for a long time and have been updated and its replacement cost is hard to be determined, such as vehicles and computer, the valuer can determine its appraised value through the transaction information of the same or similar equipment on the second hand market.

Determination of comprehensive newness rate

A. Mechanical and electronic equipment

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Normally lift limit method and surveying method newness rates are used for determining high value equipment which is used in critical process and abnormal conditions. The formula is as below:

Comprehensive newness rate = life limit newness rate × 40% + surveying newness rate × 60% In which:

Life limit newness rate = number of years available for use ÷ (number of years served + number of years available for use) × 100%

Number of years available for use means the remaining years of service for equipment from valuation base date. Normally, the economic service years minus number of years served, and factored accordingly based on the actual maintenance status.

Surveying newness rate will be determined based on process conditions, maintenance records, verification of actual status and surveying.

With respect to less valuable or non-critical production equipment, office equipment and electronic equipment, comprehensive newness rate will be determined based on life limit newness rate.

B. Vehicles

With respect to vehicles that have mandatory retirement life, the life limit method and mileage method will be used for calculation of newness rate, then the principle of “Lower” will be used to determine the theoretical newness rate; as for vehicles without mandatory retirement life, mileage method will be used for calculation of newness rate. And then the vehicle inspection results will be used to determine the factor used for correction of theoretical newness rate, the corrected theoretical newness rate will be adopted as comprehensive newness rate.

Comprehensive newness rate = theoretical newness rate x correction coefficient

In which:

Theoretical newness rate = Min (newness rate of age limit approach, newness rate of mileage approach)

Newness rate of age limit approach = years already used/(years already used + years remaining) x 100%

Newness rate of mileage approach = (set travel distance– travelled distance)/set travel distance x 100%

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(4) Projects under construction.

The evaluation will be conveyed according to the visual progress and construction period of the project under the following conditions:

- 1) construction projects that has been put into use, evaluation personnel valuation method to carry on the review of fixed assets, such as engineering arrears, deducted from the corresponding evaluation values in need;
- 2) the starting time of appraisal base date within half a year, the factors influencing construction price change smaller projects under construction, evaluation personnel based on the book value of the after check, eliminate unreasonable fee determine the evaluation value; Starts from the appraisal base date more than half a year, should be in accordance with the standards of evaluation base date effective and money are well fake design take the necessary cost of capital;
- 3) for projects under construction, if its starting time to the valuation base date exceed more than 1 year (or the construction price influencing factors experienced significant change), the value of which is reasonably valued basing on the book value after verification, and after considering the changes of construction price influence factors and capital use cost factors.
- 4) the valuation of the modification cost of fixed assets is consolidated into fixed assets, and which valued at nil in the project under progress.
- 5) the provision for impairment loss of projects under construction is valued at nil.

(5) Intangible assets

1) Land use rights

There are 251 parcels of land were included into the valuation scope of Huaneng Shandong Power Generation Co., Ltd. and its long term equity investment enterprise, with total land use right area of 8,263,656.80 square meters.

The client has engaged Beijing Zhongdi Huaxia Land Appraisal Company to perform evaluation on the values of 231 parcels of land (with land use right area of 7,621,008.03 square meters) based on the same valuation purposes and same valuation base date, and issued Summary Report on Land Valuation ((Beijing) Zhong Di Hua Xia [2016] Ping (Gu) Zi No.70).

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For the remaining parcels of land, due to factors such as land use restrictions or unable to obtain the State-owned Land Use Rights Certificates, the land valuation organization was unable to issue the land valuation report, and details of numbers of lands, areas and processing method of valuation set out in the table below:

Name of enterprise	Issue the land valuation report	
	Parcels	Area
Huaneng Shandong Power Generation Co., Ltd. (#33775;#33021; #26377;#38480;#20844;#21496;)	1	9,220.00
Huaneng Laiwu Power Generation Co., Ltd. (#33775;#33021;#33802;#34154; #26377;#38480;#20844;#21496;)	3	282,430.00
Huaneng Jinan Huangtai Power Generation Co., Ltd. (#33775;#33021;#28639;#21335;#40643; #26377;#38480;#20844;#21496;)	9	840,269.40
Huaneng Linyi Power Generation Co., Ltd. (#33775;#33021;#33256;#27778; #26377;#38480;#20844;#21496;)	37	1,121,386.84
Huaneng Jiaxiang Power Generation Co., Ltd. (#33775;#33021;#22025;#31077; #26377;#38480;#20844;#21496;)	9	630,722.20
Huaneng Qufu Thermal Power Co., Ltd. (#33775;#33021;#26354;#38428;#29105; #26377;#38480;#20844;#21496;)	1	305,815.00
Huaneng Jining High-tech Zone Thermal Power Co., Ltd. (#33775;#33021;#28639;#23527;#39640; #26032;#21312;#29105; #26377;#38480;#20844;#21496;)	1	127,378.00

Huaneng Jining Yunhe Power Generation Co., Ltd. (#33775;#33021;#28639;#23527;#36939;#27827; #26377;#38480;#20844;#21496;)	11	684,785.89
Huaneng Zibo Baiyanghe Power Generation Co., Ltd. (#33775;#33021;#28100;#21338;#30333;#26954; #27827; #26377;#38480;#20844;#21496;)	26	513,085.92
Shandong Rizhao Power Generation Co., Ltd. ( #26085;#29031; #26377;#38480;#20844;#21496;)	6	519,375.00
Huaneng Liaocheng Thermal Power Co., Ltd. (#33775;#33021;#32842;#22478;#29105; #26377;#38480;#20844;#21496;)	7	551,025.00
Huaneng Liaocheng Luxi Fuel Co., Ltd. (#33775;#33021;#32842;#22478; #35199; #26009;#26377;#38480;#20844;#21496;)	5	240,967.40
Huaneng Yantai Power Generation Co., Ltd. (#33775;#33021;#29017; #26377;#38480;#20844;#21496;)	7	485,997.00

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Name of enterprise	Issue the land valuation report	
	Parcels	Area
Shandong Liaocheng Thermolectric Property Co., Ltd. ( &#32842;&#22478;&#29105; &#29289;&#26989; &#26377;&#38480;&#36012;&#20219;&#20844;&#21496;)	1	176,357.00
Huaneng Yantai Bajiao Thermal Power Co., Ltd. (&#33775;&#33021;&#29017; &#20843;&#35282;&#29105; &#26377;&#38480;&#20844;&#21496;)	3	917,350.60
Huaneng Taian Zhongtai Power Generation Co., Ltd. (&#33775;&#33021;&#27888;&#23433;&#30526;&#27888; &#26377;&#38480;&#20844;&#21496;)	5	86,788.00
Huaneng Penglai Wind Power Co., Ltd. (&#33775;&#33021;&#34028;&#33802;&#39080;&#21147; &#26377;&#38480;&#20844;&#21496;)		
Huaneng Dongying New Energy Co., Ltd. (&#33775;&#33021; &#29151;&#26032;&#33021;&#28304;&#26377;&#38480;&#20844;&#21496;)	33	39,869.60
Huaneng Rushan Wind Power Co., Ltd. (&#33775;&#33021;&#20083; &#39080;&#21147; &#26377;&#38480;&#20844;&#21496;)	29	16,141.00
Shandong Changdao Wind Power Co., Ltd. ( &#38263;&#23798;&#39080;&#21147; &#26377;&#38480;&#36012;&#20219;&#20844; &#21496;)	36	20,717.00
Huaneng Shandong Information Technology Co., Ltd. (&#33775;&#33021; &#36039;&#35338; &#25216;&#34899;&#26377;&#38480;&#20844;&#21496;)	1	51,327.00
Total	231	7,621,008.00

Above table has not included the land use right of commercial residential building.

## 2) Other Intangible Assets

Other intangible assets are mainly software for office, production and operation. Software systems that enterprise orders or purchases, for which purchased for a long time, the value of part of intangible assets shall be determined by the prevailing market price by way of inquiry for software suppliers according to its use and upgrade; for which purchased for a short period, the value of which shall be determined by its cost obtained.

## 3. Liabilities

Liabilities include current liabilities and non-current liabilities. Current liabilities contain short-term borrowing, bills payable, accounts payable, payroll payable, taxes and dues payable, interest payable, other payables and non-current liabilities falling due within a year. Non-current liabilities contain long-term borrowing and long-term payables. By verifying the liabilities within the scope of valuation, the evaluation

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SUMMARY OF ASSET VALUATION  
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personnel judge whether each liability could be actually assumed by the entities evaluated on the base date and whether there is creditor, and the value shall be determined by the indebted amounts that actually need to pay on the base date after verifying.

VIII. IMPLEMENTATION AND STATUS OF VALUATION PROCEDURE

The valuer has carried out necessary valuation procedure on the valued project, and major procedures are as follows:

(I) Commission acceptance

Our company held talks with representatives of client and entities evaluated before we accept the commission and learned more about valuation purpose, target, scope and valuation base date. Then, we made the arrangements of documents list that valuation needs, valuation declaration form and income forecast list and at the same time, made an initial appraisal plan.

(II) Assets verification

According to the application information for assessment provided by the client, evaluation personnel shall conduct necessary investigation (except for the area outside the mainland of China), verification on all the assets declared, and listen to the introduction on the formation of major assets, current status and company's future development presented by relevant persons from client.

A comprehensive site investigation (except for non-mainland China area) shall be conducted so as to check all kinds of physical assets and understand the asset status and usage; verify the relevant property title documents, approval procedures; understand the assets status, investment agreement, book value structure, etc.; review the original record documents, loan contract of relevant assets, and collect information required for evaluation.

According to the application form for valuation and information required for valuation provided by the entities appraised, valuation personnel performed necessary on-site investigation, inventory verification for all assets and liabilities declared from 27 June 2016 to 31 July 2016. Listen to the introduction on the history and current status of the enterprise presented by relevant persons from entities appraised, and carried out account verification, account and statement verification, account and reality verification of assets and liabilities in the supplication form completed. Details are as follows:

1. Building verification

For the buildings and the subsidiary facilities declared by the enterprise, the valuer should conduct necessary investigations based on the declaration list, do field visits, invest the object item by item, verify the floor area, check the house ownership certificate provided by the enterprise, inspect the building structure, construction quality, finish date, plane shape, indoor and outdoor fitments, installation and usage of supporting facilities (water, heating and electricity), and keep detailed records of the necessary measurement date and inspection results in the Building Status Appraisal Table.



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2. Equipment verification

For the equipment, electronic devices and transportation vehicles declared by the enterprise, conduct necessary investigations and verifications based on the declaration list. Invest the operating environment, working load, maintenance, natural wear, major/medium/minor repairs, and routine maintenance; make intensive contacts with the equipment management and operation personnel to have a detailed understanding about the equipment management and usage and to find out the implement of equipment management regulations; get a detailed understanding about the equipment status by asking, looking, and investigating. If the appraisers have found any problems during the appraisal, they should advise the entrusting party or the appraised company to revise and improve the declaration list accordingly, or to make supplementary explanations. At the same time, they should detail the necessary verification and check results in the Investigation Form of Equipment.

3. Land use right verification

Verify the legal documents, land grant contracts, and payment receipts related to the land occupancy right, get in touch with related personnel to find out the accessing of land occupancy right, invest the four boundaries, utilization status, and transactions of ambient markets of the parcel land entrusted to be appraised, and have necessary communications with valuers from land appraisal institution.

4. Inventories verification

For the inventories declared by the enterprise, check the purchase and sale contracts, purchase invoices, sales invoices and other original accounting data based on the declaration list, verify the inventory asset with spot-check. The spot-check quantity for inventories like raw materials and revolving materials should account for more than 40% of the total quantity, and the checked book value should account for more than 60% of the total value.

5. Verification of open credit, other assets and liabilities

For open credit, other assets and liabilities, the valuer shall collect the source data, certificates, and relevant accounting data about the open credit, other assets and liabilities based on the declaration list, conduct necessary external confirmations or other appraisal procedures for the current account, conduct necessary accounting verification for intangible assets and debts.

6. Verification of long-term equity investments

Check the correlative contracts, capital verification report, and constitutions to find out the shareholders of the appraised entity, ownership structure, investment proportion, and etc., analyze the historical annual and valuation base date of assets valuation reports of the appraised entity to find out its asset and operation status.

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(III) Appraisal Estimation

If the asset-based method is adopted, the valuer should select an appropriate valuation method for each enterprise asset and liabilities based on necessary market investigation and inquiry, so as to confirm the equity value of the entities evaluated.

If the income method is adopted, the valuer should conduct on-site inspection and discussions with the enterprise managers, get knowledge of the financial metrics of the enterprise in recent years, compare the date with the related listed companies, conduct quantitative analysis for future income, period of benefit and risk-reward of the enterprise based on a fully understanding of the market, and confirm the equity value of the entities evaluated.

(IV) Valuation summary and report

Following the requirements in Asset Appraisal Criterion – Appraisal Report and Enterprise State- Owned Property Appraisal Report Guidelines, collect, analyze, and compose the asset appraisal report and appraisal declarations based on the appraisal results, conduct a three-step checking for the appraisal report.

(V) Exchange views and exchange of formal valuation report

After completion of the internal audit, to form the draft for opinion for assessment report and submit to the entrusting party for exchange of views. According to the feedback, answer necessarily to the relevant views, or to make reasonable revise and improvement on the valuation report, to form a formal valuation report and submit to the entrusting party.

IX. VALUATION ASSUMPTIONS

(I) General assumptions

1. Assuming that the object valued is in the process of trading, the valuer shall make assessment according to the similar market situations such as the transaction conditions of the objects valued, and the evaluation results is the estimate of transaction price of the object valued that most likely obtained;
2. Assuming the appraisal target and assets are traded in the open market, the buyer and seller compete each other on equal basis in the market, and both purchasers and sellers who have ample opportunity and time to acquire market information and strike a deal on volunteering, rational, and mandatory basis;
3. Assume the entity evaluated will continuously operate after the base date of assets valuation, the usage of the business assets entrusted to be appraised keeps unchanged and will continue to be deployed in the current position, the business scope and method will keep unchanged;
4. Assume after the base date of assets evaluation, the relevant credit interest rates, exchange rates, tax bases and tax rates, and policy-related fees will have no significant changes;

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5. Assume the prevailing laws, regulations, systems and social politic and economic policies that required to conform to by the enterprises valued in the operation have no material change to the current one;
6. Assume that there will be no force majeure or unpredictable factors that may cause material adverse effects.

(II)

Specific assumptions and restrictions

1. Assume the technical team and senior managers of the entity evaluated remain relatively stable in each year, the enterprise will not experience a severe loss of highly-qualified core professionals;
2. Assume the appraised entity obeys the relevant national laws and regulations during the asset purchasing, obtaining, construction and development;
3. Assume the current and future managers of the operating entities in the appraised company are responsible, and the company managers can steadily promote the development plan of the company and the company can maintain a favorable operating situation;
4. Assume that all the assets within the scope of the valuation as set out in the balance sheet on the valuation base date provided by the entities evaluated were real, and the assets related to the objects valued did not attach any flaw that affect its value;
5. Assume each assets corresponding to the valuation object make no impacts on key technology failure under continuous operation, and such assets are free from harmful substances adverse to their value, and the place of such assets are free from dangerous matters and other harmful environment conditions which make adverse impacts on such assets;
6. As to the tangible assets of the valuation object, the valuer only check the assets appearance by eyes, and have not performed a dedicated technology inspection for the technique data, working conditions, structure, and invisible portion;
7. The earnings forecast offered by the managers of the entity evaluated is made on the premise that the enterprise will continue to operate and its operations remain stable in the future, and they have objectively considered the future development plan of the enterprise and the possible influences of the industry's master planning;
8. The on-grid tariffs applied in this revenue forecast are based on the latest benchmark of on- grid tariffs (before the date of the issue of the report) as announced by the Shandong Province Price Bureau, taking into account the effect of desulphurization, denitration, deducting tariff, ultra clean emission tariff (each tariff subject to the prevailing policies of the country on the valuation base date) that obtained after reconstruction and acceptance during the income forecast period, and except the above factors, the effect other factors on the tariffs will not be taken into considered;

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9. The heating price adopted in this income forecast is based on the actual selling price as at the valuation base date, and is assumed to remain unchanged during the period for this income forecast (not considering the impact on exemption from VAT on heat supply income obtained from residents);
10. Assuming that the non-base power generation (the transacted power generation, straight power supply in the electricity market) in each plant in the future could maintain its annual increase to its stable operation period during the forecast period; and the on-grid tariffs of non-base power generation during the forecast period will maintain stable during the forecast period with reference to the prevailing market price in the Shandong province;
11. Assuming that the future coal prices remain stable during the income forecast period;
12. Assuming that each investment projects of the entities evaluated and its subsidiaries approved on the valuation base date have been completed as schedule and are put into use;

If the future conditions change, it may affect the valuation conclusion, and the report users should fully understand the influence of appraisal assumptions on the valuation conclusion.

X. VALUATION CONCLUSIONS

(I) Valuation conclusion with asset-based method

Till the valuation base date, China Huaneng Group intends to transfer its shareholdings in Huaneng Shandong Power Generation Co., Ltd. to Huaneng Power International, Inc., the involved audited total book value of asset of Huaneng Shandong Power Generation Co., Ltd. is amounted to RMB15,252.8094 million, the total value of asset amounted to RMB23,954.2909 million; the total carrying amount of liabilities amounted to RMB8,438.3709 million, the total value of liabilities amounted to RMB8,438.3709 million; the net book value of assets amounted to RMB6,814.4385 million, the value of total shareholder's equity (net assets) amounted to RMB15,515.9200 million, and the added value amounted to RMB8,701.4815 million, and the value added rate is 127.69%. Valuation conclusion is set out as follows:

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Table of Summary of Assets Valuation Results

Unit: RMB0'000

No.	Item	Book value	Appraisal value	Increased or Decreased amount	Growth Rate (%)
		A	B	C=B-A	D=C/A×100%
1	Current assets	173,053.54	173,053.54	—	—
2	Non-current assets	1,352,227.39	2,222,375.55	870,148.15	64.35
3	Among which: long-term receivables	34,000.00	34,000.00	—	—
4	Long-term equity investment	1,240,315.85	2,102,729.02	862,413.17	69.53
5	Fixed assets	59,809.35	63,469.93	3,660.58	6.12
6	Construction in process	861.14	861.14	—	—
7	Intangible assets	6,281.71	7,875.45	1,593.73	25.37
8	Other non-current assets	10,959.33	13,440.00	2,480.67	22.64
9	Total assets	1,525,280.94	2,395,429.09	870,148.15	57.05
10	Current liability	672,715.77	672,715.77	—	—
11	Non-current liability	171,121.31	171,121.31	—	—
12	Total liabilities	843,837.09	843,837.09	—	—
13	Net assets	681,443.85	1,551,592.00	870,148.15	127.69

## (II) Valuation conclusion

According to Asset Valuation Standards and the Guidelines for the State-owned Asset valuation reports, where many evaluation methods used on the same object valued, analysis should be conducted on the preliminary conclusion of value formed, and form a reasonable evaluation conclusion after considering the reasonability of different evaluation methods and the quality and quantity of the materials used.

As an investment entity (management platform), the main business income sources of Huaneng Shandong Power Generation Co., Ltd. (33775;33021; 26377;38480;20844;21496;) are from the management fee on the invested companies and wind power generation revenue from Muping Wind Power Branch. The mainly purpose of the management fees received from invested companies is to maintain the normal operation of the parent company, which could not manifest the efficiency and the profitability of the assets. As Muping Wind Power Branch consolidated into the parent company as unincorporated entity, analyzed from the nature of the investment entities and the managed companies, its possibility of independent operation is large. Therefore, the evaluation conclusion on the income methods of the parent company is uncertain to a certain extent. By Comparing the valuation results and purpose of the two different evaluation methods, the results of asset-based method could present the market value of total equity of shareholders on the valuation base date of the entity evaluated in a more objective way.

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Based on above analysis, the valuation results set out in the valuation report is arrived by asset-based method. The conclusion is: the total equity of shareholders (net asset) of Huaneng Shandong Power Generation Co., Ltd. on 31 May 2016, being the valuation base date, is amounted to RMB15,515.9200 million.

## XI. STATEMENT OF SPECIAL ISSUES

The Special issues stated in this valuation report refer to those matters that, without changing the valuation conclusion presented, may influence the accuracy of the valuation conclusion but beyond the professional level and capacity level and beyond the control of the valuer.

(I)The client has engaged Beijing Zhongdi Land and Real Estate Appraisal Co. Ltd to evaluate the land use right included in the evaluation scope attached to the land under the evaluation. The valuation conclusion presented in the Land Valuation report that the Beijing Zhongdi Land and Real Estate Appraisal Co. Ltd presented on 31 August 2016 is directly quoted in this asset valuation report as follows:

Name of Companies	Quoted Quantity, Area of Land Valuation Report		Quoted Document Issued by Land Valuation Institution
	Parcel	Area	
Huaneng Shandong Power Generation Co., Ltd. (&#33775;&#33021;&#26377;&#38480;&#20844;&#21496;) (parent company)	1	9,220.00	(Beijing) Zhongdi Huaxia (2016) (Gu) Zi No.70 – Shandong – Yantai – Muping – Hua – 1
Huaneng Laiwu Power Generation Co., Ltd. (&#33775;&#33021;&#33802;&#34154; &#26377;&#38480;&#20844;&#21496;)	3	282,430.00	(Beijing) Zhongdi Huaxia (2016) Ping (Ji) Zi No. 70 – Shandong – Laiwu – Laicheng – Chu – 1
Huaneng Jinan Huangtai Power Generation Co., Ltd. (&#33775;&#33021;&#28639;&#21335;&#40643;&#26377;&#38480;&#20844;&#21496;)	9	840,269.40	(Beijing) Zhongdi Huaxia

		(2016) Ping (Gu) Zi No.11 – Shandong – Jinan – Licheng – Hua – 1
Huaneng Linyi Power Generation Co., Ltd. (33775;33021;33256;27778; 26377;38480;20844;21496;)	37 1,121,386.84	(Beijing) Zhongdi Huaxia (2016) Ping (Ji) Zi No. 70 – Shandong – Linyi – Luozhuang – Chu – 1
		(Beijing) Zhongdi Huaxia (2016) Ping (Ji) Zi No. 70 – Shandong – Linyi – Luozhuang – Chu – 2
		(Beijing) Zhongdi Huaxia (2016) Ping (Ji) Zi No. 70 – Shandong – Linyi – Luozhuang – Chu – 3
		(Beijing) Zhongdi Huaxia (2016) Ping (Ji) Zi No. 70 – Shandong – Linyi – Lanshan – Chu – 1



Huaneng Jiayang Power Generation Co., Ltd.

(#33775;#33021;#22025;#31077; #26377;#38480;#20844;#21496;)

9 630,722.20 (Beijing)

Zhongdi  
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No. 70 –  
Shandong –  
Jining –  
Rencheng –  
Chu – 2

(Beijing)  
Zhongdi  
Huaxia  
[2016] Ping  
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No. 70 –  
Shandong –  
Jining –  
Jiayang  
County –  
Chu – 1

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Name of Companies	Quoted Q Area of Valuation	Parcel
Huaneng Qufu Thermal Power Co., Ltd. (#33775;#33021;#26354;#38428;#29105; #26377;#38480;#20844;#21496;)		1 305
Huaneng Jining High-tech Zone Thermal Power Co., Ltd. (#33775;#33021;#28639; #23527;#39640;#26032;#21312;#29105; #26377;#38480;#20844;#21496;)		1 127
Huaneng Jining Yunhe Power Generation Co., Ltd. (#33775;#33021;#28639;#23527;#36939; #27827; #26377;#38480;#20844;#21496;)		11 684
Huaneng Zibo Baiyanghe Power Generation Co., Ltd. (#33775;#33021;#28100;#21338;#30333; #26954;#27827; #26377;#38480;#20844;#21496;)		26 513

Shandong Rizhao Power Generation Co., Ltd. ( 26085;29031; 26377;38480;20844;21496;) 6 519

Huaneng Liaocheng Thermal Power Co., Ltd. (33775;33021;32842;22478;29105; 26377; 38480;20844;21496;) 7 551

Huaneng Liaocheng Luxi Fuel Co., Ltd. (33775;33021;32842;22478; 35199; 26009;26377;38480;20844;21496;) 5 240

Huaneng Yantai Power Generation Co., Ltd.  
(#33775;#33021;#29017; #26377;#38480;#20844;#21496;)

7 485

Shandong Liaocheng Thermolectric Property Co., Ltd.  
( #32842;#22478;#29105; #29289;#26989;#26377;#38480;#36012;#20219;#20844;#21496;)

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Name of Companies	Quoted Quantity, Area of Land		Quoted Document Issued by Land Valuation Institution
	Valuation Report Parcel	Area	
Huaneng Yantai Bajiao Thermal Power Co., Ltd. (#33775;#33021;#29017; #20843;#35282;#29105; #26377;#38480;#20844;#21496;)	3	917,350.60	(Beijing) Zhongdi Huaxia (2016) Ping (Ji) Zi No.70 – Shandong – Yantai – Developme Zone – Chu
Huaneng Taian Zhongtai Power Generation Co., Ltd. (#33775;#33021;#27888;#23433;#30526; #27888; #26377;#38480;#20844;#21496;)	5	86,788.00	(Beijing) Zhongdi Huaxia (2016) (Ji) No.70 – Shandong – Taian – Xin Chu – 1
Huaneng Dongying New Energy Co., Ltd. (#33775;#33021; #29151;#26032;#33021;#28304;#26377;#38480;#20844; #21496;)	33	39,869.66	(Beijing) Zhongdi Huaxia (2016) Ping (Gu) Zi No.70 – Shandong – Dongying – Hekou – C 1
Huaneng Rushan Wind Power Co., Ltd. (#33775;#33021;#20083; #39080;#21147; #26377;#38480;#20844;#21496;)	29	16,141.00	(Beijing) Zhongdi Huaxia (2016) Ping (Ji) Zi No.7 Shandong – Weihai – Rushan –C 1

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Shandong Changdao Wind Power Co., Ltd. 36 20,717.00  
( & # 3 8 2 6 3 ; & # 2 3 7 9 8 ; & # 3 9 0 8 0 ; & # 2 1 1 4 7 ; & # 2 6 3 7 7 ; & # 3 8 4 8 0 ;  
& # 3 6 0 1 2 ; & # 2 0 2 1 9 ; & # 2 0 8 4 4 ; & # 2 1 4 9 6 ; )

(Beijing)  
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1

APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

Name of Companies	Quoted Quantity, Area of Land Valuation Report		Quoted Document Issued by Land Valuation Institution
	Parcel	Area	
Huaneng Shandong Information Technology Co., Ltd. (#33775;#33021; #20449; #24687;#25216;#34899;#26377;#38480;#20844;#21496;)	1	51,327.00	(Beijing) Zhongdi Huaxia [2016] Ping (Gu) Zi No.70 – Shandong – Qingdao – Huangdao – Chu – 1
Total	231	7,621,008.03	

The Land Valuation Report stated following limitations and things to clarify:

- Pursuant to the land valuation report of (Beijing) Zhong Di Hua Xia [2016] (Gu) Zi No. 70 – Shandong- Rizhao - D o n g g a n g - C h u - 1 ( ( & # 2 1 2 7 1 ; & # 2 0 1 4 0 ; )  
&#100;#230;#375;#279;#100;#518;#172;#528;#238;#1527;#899; &#105;#205;#206;#206;#232;#106; &#230;#230;#172;#257;#158;#129) the 6 lots of mature lands (with a land use right area of 519,375.05 m2) within the valuation scope have an useful life of 30 years;
- Pursuant to the land valuation report of (Beijing) Zhong Di Hua Xia [(2016)] Ping (Gu) Zi No. 70 – Shandong Province – Zibo City- Boshan District – Chu - 1 ( ( & # 2 1 2 7 1 ; & # 2 0 1 4 0 ; )  
&#100;#230;#375;#279;#100;#518;#172;#528;#238;#1527;#899; &#105;#205;#206;#206;#232;#106; &#230;#230;#172;#257;#158;#129) the 1 lot of mature land (with a land use right area of 104,428.5m2) within the valuation scope have an useful life of 33.72 years.

In line with evaluation rules, the evaluator paid reasonable attention to the consistence and relation between the assumptions, results and limitations on the use of the Land Valuation Report, as well as the things to clarify, and the requirements of this evaluation. The valuer has fulfilled its information disclosure obligations in line with relevant evaluation rules.

(II) KPMG Huazhen (Special General Partnership) audited the financial statement of the entities appraised from January to May 2015, 2016 and issued KPMG HZ Shen Zi No. [1602280] Special Audit Report in respect of its opinion on the standards.

(III) The appraised value refers to the total value of the company. It’s not allowed to use the value of any single item in the breakdown for any other purpose.

(IV) The buildings included in the evaluation scope are exposed to the risk of having no building ownership certificate, state-owned land use rights certificate and the name of owner has not changed, the specific defective matters are as follows:

- Buildings

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Content of Items	Land Area (m2)	Book Value (RMB)
Property with certificate (no defects)	85,904.02	270,952,299.77
Property with certificate (defects)	242,483.62	449,704,855.13

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## APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

Content of Items	Land Area (m2)	Book Value (RMB)
Property without certificate	1,032,606.14	4,132,772,268.54
Total	1,360,993.78	4,853,429,423.44
The ratio of property without certificate	75.87%	85.15%

## 2. Land use right

Content of Items	Land(s) Evaluated	Area sold	Transferred area	Land without certificate
Land with Certificate (no defects)	131	3,977,321.81	1,280,572.40	
Land with Certificate (defects)	99	1,793,128.69	255,573.13	
Land without certificate	21			957,060.77
Sub-total	251	5,770,450.50	1,536,145.53	957,060.77
Total area			8,263,656.80	
Ratio		69.83%	18.59%	11.58%

Defect mainly refers to the name of the owner has not been changed.

## 3. Part of the land use rights of transferred lands have expired

(1) A total of 11 land use rights are covered in the records of accounts in Rizhao Power Generation Co., Ltd. (&#26085;&#29031; &#26377;&#38480;&#20844;&#21496;), the registered total area of the land use rights as set out in the certificates is 2,332,618.38 square meters. These lands are located in Beijing Road, Haibin 5th Road, Rizhao city, for industrial and residential use. The types for useful term belong to transferred lands, and the maturity date of each land is 28 March 2016. Most family buildings erected on the family residential lands have experienced housing reform and the ownerships have transferred to each individual staff. While there still portion houses have not been disposed and the corresponding residential land certificates have not been divided. Up to the valuation base date, all of the 11 lands above-mentioned have been amortized.

APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

According to Opinion on the Application for Extension of the Land Use Right Period by Huaneng Rizhao Plant (&#33775;&#33021;&#26085;&#29031; &#24288;) submitted by the Rizhao Land and Resources Bureau to the Rizhao government and its reply on 7 June 2016, the abovementioned 11 lands are classified by use as follows:

- 1) For industrial land, extension shall be applied by the entities appraised and intends to be extended by agreement through the execution of Grant Contract of State-owned Construction Land Use Rights and payment of grant fee. The estimated payment of entities appraised is RMB150 million, with an extension of 30 years;
- 2) For railway lands, recovery intends to be made without payment;
- 3) For residential lands, no renewal procedures will be conducted at present.

According to the above municipal government documents, the above 11 lands are disposed of as follows:

For the 3 railway lands (Ri Guo Yong 2000 Zi No. 0008, Ri Guo Yong 2000 Zi No. 0146, Ri Guo Yong 2000 Zi No. 0147), with a total area of 487,777.80 square meters as set out in the certificates, they are intended to be recovered by the government without payment. Therefore, they were not included in the scope of this evaluation;

For 1 residential land (Ri Guo Yong 2000 Zi No. 0121), the land area is 58,135.80 square meters as set out in the certificate and no renewal procedures will be conducted at present;

For 7 industrial lands (Ri Guo Yong 2000 Zi No. 0001-No. 0007), the total land area is 1,786,704.78 square meters, of which 1,267,329.73 square meters of ash yard and part ash pipeline is planned to be recovered by the government, while the remaining 6 parcels of industrial land with land use right area of 519,375.05 square meters (approximately 780 acres) intends to pay the land granting fee by way of agreement, with the granting period of 30 years. The amount of the land granting fees is estimated to be RMB150 million.

In summary, there were a total of 7 lands included in the scope of this evaluation, of which total area for industrial land was 519,375.05 square meters, residential land area of 58,135.80 square meters, in a total of 577,510.85 square meters.

Beijing Zhongdi Huaxia Land and Real Estate Evaluation Co. Ltd. was appointed by the entrusting party to conduct evaluation on the value of land use rights for 6 parcels of land (land use right area of 519,375.05 square meters) for the same valuation purpose on the same Base Date, net of the estimate land granting fees. The effect of the difference between the final land areas recovered and the expected recovered areas has not been taken into account in this valuation.

APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

(2)The 1 industrial transferred land use right of Huaneng Zibo Baiyanghe Power Generation Co., Ltd. (33775;33021;28100;21338;30333;26954;27827; 26377;38480;20844;21496;) expired on 19 February 2015, with an area of approximately 104,428.5 square meters. Currently, the relevant renewal procedures are being handled, thus it is unable to reasonably estimate the amount of land granting fee that expected to pay for the renewal at present.

Beijing Zhongdi Land and Real Estate Appraisal Co. Ltd. was engaged by the client to conduct valuation on the value of land use rights for the land for the same valuation purpose on the same base date, the estimated land granting fees did not deduct at present. The effect of the possible change of land use right area has not been taken into account in the valuation.

4.The phase I construction project of Huaneng Penglai Wind Power Co., Ltd. (33775;33021;34028;33802;39080;21147; 26377;38480; 20844;21496;) has been put into operation, and the phase II construction project is in the construction stage, which is expected to be put into operation by the end of September 2016. Due to the land of the two phases construction projects (a total area of approximately 37,578.1 square meters) which overlaid on gold, the follow-up land use procedures were unable to be conducted. The effect of the above events has not been taken into account in this valuation.

(V)The 22nd floor of Huaneng Building which used for office space and included in the valuation scope of the house buildings of fixed assets is located at Quancheng Road, Jinan. The house is the fixed asset left in the historical reconstruction and is only the asset-in-account but not actually controlled by the entities appraised, thus the asset is unable to be verified in detail. The site investigation performed by the valuation personnel only observed external condition of the asset without entered into the house and valued based on the carrying amount, which did not considered the effect of actual ownership and use of asset on the value outcome.

(VI)The evaluator did not conduct any technical examination on the structure of the underground engineering works included in the evaluation scope. Instead, assuming that all the engineering materials provided by the client are true, valid and correct, we identified the engineering quantity of the underground structure on the basis of the engineering drawings, construction contracts, inspection and acceptance files, on-site investigation, as well as the material from the client, and understand the use of the asset on the basis of the operation records and the pipeline maintenance, service and repairing records. The influence of the difference between the description in writing and the actual conditions of the structure on the evaluation conclusion is not taken into consideration.

(VII)The valuation results stand for the current price of the valuation object within under the valuation purpose and subject to assumptions and limitations in the report. Therefore, the evaluation results may become voided when there should appear any change in the assumptions or limitations.

(VIII)The valuation institute and valuation staff shall not be responsible for the defects of the client's assets that have an impact on the appraised value since the client failed to make a clear statement on the defects at the time of trusting and the evaluation staff couldn't find access to the clear statements over the entire evaluation process.

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SUMMARY OF ASSET VALUATION  
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- (IX) The valuation didn't take into consideration on the influence of possible changes such as asset auction, selling or pledging, nor the influence of the extra prices only possible in a special transaction in relation to the change of ownership, nor the influence of the force majeure such as the changes in the state macroeconomic policies and natural disasters on the value of the assets evaluated on the evaluation conclusion.
- (X) When implementing the appraisal procedure, the valuer carried out necessary and independent verification of assets' legal rights, but this doesn't mean that the valuer confirmed or gave opinions on the legal rights of the evaluated object. The purpose of an assets appraisal is for the valuer to evaluate or give professional opinions on the value of the evaluated object.
- (XI) This valuation didn't take into consideration the premium or discount resulted from controlling interest or minority interest.
- (XII) This valuation didn't take into consideration the impact of assets liquidity on the shareholder's equity.
- (XIII) As of the valuation base date, Huaneng Shandong Power Generation Co., Ltd. was involved in following law suits or contingent events:
1. In November 2012, Huaneng Taian Zhongtai Power Generation Co., Ltd. (33775;33021;27888;23433;30526;27888; 26377;38480;20844;21496;), the subsidiary of the entities appraised, proposed a litigation in respect of the dispute in the construction settlement with a constructor, to demand it to return the engineering amounts of RMB4.11 million. As of the valuation base date, the above case is under processing.
  2. In August 2006, Shandong Lineng Coal Underground Gasification Power Generation Co. Ltd. (35041;33021; 28845;22320;19979;27683;21270; 26377;38480;20844;21496;) the predecessor of the Huaneng Jiexiang Power Generation Co., Ltd. (33775;33021;22025;31077; 26377;38480;20844;21496;), the subsidiary of the entities appraised, entered into the Maximum Guarantee Contract with the Branch of Jining Development Zone of Industrial and Commercial Bank of China Limited, as the guarantor, to provide guarantee for borrowings to Shandong Lineng Group Co., Ltd. (35041;33021;38598;22296;26377;38480;20844;21496;). In September 2012, ICBC of Jinan Development Zone sued Huaneng Jiexiang Power Generation Co., Ltd. (33775;33021;22025;31077; 26377;38480;20844;21496;) for providing loan guarantee for Shandong Lineng Group Co., Ltd. (35041;33021;38598;22296; 26377;38480;20844;21496;), to request it to assume the guarantee obligation of approximately RMB380 million. On 6 November 2015, both parties reached to a settlement agreement, pursuant to which, Huaneng Jiexiang Power Generation Co., Ltd. (33775;33021;22025;31077; 26377;38480;20844;21496;) paid an amount of RMB83.00 million to ICBC of Jining Development Zone on behalf of the guarantee. On 6 December 2015, Huaneng Jiexiang Power Generation Co., Ltd. (33775;33021;22025;31077; 26377;38480;20844;21496;) initiated a recovery lawsuit procedures against Shandong Lineng Group Co., Ltd. (35041;33021;38598;22296;26377;38480;20844; 21496;), to request the defendant to repay the necessary expense of RMB3,563,542 for the liability and expenditure of RMB83.00 million paid in advance for it, and immediately freeze the bank deposit of RMB90 millions of Shandong Lineng Group Co., Ltd. (35041;33021;38598;22296;26377;38480;20844;21496;) or seal up,

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REPORT OF SHANDONG POWER

detain other properties equivalent to RMB90 millions of Shandong Lineng Group Co., Ltd. ( &#35041;&#33021;&#38598;&#22296;&#26377;&#38480;&#20844;&#21496;). As of the valuation base date, the case is in the process of first trial by the Jining Intermediate Court, and the final result of recovery is uncertain.

3.As of the valuation base date, Huaneng Qufu Thermal Power Co., Ltd. (&#33775;&#33021;&#26354;&#38428;&#29105; &#26377;&#38480;&#20844;&#21496;) has pending litigation and arbitration in respect of the recourse of thermal fees, with the subject amount in total of approximately R M B 7 8 . 0 0 million. Huaneng Qufu Thermal Power Co., Ltd. (&#33775;&#33021;&#26354;&#38428;&#29105; &#26377;&#38480;&#20844;&#21496;) applied for an arbitration to the Jining Arbitration Commission, and the final judge demanded Qufu Juyuan Heat Supply Co., Ltd. (&#26354;&#38428;&#32858;&#28304;&#20379;&#29105;&#26377;&#38480;&#20844;&#21496;) to pay the thermal fees. At present, Qufu Juyuan Heat Supply Co., Ltd. (&#26354;&#38428;&#32858;&#28304;&#20379;&#29105;&#26377;&#38480;&#20844;&#21496;) has not paid the relevant thermal fees and Huaneng Qufu Thermal Power Co., Ltd. (&#33775;&#33021;&#26354;&#38428;&#29105; &#26377;&#38480;&#20844;&#21496;) has applied for the initiation of the mandatory enforcement procedures.

4.Huaneng Jining High-tech Zone Thermal Power Co., Ltd. (&#33775;&#33021;&#28639;&#23527;&#39640;&#26032;&#21312;&#29105; &#26377;&#38480;&#20844;&#21496;) has a dispute in relation to land use right. In December 2006, Shandong Kaisai Biotechnology and Materials Co., Ltd. ( &#20977;&#36093;&#29983;&#29289;&#31185;&#25216;&#26448;&#26009;&#26377;&#38480;&#20844;&#21496;), the original shareholders of Huaneng Jining High-tech Zone Thermal Power Co., Ltd. (&#33775;&#33021;&#28639;&#23527;&#39640;&#26032;&#21312;&#29105; &#26377;&#38480;&#20844;&#21496;) did not dealt with the transfer procedures when disposed the land use right for consideration to make additional contribution to Huaneng Jining High-tech Zone Thermal Power Co., Ltd. (&#33775;&#33021;&#28639;&#23527;&#39640;&#26032;&#21312;&#29105; &#26377;&#38480;&#20844;&#21496;) with the involved land (127,378 square meters), nor delivered the original land use certificate to Huaneng Jining High-tech Zone Thermal Power Co., Ltd. (&#33775;&#33021;&#28639;&#23527;&#39640;&#26032;&#21312;&#29105; &#26377;&#38480;&#20844;&#21496;); on 16 October 2009, Huaneng Jining High-tech Zone Thermal Power Co., Ltd. (&#33775;&#33021;&#28639;&#23527;&#39640;&#26032;&#21312;&#29105; &#26377;&#38480;&#20844;&#21496;) made a litigation to court in Jining Development Zone to demand the defendant deal with the transfer procedures. On 2 December 2015, the court judged Kaisai Biotechnology (&#20977;&#36093;&#29983; &#29289;) to complete relevant procedures to change the land use right be registered under the name of Huaneng Jining High-tech Zone Thermal Power Co., Ltd. ( &#33775; &#33021; &#28639; &#23527; &#39640; &#26032;&#21312;&#29105; &#26377;&#38480;&#20844;&#21496;) within 30 days. As Shandong Kaisai Biotechnology and Materials Co., Ltd. ( &#20977;&#36093;&#29983;&#29289;&#31185;&#25216;&#26448;&#26009;&#26377;&#38480;&#20844;&#21496;) did not cooperate with the court order, Huaneng Jining High-tech Zone Thermal Power Co., Ltd. ( &#33775; &#33021; &#28639; &#23527; &#39640; &#26032;&#21312;&#29105; &#26377;&#38480;&#20844;&#21496;) has applied for enforcement and the court served the Jining Land and Resources Bureau the ruling document and notice for assistance in enforcement in April 2016. As of the valuation base date, the land transfer procedure is not completed yet.

5.

Muping wind power branch of Huaneng Shandong Power Generation Co. Ltd. Muping Wind-Electricity Branch  
C o m p a n y  
(#33775;#33021; #26377;#38480;#20844;#21496;#29279;#24179;#39080; #20998;#20844;  
#21496;) currently has a recovery procedure for pending compensation with target amount of RMB215,816. As  
at 23 January 2015, the villager named Zou Benjie from Zhushan Hou village, Jiang Zhuang Street office of  
Muping District of Yantai City, sued to the Muping People's Court, claimed that Muping Branch occupied a large  
area of mountains contracted by him and destroyed a large number of pine trees area when

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the company carrying out the construction of wind power project. After mutual negotiation, Muping Branch agreed to pay RMB215,816 for compensation for ground attachments. As Muping Branch has not paid for such fee yet, Zou Benjie sued the Muping Branch to the Muping Court with request of compensation fee and corresponding interest from Muping Branch. The case is currently in process of hearing.

(XIV) Up to the valuation base date, part of subsidiaries of the entities appraised has not obtained the electric power business license due to their early establishment, the then provided projects have not reached the project approval level or not obtained documents of project approval, construction of related projects, completion acceptance:

No.	Name of the enterprise
1	Huaneng Jining High-tech Zone Thermal Power Co., Ltd. (#33775;#33021;#28639;#23527;#39640;#26032;#21312;#29105; #26377;#38480;#20844;#21496;)
2	Huaneng Zibo Baiyanghe Power Generation Co., Ltd. (#33775;#33021;#28100;#21338;#30333;#26954;#27827; #26377;#38480;#20844;#21496;)
3	Huaneng Jining Yunhe Power Generation Co., Ltd. (#33775;#33021;#28639;#23527;#36939;#27827; #26377;#38480;#20844;#21496;)
4	Huaneng Linyi Power Generation Co., Ltd. (#33775;#33021;#33256;#27778; #26377;#38480;#20844;#21496;)
5	Huaneng Taian Zhongtai Power Generation Co., Ltd. (#33775;#33021;#27888;#23433;#30526;#27888; #26377;#38480;#20844;#21496;)
6	Huaneng Yantai Power Generation Co., Ltd. (#33775;#33021;#29017; #26377;#38480;#20844;#21496;)
7	Huaneng Shandong Sishui New Energy Co., Ltd. (#33775;#33021; #27863;#27700;#26032;#33021;#28304;#26377;#38480;#20844;#21496;)
8	Huaneng Zibo Boshan Photovoltaic Power Generation Co., Ltd. (#33775;#33021;#28100;#21338;#21338; #20809;#20239; #26377;#38480;#20844;#21496;)
9	Huaneng Penglai Wind Power Co., Ltd. (#33775;#33021;#34028;#33802;#39080;#21147; #26377;#38480;#20844;#21496;)
10	Huaneng Rushan Wind Power Co., Ltd. (#33775;#33021;#20083; #39080;#21147; #26377;#38480;#20844;#21496;)

The possible effects of the above have been disregarded in the calculation and determination of the valuation results.

As of the valuation base date, the license capacity of the electric power business license of Huaneng Liaocheng Thermal Power Co., Ltd., the subsidiary of the entities appraised, is in conformity with the fact:

The No. 7 and No.8 units (2\*330MW) under current operation of Huaneng Liaocheng Thermal Power Co., Ltd. commenced operation on 6 January 2006 and 26 September 2006, respectively, but the unit capacity was registered as 2\*300MW in the electric power business license.

The possible effects of the above have been disregarded in the calculation and determination of the valuation results.



s valuation report, the Ministry of Finance and the State Administration of Taxation promulgated the Notice on Continuing the Implem  
S u p p l y E n t e r p r i s e s ( C a i S h  
25151;#29986;#31237;#12289;#22478;#37806;#22303;#22320;#20351;#29992;#31237;#20778;#24800;#25919;#31574;  
of the heating period in 2018, the heat supply

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APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
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enterprises shall be continuously exempted from VAT on their heating fee income obtained from supplying heat for resident individuals (hereinafter referred to as “residents”). The heating price adopted in this income forecast is based on the actual selling price as at the valuation base date, and is assumed to remain unchanged during the period for this income forecast (not considering the impact on heat supply income and valuation conclusions).

(XVI) In the valuation on projects (outside of Mainland China) developed by Huaneng Shandong (HK) Investment Limited (the long-term equity investment enterprise of the entity valued) and its subordinates, the asset structure is simple, and the project is under development and construction. Therefore, no on-the-spot verification was carried out, and only the enterprise data, financial information, engineering information and forecast data provided by the entity valued are verified and analyzed (not considering impact on valuation conclusions of the potential difference between the information aforesaid and the actual operation, development and construction of the project).

(XVII) The report is based on the business license, property right certificate, asset detail report, forecasted statement and other documents related to the appraisal provided by the company. The entrusting party, the appraised party and other related parties shall all be responsible for the authenticity, legality and integrality of the above-mentioned documents.

(XVIII) The conclusion of the assets appraisal report issued by ZhongHe Appraisal Co., Ltd. is subject to the valuer’s professional skills.

The users of the appraisal report should pay attention to the influence on the conclusion of assets appraisal caused by above-mentioned special instructions.

XII. STATEMENT OF LIMITATION ON THE USAGE OF VALUATION REPORT

(I) The conclusion of the asset valuation report is based on the premise that the company continues its operation.

(II) The valuation report can only be used for the appraisal purposes and uses which are specified in the valuation report.

(III) The valuation report can only be used by the users specified in the valuation report.

(IV) The valuation report can only be officially used after sealed by the appraisal agency and signed by the certified public valuer.

(V) According to the Administration of Assessment of the State-owned Assets related regulations, the assets appraisal report is required to be submitted to the competent department of state-owned assets for archival filing. Therefore, contemplated economic behavior can only be performed after going through the procedures for archival filing.

APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

(VI) Apart from the laws and regulations and the other provisions stipulated by relevant parties, without the permission of appraisal agency which issued this appraisal report, the contents of the appraisal report are not allowed to be excerpted, quoted or disclosed in the public media.

(VII) The conclusion of the assets appraisal report is valid for one year calculated from the base date of assets appraisal, it means that the valuation conclusion will be invalid after 30 May 2017.

(VIII) The assets valuation report is only valid when used completely. The company is not responsible for the possible losses caused by partly using the report.

XIII. DATE OF VALUATION REPORT

The date of the valuation report is 10 October 2016.

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Legal/Authorised representative: Wang Chengjun (29579;35488;36557;)

ZhongHe Appraisal Co., Ltd.

Certified public valuer

The person in charge of the project: Qian Jianguo (37666;24314;22283;)

10 October 2016

Certified public valuer

Reviewer of the valuation report: Zhang Qili (24373;21855;21033;)

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APPENDIX I(i)

SUMMARY OF ASSET VALUATION  
REPORT OF SHANDONG POWER

APPENDICES TO ASSETS VALUATION REPORT (Note)

- Appendix I. Special Audit Report as at the Valuation Base Date;
- Appendix II. Summary of the Land Valuation Report at the Valuation Base Date;
- Appendix III. Copy of Property Right Statement and other Title Certificates (parent company);
- Appendix IV. Copies of Corporate Business License of the Client;
- Appendix V. Copies of the Corporate Business License of Entity Evaluated;
- Appendix VI. Letter of Undertaking from the client;
- Appendix VII. Letter of Undertaking from the Entity Evaluated;
- Appendix VIII. Letter of Undertaking from the Undersigned Certified Public Valuers;
- Appendix IX. Copy of Corporate Business License of ZhongHe Appraisal Co., Ltd.;
- Appendix X. Copies of Qualification Certificates of Assets Valuation of ZhongHe Appraisal Co., Ltd.;
- Appendix XI. Copies of Qualification Certificates of Undersigned Certified Public Valuers;
- Appendix XII. Power of Attorney of the Legal Representative.

Note: Relevant appendices to the asset valuation report have not been included in this circular.

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

VALUATION REPORT (SUMMARY)

IN CONNECTION WITH  
ALL EQUITY INTERESTS OF SHAREHOLDER OF HUANENG JILIN POWER  
GENERATION CO., LTD. INVOLVED IN THE PROPOSED TRANSFER OF  
EQUITY IN HUANENG JILIN POWER GENERATION CO., LTD. TO  
HUANENG POWER INTERNATIONAL, INC. BY CHINA HUANENG GROUP

Zhong Lian Ping Bao Zi [2016] No. 1171

HUBEI ZHONGLIAN ASSETS APPRAISAL CO., LTD.

14 OCTOBER 2016

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APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

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PART 1 STATEMENT OF CERTIFIED PUBLIC VALUER

STATEMENT OF CERTIFIED PUBLIC VALUER

China Huaneng Group and Huaneng Power International, Inc.:

Under the commission of the Company, we conducted careful check and verification and evaluation and estimation for all the equity of shareholders of Huaneng Jilin Power Generation Co., Ltd., involved in the proposed transfer of equity in Huaneng Jilin Power Generation Co., Ltd. to Huaneng Power International, Inc. by China Huaneng Group and made the valuation report. The certified public valuers and asset valuation institutions present the following statements:

1. During the process of implementing asset valuation, we complied with national relevant laws, regulations and asset appraisal guidelines, and abided by the principle of independence, objectivity and impartiality; according to the information we collected during the course of valuation, the matters stated in the valuation report are objective and we bear the corresponding legal responsibility for the reasonableness of the valuation conclusions.
2. The list of asset and liability involved the valuation object shall be reported by the clients and the entities evaluated and are confirmed by them with seal; the future operating conditions should be provided by the entities evaluated and are confirmed by them with seal. Providing the necessary information, making sure the authenticity, legality and integrity of the information provided, and using valuation report properly are the responsibilities of the clients and related entrusting parties.
3. We do not have any existing or potential interest in valuation object as specified in the valuation report; furthermore, we do not have any interest, existing or potential, in any of the relevant parties, and therefore do not have any prejudice against or bias for any such party.
4. We have carried out an on-site investigation into the valuation object of the valuation report and the assets involved; we have paid necessary attention to their legal ownership status. Their legal ownership and certificate of information are provided by the clients and the entities evaluated where the confirmation of or views on the legal ownership materials go beyond the practice scope of the certified public valuer, therefore the valuation report cannot be regarded as the certified public valuers' providing assurance for the legal ownership of the valuation object.
5. Our analysis, judgment and conclusions in the valuation report are subject to assumptions and qualifications specified in the report. Report users shall take full consideration of the effect of the assumptions, qualifications, statement of special issues and the valuation conclusions in accordance with the valuation purpose of the report.
6. The valuation conclusions are only valid within one year as from the valuation base date that is specified in the valuation report. The users shall decide the reasonable term for the valuation report as regards to the assets conditions and market situation after the valuation base date.

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7. The Certified public valuer and appraisal agency have the qualification and relevant experience for the appraisal service.
8. Certified public valuers perform the assets valuation business aiming to evaluate the value of the valuation object and provide professional opinions without taking responsibility for the decisions made by the relevant parties. Valuation conclusions should not serve as the assurance for the realisable price of the valuation object.
9. This valuation report is only to be used by the clients, entities evaluated and other users specified in this valuation report for the purposes stated in this valuation and for the investigation with competent authorities, and any consequence of improper use is non-relevant to the undersigned certified public valuer and appraisal agency.
10. The right to use this valuation report is under the possession of the clients. Without permission of the clients, it shall not be provided or open to any third party. Without permission of the valuation agency, contents of the valuation report may not be copied, quoted or disclosed in public media, unless otherwise provided for by laws and regulations.
11. The valuation report contains certain appendices. All those appendices are integral parts of the report and shall have the same legal force as the text of report itself.

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PART 2 SUMMARY OF VALUATION REPORT

VALUATION REPORT

IN CONNECTION WITH ALL EQUITY INTERESTS OF SHAREHOLDER OF HUANENG JILIN POWER GENERATION CO., LTD. INVOLVED IN THE PROPOSED TRANSFER OF EQUITY IN HUANENG JILIN POWER GENERATION CO., LTD. TO HUANENG POWER INTERNATIONAL, INC. BY CHINA HUANENG GROUP

Zhong Lian Ping Bao Zi [2016] No. 1171

SUMMARY

Under the commission of China Huaneng Group, and Huaneng Power International, Inc., Hubei Zhonglian Assets Appraisal Co., Ltd. appraised the market value of the total equity of shareholders of Huaneng Jilin Power Generation Co., Ltd. (hereinafter referred as “Huaneng Jilin”) involved in the proposed transfer of equity in Huaneng Jilin Power Generation Co., Ltd. to Huaneng Power International, Inc. by China Huaneng Group on 31 May 2016, being the valuation base date, in accordance with relevant laws, regulations and asset appraisal guidelines, asset appraisal principles as well as necessary valuation procedures, and considering assets-based method and income method. The asset valuation is summarized as follows:

I. Valuation purpose: on the proposed transfer of equity in Huaneng Jilin Power Generation Co., Ltd. to Huaneng Power International, Inc. by China Huaneng Group, the asset valuation purpose is to analyze, estimate and present professional opinions on the market value of the total equity of shareholders of Huaneng Jilin Power Generation Co., Ltd. on 31 May 2016, being the valuation base date, involved in this economic activity.

II. Object and scope of valuation: the valuation object of this valuation is the total equity of shareholders of Huaneng Jilin Power Generation Co., Ltd., and the valuation scope is all assets and liabilities of the total equity of shareholders of Huaneng Jilin Power Generation Co., Ltd. involved, including current assets, non-current assets and relevant liabilities. The specific scope is the contents set out in “Valuation declaration detail list of all kinds of assets and liabilities” provided by the clients and the entities evaluated.

III. Type of value: The type of value of the assets valuation is market value. Market value means the estimated amount of valuation object on the valuation base date in an arm’s length transaction between a voluntary buyer and a voluntary seller, each acting rationally free from duress.

IV. Valuation base date: 31 May 2016

V. Valuation method: According to the specific purpose of the evaluation, the basic assumption of continuous operation and the asset character of valuation object, the valuation considered assets-based method and income method respectively.

VI. Expiry date for using valuation conclusions and report:

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## (I) Valuation results of asset-based method

The book value of all shareholders' equity (net assets) is RMB332.4174 million; the appraised value is RMB555.0057 million, the appraised value added is RMB887.4231 million and the value added rate is 266.96%.

The total book value of assets is RMB11,514.8331 million; the appraised value is RMB12,395.2623 million, the appraised value added is RMB880.4292 million and the value added rate is 14.79%.

The total book value of liabilities is RMB11,847.2505 million; the appraised value is RMB11,840.2566 million, the appraised value impaired is RMB6.9939 million, and the value impaired rate is -0.06%.

## Summary Table for Asset Valuation Result

Unit of amount: RMB 0'000

	Item	Book value	Appraisal value	Increased/Decreased Amount	Growth Rate (%)
		A	B	C=B-A	D=C/A×100%
1	Current assets	398,058.65	424,233.98	26,175.33	6.58
2	Non-current assets	753,424.66	815,292.25	61,867.59	8.21
3	In which: financial assets available for sale	9,420.24	9,664.73	244.49	2.60
4	Held-to-maturity investments	—	—	—	—
5	Long-term receivables	—	—	—	—
6	Long-term equity investment	2,000.00	-2,899.81	-4,899.81	-244.99
7	Investment property	408.05	—	-408.05	-100.00
8	Fixed assets	694,334.87	759,769.91	65,435.04	9.42
9	Projects in progress	3,103.01	3,112.39	9.38	0.30
10	Project materials	11.38	10.63	-0.75	-6.59
11	Disposal of fixed assets	—	—	—	—
12	Capitalized biological assets	—	—	—	—
13	Oil and gas assets	—	—	—	—
14	Intangible assets	12,456.89	20,483.79	8,026.90	64.44
15	Development expenditure	—	—	—	—
16	Goodwill	—	—	—	—
17	Long-term unamortized expenses	—	—	—	—
18	Deferred income tax assets	18,329.73	11,790.12	-6,539.61	-35.68
19	Other non-current assets	13,360.48	13,360.48	—	—

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20	Total assets	1,151,483.31	1,239,526.23	88,042.92	7.65
21	Current liability	243,631.71	243,631.71	–	–
22	Non-current liability	941,093.34	940,393.95	-699.39	-0.07
23	Total liabilities	1,184,725.05	1,184,025.66	-699.39	-0.06
24	Net assets (owner's equity)	-33,241.74	55,500.57	88,742.31	266.96

Please refer to Detailed Statement of Asset Valuation for further valuation conclusion.

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(II) Determination of the valuation conclusions

The assets-based method and income method are considered for the valuation on all equity interests held by the shareholders of the entity evaluated. The valuation result through the income method is lower than that through the assets-based method. In this valuation, the reasons for difference between the two methods are as follows:

First of all, the assets-based method is to evaluate the open market value of assets from the perspective of assets replacement, and confirm the value of an enterprise in the whole from the present value of all assets of the enterprise. However, the income method is to evaluate the open market value of assets from the perspective of contributions of all assets to enterprise value, namely starting from the expected profitability of entire assets, which is the quantification and present value of economic interests expected to flow into the enterprise.

Secondly, the entity evaluated mainly engages in the production, operation, management and marketing of electric power and thermal power, and its business scope covers thermal power, wind power, hydropower and biomass power generation. Its on-grid tariffs are affected by the national pricing policy, and rigid growth of cost will not be digested in the expectable future, so the future income level is relatively low; influenced by the power supply demand, the utilization hours are not high but fluctuate largely in recent years, so the designed generating capacity is not utilized effectively; the entity evaluated has a high debt ratio and a large financial interest expense. In conclusion, the valuation result with the income method is lower.

In combination with the specific purpose of this valuation and fully considering the operational characteristics of the entity evaluated, it is believed by the appraisers through comprehensive analysis that it is relatively reasonable to take the valuation result with the assets-based method as the market value of all equity interests held by the shareholders of the entity evaluated. That is to say, the market value of all equity interests held by the shareholders of Huaneng Jilin Power Generation Co., Ltd. (33775;33021;21513;26519; 26377;38480;20844;21496;) amounted to RMB555.0057 million as at the valuation base date.

Pursuant to the provisions of national departments concerned, the valuation conclusions remain effective for one year (from 31 May 2016 to 30 May 2017). It needs to be reappraised in case of exceeding one year.

VII. Important notice: this valuation report is only to be used by the client, entities evaluated and other users specified in this valuation report for the purposes stated in this valuation and for the investigation with competent authorities. This valuation report shall not be provided or disclosed to others arbitrarily without authorization. Without our consent, the whole or any part of the content of the valuation report shall not be excerpted, cited or disclosed to the media, unless otherwise stated in the laws and regulation. The content above abstracts from the full text of the valuation report, and you can read the text to know the detailed information and get a better understanding of the valuation conclusions of this project.

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PART 3 VALUATION REPORT

VALUATION REPORT

IN CONNECTION WITH ALL EQUITY INTERESTS OF SHAREHOLDER OF HUANENG JILIN POWER GENERATION CO., LTD. INVOLVED IN THE PROPOSED TRANSFER OF EQUITY IN HUANENG JILIN POWER GENERATION CO., LTD. TO HUANENG POWER INTERNATIONAL, INC. BY CHINA HUANENG GROUP

Zhong Lian Ping Bao Zi [2016] No. 1171

China Huaneng Group, and Huaneng Power International, Inc.:

Under the commission of the Companies, Hubei Zhonglian Assets Appraisal Co., Ltd. appraised the market value of the total equity of shareholders of Huaneng Jilin Power Generation Co., Ltd. (hereinafter referred as “Huaneng Jilin”) involved in the proposed transfer of equity in Huaneng Jilin Power Generation Co., Ltd. to Huaneng Power International, Inc. by China Huaneng Group as at 31 May 2016, in accordance with relevant laws, regulations and asset appraisal guidelines, asset appraisal principles as well as considering assets-based method and income method, and necessary valuation procedures. The following sets out the details of assets valuation:

I. THE CLIENTS, THE ENTITIES EVALUATED AND OTHER REPORT USERS OTHER THAN THE CLIENTS

Clients of the valuation are China Huaneng Group, and Huaneng Power International, Inc. and the entity evaluated is Huaneng Jilin Power Generation Co., Ltd..

(I) Profile of client A

1. Registration status

Name of enterprise:	China Huaneng Group
Address:	No. 23A, Fuxing Road, Haidian District, Beijing
Legal representative:	Cao Peixi (&#26361;&#22521;&#29885;)
Registered capital:	RMB20 billion
Paid-in capital:	RMB20 billion
Company type:	state-owned

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Scope of business: investment, operation and management in industry; development, investment, construction, operation and management of power sources; production and sale of power and heat; development, investment, construction, production and sale of products in relation to information, transportation, new energy and environmental protection industries.

2. History and development

China Huaneng Group founded in 1985, is a key state-owned enterprise with the approval of the State Council. It is a state-authorized investment institution and a pilot of state holding company, with a registered capital of RMB20 billion. In accordance with the State Council's requirements of national electricity system reform, China Huaneng Group is an independent and self-financing corporate entity seeking integrated development, with operating power industries as its main business. The Company is mainly engaged in the following business: development, investment, construction, operation and management of power sources; production and sale of power and heat; development, investment, construction, production, and sale of products in relation to finance, energy, transportation, new energy, and environmental protection industries; investment, operation and management in industry.

China Huaneng Group is committed to building itself into a large enterprise group with international competitiveness. By the end of 2015, the company had total installed capacity of 160.63GW, with assets distributed all over China and overseas, and sectors of coal, finance, technology R&D, and transportation etc. that support the development of core business of electric power has established basic structure. The company took the lead in China's power generation enterprises to enter the world's top 500 enterprises, ranking 217th in 2016.

(II) Profile of client B

1. Registration status

Name of enterprise:	Huaneng Power International, Inc.
Address:	Huaneng Building, No. 4 Fuxingmennei Street, Xicheng
District Legal representative:	Cao Peixi (26361;22521;29885;)
Registered capital:	RMB14,055,383,440
Paid-in capital:	RMB14,055,383,440
Company type:	Limited company by shares

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Scope of business: investment, construction, operation and management of power plants; development, investment, operation of export-oriented business and other related businesses; production and supplying of heat (limited to branches obtained local government approval).

2. History and development

Huaneng Power International, Inc. was incorporated as a joint stock limited company on 30 June 1994 in Beijing with the approval of the former State Commission for Restructuring Economy's Ti Gai Sheng [1994] No. 74 Document on the Reply of Establishment of Huaneng Power International, Inc. and the former Ministry of Foreign Trade and Economic Cooperation's [1994] Wai Jing Mao San Han Zi No.338 Document on the Reply of Establishment of Huaneng Power International, Inc. It was jointly initiated by Huaneng International Power Development Corporation (133775;133021;22283;38555; 21147;38283; 20844;21496;), Hebei Construction and Investment Company, Fujian Investment and Development Group, Jiangsu Investment Company, Liaoning Energy Investment Company, Dalian Construction Investment Group, Nantong Construction Investment Group and Shantou Power Development Company.

Huaneng Power International, Inc. was listed on the New York Stock Exchange, Hong Kong Stock Exchange and Shanghai Stock Exchange in October 1994, January 1998 and November 2001, respectively.

Being one of China's largest listed power producers, it is mainly engaged in the development, construction and operation of power plants home and abroad by making use of modern technology and equipment and financial resources available domestically and internationally, with an aim to provide safe, highly efficient and clean power as well as other energy services to clients. As of the end of 2015, its controlling generation capacity has amounted to 70.5137 million KW, among which 67.9043 million KW located domestically including coal-fired generating units of 59.42 million KW, gas turbine generating units of 6.8824 million KW, IGCC power plants of 265,000KW, wind power generating units of 909,000KW, hydropower units of 417,900KW and photovoltaic power plants of 10,000KW. Meanwhile, it wholly owns the Tuas Power Ltd. in Singapore, which has a generation capacity of 2.6094 million KW, accounted for approximately one-fifth of the power generation market in Singapore. As of the end of 2015, it has managed 16 regional branches at provincial level and 68 power plants and power stations across 18 provinces (regions and cities) in the China. Besides, it has port throughput of 55.12 million tons per year and shipping capacity of 2.2624 million tons.

(III) Profiles of the entities evaluated

1. Company name: Huaneng Jinlin Power Generation Co., Ltd.
2. Company type: a company with limited liability (sole proprietorship of legal person not invested or controlled by natural person)
3. Address: No. 399, Xinhua Road, High-New Technology Development Zone, Changchun
4. Legal representative: Zhai Ji (32735;21513;)

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5.	Registered capital:	RMB1,917,130,000
6.	Date of establishment:	24 September 2007
7.	Term of operation:	from 10 December 2008 to 24 September 2017
8.	Scope of business:	development, investment, construction, production, operation and sale of power (thermal) projects and new energy projects; construction and operation of power distribution network; development, investment, production and management of coal- related project; (development and operation activities with relevant licenses); development and investment of transportation-related project; coal distribution (except those requiring special approval); property services (not be allowed to engage in financial management, illegal fund-raising, illegal deposit-taking, lending and other business; the projects required to be approved by law shall only be operated with the approval of relevant authorities)
9.	Unified social credit code:	91220101664284026T

## 1. History and development

Huaneng Jilin Power Generation Co., Ltd. (hereinafter referred to as “Huaneng Jilin” or the “Company”) was a wholly-owned subsidiary approved to be established in September 2007 by China Huaneng Group (Document Hua Neng Ren [2007] No. 451). The initial registered capital of the Company amounted to RMB100 million. It has been verified by Jilin Liangxin CPA Co., Ltd (&#21513;&#26519;&#33391;&#20449;&#26371;&#35336;&#24107;&#20107;&#21209;&#26377;&#38480;&#20844;&#21496;) in the Capital Verification Report “Ji Liang Kuai Yan Zi [2007] No. 032”.

Pursuant to the resolutions of shareholders’ general meeting and the amended articles of association of the Company, China Huaneng Group further contributed RMB454.53 million in April 2009, and the changed registered capital and paid-in capital amounted to RMB554.53 million. The capital increase above has been verified by Jilin Liangxin CPA Co., Ltd in the Capital Verification Report “Ji Liang Kuai Yan Zi [2009] No. 009”.

Pursuant to the resolutions of shareholders’ general meeting and the amended articles of association of the Company, China Huaneng Group further contributed RMB200 million in July 2009, and the changed registered capital and paid-in capital amounted to RMB754.53 million. The capital increase above has been verified by Jilin Liangxin CPA Co., Ltd in the Capital Verification Report “Ji Liang Kuai Yan Zi [2009] No. 032”.

Pursuant to the resolutions of shareholders’ general meeting and the amended articles of association of the Company, China Huaneng Group increased the paid-in capital of RMB65.09 million and RMB100 million in January and November 2011 respectively, and the changed registered capital and paid-in capital



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amounted to RMB919.62 million. The capital increase above has been verified by Jilin Liangxin CPA Co., Ltd in the Capital Verification Reports “Ji Liang Kuai Yan Zi [2011] No. 024” and “Ji Liang Kuai Yan Zi [2011] No. 047”.

Pursuant to the resolutions of shareholders’ general meeting and the amended articles of association of the Company, China Huaneng Group converted the capital common reserve to paid-in capital of RMB224.06 million in December 2012, and the changed registered capital and paid-in capital amounted to RMB1,143.68 million. The capital increase above has been verified by Jilin Haolin CPA Co., Ltd (21513; 26519; 26122; 38728; 26371; 35336; 24107; 20107; 21209; 25152;) in the Capital Verification Report “Ji Hao Ling Yan Zi [2012] No. 044”.

Pursuant to the resolutions of shareholders’ general meeting and the amended articles of association of the Company, China Huaneng Group converted the capital common reserve to paid-in capital of RMB3.45 million in July 2013, and the changed registered capital and paid-in capital amounted to RMB1,147.13 million. The capital increase above has been verified by Jilin Haolin CPA Co., Ltd in the Capital Verification Report “Ji Hao Ling Yan Zi [2013] No. 014”.

Pursuant to the resolutions of shareholders’ general meeting and the amended articles of association of the Company, China Huaneng Group converted the capital common reserve to registered capital of RMB570 million in December 2013, and the changed registered capital and paid-in capital amounted to RMB1,717.13 million. The capital increase above has been verified by Jilin Haolin CPA Co., Ltd in the Capital Verification Report “Ji Hao Ling Yan Zi [2014] No. 001”.

Pursuant to the resolutions of shareholders’ general meeting and the amended articles of association of the Company, China Huaneng Group enlarged the paid-in capital of RMB200 million in the year of 2015, and the changed registered capital and paid-in capital amounted to RMB1,917.13 million.

2. Scope of business and summary of operations

The total installed capacity of Huaneng Jilin is 2,528,000 KW. Main businesses of the Company include production, operation, management and sales of electric and thermal power. The business covers the various energy fields including high-parameter high-capacity thermal power, cogeneration, wind power, hydropower, biomass power generation, etc.

The Company has 5 branches: Jiutai Power Plant (20061; 24288;), Changchun Thermal Power Plant (38263; 26149; 29105; 24288;), Siping wind power plant (22235; 24179; 39080; 24288;), Tongyu wind power plant (36890; 27014; 39080; 24288;) and Thermal Power Branch (29105; 21147; 20998; 20844; 21496;).

The Company Headquarters consist of 11 departments: department of managerial work, planning department, marketing department, fuel management department, finance department, work safety department, infrastructure department, human resources department, discipline inspection and supervision department, auditing department, party construction department.

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3. Affiliated branches and long-term equity investment

As at 31 May 2016, the Company has two coal-fired power plants: Jiutai Power Plant (2×670,000KW), Changchun Thermal Power Plant (2×350,000KW); three wind power plants: Zhenlai Wind Power Company (Phases I~II: 99,000kW), Siping wind power plant (Phases I~IV: 196,500KW), Tongyu Tuanjie wind power plant (Phases A, B & C: 147,000KW); one biomass power plant: Nongan Biomass Power Plant (25,000KW); and one hydropower plant: Linjiang Jubao Hydropower Company (2×10,000KW).

(1) General conditions of the affiliated branches are as follows:

Jiutai Power Plant

Jiutai Power Plant is settled in Zhaoxu Energy Industrial Park in Jiutai City, Jilin Province. The installed capacity invested by the project is 2×670MW domestic supercritical coal-fired and wet cooling unit. Jiutai Power Plant is the first domestic supercritical lignite tower-type boiler power plant that has the largest unit capacity, the highest operating parameter in Jilin Province and with the installed capacity of 670,000kW in China. The project was commenced on 13 May 2007, with two units put into operation on 24 October 2009 and 6 December 2009, respectively.

&#8218; Changchun Thermal Power Plant

Changchun Thermal Power Plant is located in Nongan County to the northwest of Changchun City, Jilin. The plant is approximately 18km from downtown Changchun. It is one of the “developing large units and suppressing small ones” thermal power projects for the first batch in Jilin Province approved by the National Development and Reform Commission. The project consists of construction of 2×350,000kW domestic supercritical coal-fired thermal power units. This is the first 350MW supercritical lignite-fired thermal power plant independently developed. The project was commenced on 29 June 2008, with units #1 and #2 put into operation on 25 December 2009 and 19 April 2010, respectively.

&#402; Siping wind power plant

Siping wind power plant is located in Siping Land Reclamation Management District in Jilin Province and covers the area of 61.4 sq. km. The project has a planned capacity of 300,000kW and is equipped with 1×220KV booster station. The project was commenced on 26 June 2009, with Phases I~IV work put into operation on 6 October 2010, 25 December 2010, 30 November 2010 and 10 December 2010, respectively.

&#8222; Tongyu wind power plant

Tongyu wind power plant is a wind power plant built in Tongyu County, Baicheng City with the investment of the Company. It has a planned capacity of 300MW and is to be constructed in six phases. Phases A, B and C are put in construction in early periods. Phases A and B were commenced on 18 August 2010, and Phase C was commenced on 20 April 2015. The project was put in operation on 29 December 2015.

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## Thermal Power Branch

Established in May 2016, Thermal Power Branch is in charge of centralized management of heat supply business for the power plants under the Company, and development, management and operations of heat and power sales market in Jilin Province;

(2) General conditions of long-term investment are as follows:

No.	Company name	Date of investment	Shareholding ratio	Investment cost (RMB0'000)	Accounting method	Operating conditions
1	Huaneng Linjiang Jubao Hydropower Co., Ltd.	2011.4	100.00%	2,000.00	Cost method	Hydropower development and operations, under normal operation
2	Huaneng Jilin Biomass Power Generation Co., Ltd.	2011.10	100.00%	17,084.89	Cost method	Biomass power generation, under normal operation
3	Huaneng Zhenlai Wind Power Co., Ltd.	2012.5	100.00%	500.00	Cost method	Wind power generation, construction and operation, under normal operation
4	Total			19,584.89		

## Huaneng Linjiang Jubao Hydropower Co., Ltd.

(&#33775;&#33021;&#33256;&#27743;&#32858;&#23542;&#27700; &#26377;&#38480;&#20844;&#21496;)

Huaneng Linjiang Jubao Hydropower Co., Ltd. is a wholly-owned subsidiary incorporated based on acquisition and restructuring of the former Linjiang Jubao Power Plant by the Company in October 2008. It is the first hydropower firm subordinate to the Company with the registered capital of RMB20 million. Total installed capacity of the power plant is 20,000kW. The plant is installed with 2×10,000kW Francis generator units. This is a small power plant with the maximum installed capacity in Linjiang and also a leading power plant for cascade development of water energy along the basin.

## Huaneng Jilin Biomass Power Generation Co., Ltd.

(&#33775;&#33021;&#21513;&#26519;&#29983;&#29289; &#26377;&#38480;&#20844;&#21496;)

Nongan Biomass Power Plant under Huaneng Jilin Biomass Power Generation Co., Ltd. is the only biomass power generation project in service of Huaneng Group. Nongan Biomass Power Plant is located in the industrial cluster in Nongan County, Jilin Province. The plant covers an area of 11 hectares. It has the installed capacity of 1×25MW and is equipped with 130t/h high-temperature high-pressure vibrating grater boilers fueled by agricultural straws. The project was commenced in April 2007. The unit was put into operation in January 2012.

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Huaneng Zhenlai Wind Power Co., Ltd.

(#33775;#33021;#37806;#36058;#39080;#21147; #26377;#38480;#20844;#21496;)

Located in Zhenlai County, Jilin Province, Huaneng Zhenlai Wind Power Co., Ltd. is the first wind power project invested by the Company in Jilin Province. The project has a planned capacity of 100MW to be implemented in two phases. Phase I work was commenced on 25 August 2008, with 33 fans put into operation on 29 June 2009. Phase II work was commenced on 20 March 2011, with all fans put into operation on 20 December 2011.

## (3) Available-for-sale financial assets

The available-for-sale financial assets include stock investment and other investments.

The stock investment is stock of Bank of Communications (stock code: 601328). The number of shares is 1,429,010 shares. The cost of acquisition is RMB1,300,000 and the book value is RMB7,902,425.30. The fair value is used in accounting. The stock has the arm's length transaction on the valuation base date.

#218; General conditions of other investments are as follows:

No.	Investee	Type	Date of investment
1	Jilin Zhanyu Wind Power Assets Operation and Management Co., Ltd. (#21513;#26519;#30465;#30651;#27014;#39080; #36039; #29986;#32147;#29151;#31649;#29702;#26377;#38480;#20844;#21496;)	Equity investment	2009.12
2	Jilin Provincial Electrical Power Science Research Institute Co., Ltd. (#21513;#26519;#30465; #21147;#31185;#23416;#30740; #31350;#38498;#26377;#38480;#20844;#21496;)	Equity investment	2011.4
Total			

## APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

## 4. Financial position and results of operations of the Company

The audited financial position and results of operation of the entities evaluated for the last 2 years and as at the base date are tabulated below (currency and unit: RMB):

Items	Statement of the parent company		
	31 December 2014	31 December 2015	31 May 2016
Current assets	3,546,712,226.38	3,798,767,895.55	3,983,724,600.29
Including: monetary capital	216,084,874.41	419,390,851.24	531,128,479.33
Notes receivable	30,850,000.00	173,226,323.46	97,674,911.65
Accounts receivable	276,385,454.75	179,056,588.03	260,704,806.46
Prepayment	3,223,241.24	3,601,813.00	7,199,672.36
Other receivables	2,915,155,603.71	2,815,201,896.06	2,922,452,406.09
Inventory	105,013,052.27	51,338,981.18	36,306,770.67
Non-current assets due within a year		77,240,000.00	77,240,000.00
Other current assets		39,686,887.32	51,017,553.73
Non-current assets	9,656,225,167.21	7,767,265,161.14	7,531,108,460.34
Including: financial assets available for sale	87,937,268.00	95,502,824.40	94,202,425.30
Held-to-maturity investment	1,204,100,000.00		
Long-term receivables	77,240,000.00		
Long-term equity investment	555,848,941.65	20,000,000.00	20,000,000.00
Investment real estate	4,328,389.44	4,153,422.73	4,080,519.94
Fixed assets	7,359,985,185.92	6,208,988,716.26	6,943,348,719.15
Construction in progress	230,038,361.46	937,540,707.79	31,030,064.84
Engineer material	1,493,057.97	101,875.48	113,837.02
Intangible assets	135,253,962.77	127,600,505.37	124,568,890.09
Other non-current assets	–	154,615,550.70	130,466,720.22
Deferred income tax assets		218,761,558.41	183,297,283.78
Total assets	13,202,937,393.59	11,526,008,501.43	11,514,833,060.63
Current liabilities	2,179,353,981.42	2,482,445,813.20	2,436,317,058.31
Non-current liabilities	10,255,037,862.43	9,482,372,912.94	9,410,933,403.14
Total liabilities	12,434,391,843.85	11,964,818,726.14	11,847,250,461.45
Owner's equity	768,545,549.74	-438,810,224.713	-332,417,400.82

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## APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

Items	31 December 2014	31 December 2015	January to May 2016
Operating income	2,783,864,786.71	2,251,183,622.10	991,574,541.56
Less: cost of operation	2,301,010,713.07	1,783,315,270.29	632,350,782.14
Tax and surcharges	23,342,526.87	22,207,196.27	10,287,503.71
Sales expense			—
Management expense	45,908,934.74	106,611,264.64	42,066,161.43
Financial expense	501,740,537.20	407,997,749.22	127,224,769.54
Asset impairment loss	—	44,180,168.73	35,729,685.41
Investment returns	47,783,684.63	40,189,234.95	
Operating profit	-40,354,240.54	-72,938,792.11	143,915,639.33
Add: non-operating income	40,783,176.39	22,668,901.42	467,301.00
Less: non-operating expenses	197,055,950.55	869,475.65	1,225,442.71
Total profit	-196,627,014.70	-51,139,366.34	143,157,497.62
Less: income tax		-1,739,799.40	35,789,374.40
Net profit	-196,627,014.70	49,399,566.94	107,368,123.22

These financial statements for the year ended 2014 have been audited by Beijing Zhongzheng Tiantong Certified Public Accountants (Special General Partnership) (&#21271;&#20140;&#20013;&#35657;&#22825;&#36890;&#26371;&#35336;&#24107;&#20107;&#21209;&#25152;&#65288;&#29305;&#27530;&#26222;&#36890;&#21512;&#22821;&#65289;), and have issued audit report with unqualified opinion.

The financial statements on the base date and in 2015 have been audited by PricewaterhouseCoopers Zhong Tian LLP (Special General Partnership) (&#26222;&#375&#2704&#3097&#2013&#22825;&#26371;&#3536&#24107&#2107&#21209&#25152&#65288&#29305&#27530&#26222&#36890&#21512&#22821&#65289), and have issued audit report with unqualified opinion.

Huaneng Jilin Power Generation Co., Ltd. enforces the Accounting Standard for Business Enterprises. The accounting year begins on 1 January and ends on 31 December. RMB is used as the recording currency. The accounting is based on the accrual method. The historic cost is used as the valuation principle of assets.

## (IV) Relationship between the clients and the entities evaluated

The entities evaluated is a wholly-owned subsidiary of China Huaneng Group which is one of the clients.

## (V) Other report users other than the clients

According to the economic activity and the valuation purpose, the clients confirmed that the valuation report can be used by other users other than the clients as stipulated by national laws and regulations.





APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

II. VALUATION PURPOSE

China Huaneng Group intends to transfer its equity projects in Huaneng Jilin Power Generation Co., Ltd. to Huaneng Power International, Inc.. The asset valuation purpose is to analyze, estimate and present professional opinions on the market value of the total equity of shareholders of Huaneng Jilin Power Generation Co., Ltd. on 31 May 2016, being the valuation base date, which involved in this economic activity.

III. OBJECT AND SCOPE OF VALUATION

(I) Valuation object

The valuation object is the total equity of shareholders of Huaneng Jinlin.

(II) Valuation scope

This asset valuation covers all assets and related liabilities listed in the audited balance sheet as at 31 May 2016 of Huaneng Jilin in relation to the valuation object, including: the total book value of assets is RMB11,514,833,060.63, where: the book value of current assets is RMB3,983,724,600.29; the book value of non-current assets is RMB7,531,108,460.34; and the book value of liabilities is RMB11,847,250,461.45, including: the book value of current liabilities is RMB2,436,317,058.31 and the book value of non-current liabilities is RMB9,410,933,403.14; and the book value of net assets is RMB-332,417,400.82. The entities evaluated have no any unreported off-balance-sheet assets.

Main assets conditions are as follows:

1. Jilin Company Headquarters

Main current assets of Jilin Company Headquarters are monetary funds, other receivables and other current assets; non-current assets are available-for-sale financial assets, long-term equity investment, buildings, equipment, construction in progress and other intangible assets.

(1) Other receivables are mainly current accounts of subsidiaries; other current assets are mainly current accounts of branches and subsidiaries.

(2) Available-for-sale financial assets include stock investment and other investments.

## APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

1 The stock investment is stock of Bank of Communications (stock code: 601328). The number of shares is 1,429,010 shares. The cost of acquisition is RMB1,300,000 and the book value is RMB7,902,425.30. The fair value is used in accounting. The stock has the arm's length transaction on the valuation base date.

2 Other investments reflect other equity investments in 2 companies. The investees are tabulated below:

No.	Investee	Date of investment	Contribution ratio	Paid-in ratio	Investment cost (RMB0'000)	Book value (RMB0'000)	Accounting method	Operating conditions
1	Jilin Zhanyu Wind Power Assets Operation and Management Co., Ltd.	2009.12	12.86%	16.15%	8,545.00	8,545.00	Cost method	Under construction, operation not commenced
2	Jilin Provincial Electrical Power Science Research Institute Co., Ltd.	2011.4	2.48%	2.48%	85.00	85.00	Cost method	Under normal operation
3	Total				8,630.00	8,630.00		

## (3) Long-term equity investment

The long-term equity investment reflects the equity investment in 3 companies. The investees are tabulated below:

No.	Company name	Date of investment	Shareholding ratio	Investment cost (RMB0'000)	Book value (RMB0'000)
1	Huaneng Linjiang Jubao Hydropower Co., Ltd. (#33775;#33021;#33256;#27743;#32858;#23542;#27700;#26377;#38480;#20844;#21496;)	2011.4	100.00%	2,000.00	2,000.00
2	Huaneng Jilin Biomass Power Generation Co., Ltd. (#33775;#33021;#21513;#26519;#29983;#29289;#26377;#38480;#20844;#21496;)	2011.10	100.00%	17,084.89	
3	Huaneng Zhenlai Wind Power Co., Ltd. (#33775;#33021;#37806;#36058;#39080;#21147;#26377;#38480;#20844;#21496;)	2012.5	100.00%	500.00	

4 Total

19,584.89

2,000

(4)

Buildings

The entities evaluated report 1 building with the floor area of 169.30m<sup>2</sup> (with the area of underground parking space of the premises not included into the floor area, namely approximately 20m<sup>2</sup>). The building is located at Room 201A, Unit 2, Building 3-5(C5), No. 661, Silicon Valley Street, Changchun City and built in May 2008. The building is a commercial residential property with reinforced concrete structure. It is

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APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

designed with the storey height of 3m. The building has 6 floors in total. The valuation object is on the first floor. The Building Ownership Certificate number is Fang Quan Zheng Chang Fang Quan Zi No. 1120000060. The state-owned land use certificate has not yet obtained as of the valuation base date as the developer fails to subdivide the land. The type of land use right for the land of the valuation object is transferred. The termination date of land use right is 17 November 2050, and the remaining tenure of use is 34.47 years. The underground parking space attached to the premises of the valuation object is on the basement level and has no ownership certificate. The entities evaluated and the transferor Changchun Tianan Real Estate Development Co., Ltd. sign the Contract for Transfer of Use Right of Underground Parking Space stating that the service period will be expired on 17 November 2050 for the area of approximately 20m<sup>2</sup> to be used.

(5) Equipment, including machinery equipment, vehicles and electronic equipment.

The machinery equipment is mainly the light current system for the office building of the company, such as real-time production monitoring system, voice switching system of centralized control center, equipment of machine room, large screen system of centralized control center, core switch and network switch of centralized control center, antivirus software for network system, etc..

Vehicles are mainly passenger vehicles for making business association purpose. Vehicles are parked in the garage and parking lot of the entities evaluated. All the vehicles are in normal conditions in the annual inspection. They are in normal running conditions and in good condition;

The electronic equipment is mainly office equipment and furniture including photocopiers, laptop, desktop computers, printers, photocopies, scanners, air-conditioners, tables and chairs, sofas, etc. placed in the offices of the entities evaluated and in good service condition.

(6) Construction in progress, including civil work and equipment installation work.

There are 4 civil projects, including upfront fee of Shuangliao Forestry Farm wind power plant project, Sugongtuo wind power project, Lishu wind power project, and renovation and design fee of heating for the office building of Huaneng Jilin Power Generation Co., Ltd..

There are 7 equipment installation works, including online legal affair management system, risk management information system (Phase II), human resources optimizing project Phase IV (2014), promotion and implementation of digital archives, IT integrated management platform, standard promotion and implementation of office automation (OA) system and self-constructed project in 2015 – purchase of antivirus software, all of which are under construction.

(7) Other intangible assets, mainly purchased software recorded in the book.

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

2. Jiutai Power Plant

Main current assets of Jiutai Power Plant are accounts receivable and inventories; non-current assets are investment properties, buildings, equipment, land use right and other intangible assets.

(1) Accounts receivable, mainly the electric charge payable to the power supply company and heating charge payable to the heating company.

(2) Inventories, all of which are raw materials for production of coal, fuel, gasoline, diesel and other spare parts. There is a variety of inventories with shorter turnover period.

(3) Investment properties and buildings

Investment properties are the properties with an area of 1,099.65 square meters on the second floor of the office building of Huaneng Jilin Power Generation Co., Ltd.. The office building is located at No. 399, Xinghuo Road and consists of 17 stories including 16 above the ground and 1 below the ground. To the east lines Tiandu Hotel; to the south is Weixing Road; to the west is Changchun Enfu Oil Seal Company (&#38263;&#26149;&#24681;&#31119;&#27833;&#23553;&#20844;&#21496;) and to the north are residential communities. The investment properties are leased out on the valuation base date to the lessee Jilin Huinong Energy Technology Co., Ltd. (&#21513;&#26519;&#30465;&#24800;&#36786;&#33021;&#28304;&#25216;&#34899;&#32929;&#20221;&#26377;&#38480;&#20844;&#21496;) for the lease term from 1 February 2013 to 31 July 2016. The annual rent is RMB0.5 million.

The buildings included in the valuation scope are Jiutai Power Plant and ash yard in Tumenling Town, Jiutai City, Changchun, Jilin. The project was built in December 2009. Main assets include main plant, production and administration buildings and laboratories (including centralized control room), canteen, bathroom, garage, office building, training building, wagon tripper house, cooling tower, chimney, road for ash transfer, outdoor water supply and sewage work, special railway line work, plant road and square and other thermal power facilities including reinforced concrete framework structure in good maintenance and service condition.

(4) Equipment, including machinery equipment, vehicles and electronic equipment.

The equipment applied for by Jiutai Power Plant is the complete set of thermal power generation system consisting of 2×670MW supercritical coal-fired wet cooling units completed in Phase I. main system and equipment of the machinery equipment are:

Boilers are HG2100T/H supercritical parameter variable pressure DC boilers of Harbin Boiler Factory Co., Ltd (&#21704;&#29246;&#28657;&#37707;&#29200;&#24288;&#26377;&#38480;&#20844;&#21496;). The boilers are provided with octagonal tangential circle combustion mode (single furnace) and tower layout. The main steam parameter of BMCR operating condition is 2100t/h, 25.4MPa(a)/571°C.

Steam boilers are N670-24.2/566/566 supercritical parameter, primary intermediate reheating and three-cylinder four-exhaust condensing steam turbines of Harbin Steam Turbine Factory Co., Ltd (&#21704;&#29246;&#28657;&#27773; &#27231;&#24288;&#26377;&#38480;&#20844;&#21496;). The power rating is 670MW. The main steam parameter rating is 1995t/h, 24.2MPa/566° C and the rated back pressure is 4.9kPa.



APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

Generators are of QFSN-670-2 static excitation type of Harbin Steam Motor Factory Co., Ltd (&#21704;&#29246;&#28657; &#27773; &#27231;&#24288;&#26377;&#38480;&#20844;&#21496;). The cold-hydrogen-hydrogen pattern is used.

The pulverizing system is fan mill direct-fired pulverizing system. Each boiler is equipped with 8 fixed-speed fan mills, 6 of which are in service and 2 of which are for standby purpose. The mills are of MB3600 fan type. The power plant is provided with three-medium (high temperature flue gas + hot wind + cold flue gas) desiccant pulverizing system. In consideration of proximity to the city, oil source and transportation convenience, the power plant is equipped with 2×500m<sup>3</sup> fuel tanks and auxiliary facilities. Each unit has 2 double-chamber four-electric field static dust catchers. The boilers are provided with the design plan of SCR denitration unit. For the layout of the main plant, the turbine building, boiler room and chimneys are placed in the same line. The deaerator is placed at the side of line B on the operation level of turbine building. 8 fan mills are placed at surroundings of the boilers. Side bunkers are located at both sides of boilers and are fed at the boiler front.

The main plant has 17 levels at the longitudinal direction and is 171.20m long. The length from column row A to the chimney center line is 209.55m.

The power plant is provided with 2×35t/h coal-fired fast-assembly start-up boilers.

The fly ash system is provided with the design plan where pneumatic ash disposal systems with positive pressure are collectively placed in the ash silo. 2 furnaces have 3 ash silos (coarse-2, fine-1).

The power plant adopts centralized monitoring of furnace, turbine, motor, network and auxiliary shop system. 4 units are provided with 1 centralized control room (the monitoring site for 2 additional units is provided) where the operating mode under which unit set furnace, turbine, motor and auxiliary shop system are in service.

The make-up water pipe is built with the capacity for 4 units. An equalizing reservoir is located at the peak of the pipeline the front and back of which are designed in a manner that with 2×DN900 and 2×DN800 prestressed steel sleeve concrete pipes (PCCP pipe) are installed.

The coal loading railway of the power plant is provided with 2 double-car dumpers, one of which is built in Phase I and another one is left uncompleted. Civil work of the dumper room is built on a one-off basis. The total unloading capacity of the dumper is designed at 2,500t/h.

The power plant adopts limestone-gypsum wet flue gas desulfurization technology where 1 furnace and 1 tower are used. 100% flue gas bypass (now sealed) is provided. It is taken into account that the efficiency of desulfurization system is no less than 90%.

Main electric wiring of the power plant is 500KV primary voltage connection system with two outgoing circuits. New 500KV outgoing are not required in expansion of Phase II work. Existing 2×670MW generator units completed are connected with 6×260MVA main transformers to develop a unit system that is connected to 500KV busbar in parallel. It is connected to the system via the 500KV outdoor distribution unit.



## APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

Vehicles are mainly passenger vehicles, one part of which are for commuting of the staff and the other part of which is for making business association purpose. Vehicles are parked in the garage and parking lot of the entities evaluated. All the vehicles are in normal conditions in the annual inspection. They are in normal running conditions and in good condition;

The electronic equipment is mainly office equipment, including photocopiers, computers, etc. placed in offices of the entities evaluated and in good service condition.

## (5) Land use right

Intangible asset – there are 4 land use rights as detailed below:

No	Land ownership certificate No.	Parcel name	Land location	Date of acquisition	Land usage	Use of land	Development level	Area (m2)	Original value received
1	Jiu Guo Yong (2009) No. 012200234	Main plant	Tumenling Town, Jiutai, Changchun	2009/9/9	State-owned, allocated	Public utilities	Three connections and one leveling	382,758.00	
2	Jiu Guo Yong (2009) No. 012200235	Access road to ash storage yard (I)	Tumenling Town, Jiutai, Changchun	2009/9/9	State-owned, allocated	Highway	Three connections and one leveling	89,610.00	
3	Jiu Guo Yong (2009) No. 012200236	Ash storage yard	Tumenling Town, Jiutai, Changchun	2009/9/9	State-owned, allocated	Warehousing	Three connections and one leveling	363,163.00	89,494,160.56
4	Jiu Guo Yong (2009) No. 012200237	Access road to ash storage yard (II)	Tumenling Town, Jiutai, Changchun	2009/9/9	State-owned, allocated	Highway	Three connections and one leveling	1,448.00	
5	Jiu Guo Yong (2011) No. 012200079	Special railway line (I)	Tumenling Town, Jiutai, Changchun	2009/9/9	State-owned, allocated	Railway	Three connections and one leveling	53,019.00	
6	Jiu Guo Yong (2011) No. 012200080	Special railway line (II)	Tumenling Town, Jiutai, Changchun	2009/9/9	State-owned, allocated	Railway	Three connections and one leveling	63,991.00	

(6) Other intangible assets, mainly the operating technology and management software of the purchased domestic supercritical lignite tower-type boiler recorded into the book.

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APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

3. Changchun Thermal Power Plant

Main assets of Changchun Thermal Power Plant include inventories, buildings, equipment, construction in progress and land use right.

(1) Inventories, all of which are raw materials, including coal and fuel, and rolling bearing, general- purpose packing, stud, flat flange, high voltage fuse with shorter turnover period.

(2) Buildings

The buildings included in the valuation scope are Changchun Thermal Power Plant and ash yard of Huaneng Jilin Power Generation Co., Ltd. in Helong Town, Nongan County, Changchun City. Main assets include thermal power facilities including the main plant, comprehensive office building, induced draft fan room, coal pulverizer room, multi-use coal handling building, dumper room, centralized control building, cooling tower, chimney, ash silo, ash conveying road, special railway line work, plant road and ditches, etc. with reinforced concrete structure in good maintenance and service condition.

(3) Equipment, equipment assets include machinery equipment, vehicles and electronic equipment.

The machinery equipment is 2×350MW supercritical turbine generator units complete with single- furnace variable pressure DC supercritical boilers. Both sets were put into operation on 20 December 2009 and 17 April 2010 respectively. As of the valuation base date, two units of the plant are in good operating condition. Importance is attached to maintenance and service when they are used. Existing indicators meet the design requirements.

Vehicles are vehicles of various types. The electronic equipment is office equipment including computers in good service condition.

(4) Construction in progress, mainly the equipment installation work, including IT integrated management platform, “coal to electricity” project of boiler room for Thermal Power Living Quarters at Heping Street, renovation of creating fuel management benchmark power equipment, expansion of coal yards #1 and #2, technological development expenses, reconstruction plan for removal of bypass of desulfurization system, etc..

## APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

## (5) Land use right

Intangible assets – there are 4 land use rights as detailed below:

No.	Land ownership certificate No.	Land location	Date of acquisition	Type of use right	Use of land	Development level	Area (m2)	Book value
1	Nong Guo Yong (2012) No. 12210244	Suncaiyuanzi Village, Helong Town, Nongan County, Changchun City	June 2012	Allocated	Public utilities	Five connections and one leveling	241,700.00	
2	Nong Guo Yong (2012) No. 12210245	Tanjiatun Village, Helong Town, Nongan County, Changchun City	June 2012	Allocated	Public utilities	Five connections and one leveling	99,851.00	34,961,481.55
3	Nong Guo Yong (2012) No. 12210246	Yingxin Village, Helong Town, Nongan County, Changchun City	June 2012	Allocated	Public utilities	Five connections and one leveling	86,863.00	
4	No certificate	Land requisition for corner land	2008				43,520.87	1,164,425.00
5	Total							36,125,906.55

## 4. Siping wind power plant

Main assets of Siping wind power plant are buildings, equipment, construction in progress and land use right.

## (1) Buildings

The buildings (structures) included in the valuation scope are located in Shuangliao Sheep Breeding Farm, Land Reclamation Management District, Liaohe, Siping. The project is constructed in four phases and has the total installed capacity of 196.5MW. There are 20 buildings (structures) for the valuation. These buildings were built and put into operation in October 2010. There are 12 buildings including centralized control center building, 35KV distribution room, warehouse, garage, integrated pump house, comprehensive building of the base; there are 17 structures including other auxiliary facilities of the structures in the plant such as traffic roads (concrete or gravel pavement), 220KV bracket and foundation, 35KV support and foundation, generator unit tower foundation and foundation of box-type transformation substation (the book value of such portion is reflected in the equipment), fire pool, emergency oil pool, etc. in good maintenance and service condition.

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APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

(2) Equipment, including machinery equipment, vehicles and electronic equipment.

Machinery equipment is wind power equipment, transformation and distribution equipment and auxiliary production equipment. Total installed capacity of Siping wind power plant is 196.5MW to be constructed in four phases: the installed capacity of Phase I is 49.5MW, with 33 wind power generator units with the unit capacity of 1,500kW provided; the installed capacity of Phase II is 49.5MW, with 33 wind power generator units with the unit capacity of 1,500KW provided; the installed capacity of Phase III is 48MW, with 24 wind power generator units with the unit capacity of 2,000KW provided; and the installed capacity of Phase IV is 49.5MW, with 33 wind power generator units with the unit capacity of 1,500KW provided.

All existing wind power generator units and main equipment of the plant are in normal operation condition and free of major accident or failure. Importance is attached to maintenance and service when they are used. Existing technical indicators meet the design requirements.

Vehicles are vehicles of various types. Vehicles are parked in the garage and parking lot of the entities evaluated. All the vehicles are in normal conditions through the annual inspection. They are in normal running conditions and in good condition;

The electronic equipment is mainly office equipment and furniture including photocopiers, laptop, printers, photocopies, scanners, air-conditioners, tables and chairs, sofas, etc. placed in the offices of the entities evaluated and in good service condition.

(3) Construction in progress, mainly the civil work, including civil work and upfront fee of the wind power project consisting of phases V.

## APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

## (4) Land use right

Intangible assets – there are 11 land use rights, contributing to the total area of land use right of 467,818.00m<sup>2</sup> for public utilities use. The nature of land use right is allocated land. The details are as follows:

No.	Land certification No.	Land location	Land usage	Use of land	Area (M2)	Original value received	Book value (RMB)
I	Land for Phase I						
1	Si Guo Yong (2011) No. 14-00078	Shuangliao Sheep Breeding Farm	Allocated	Land for public utilities	400.00		
2	Si Guo Yong (2011) No. 14-00079	Shuangliao Sheep Breeding Farm	Allocated	Land for public utilities	400.00		
3	Si Guo Yong (2011) No. 14-00080	Shuangliao Sheep Breeding Farm	Allocated	Land for public utilities	400.00	6,915,057.15	6,154,399.64
4	Si Guo Yong (2011) No. 14-00070	Shuangliao Sheep Breeding Farm	Allocated	Land for public utilities	400.00		
5	Si Guo Yong (2011) No. 14-00071	Shuangliao Sheep Breeding Farm	Allocated	Land for public utilities	104,866.00		
6	Si Guo Yong (2011) No. 14-00069	Shuangliao Sheep Breeding Farm	Allocated	Land for public utilities	17,493.00		
II	Land for Phase II						
7	Shuang Guo Yong (2012) No. 822600047	Xinglong Town, Xiangyang Township, Shuangliao City	Allocated	Land for public utilities	131,816.00	13,220,966.25	11,766,661.47
III	Land for Phase III						
8	Shuang Guo Yong (2012) No.	Xiangyang Township,	Allocated	Land for public	84,650.00	8,784,803.66	7,818,475.94

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	822600048	Shuangliao City		utilities		
IV	Land for Phase IV					
9	Si Guo Yong (2013) No. 14-00079	Shuangliao Sheep Breeding Farm, Land Reclamation Management District, Liaohe, Siping	Allocated	Land for public utilities	80,827.93	
						12,107,194.24 10,775,401.61
10	Si Guo Yong (2013) No. 14-00077	Shuangliao Sheep Breeding Farm, Land Reclamation Management District, Liaohe, Siping	Allocated	Land for public utilities	4,061.00	
11	Si Guo Yong (2013) No. 14-00078	Shuangliao Sheep Breeding Farm, Land Reclamation Management District, Liaohe, Siping	Allocated	Land for public utilities	42,504.07	
	Total					&#8251; &#8251; &#8251; 467,818.00 41,028,021.30 36,514,938.66



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5. Tongyu wind power plant

Main assets of Tongyu wind power plant are buildings, equipment, construction in progress and land use right.

(1) Buildings

The buildings of Tongyu wind power plant are the power production, office and auxiliary facilities of Phases A, B and C work. Phases A, B and C work of Tongyu wind power plant were completed in 2015. The company achieved estimated conversion to fixed assets of the project in early period. The work was estimated conversion to fixed assets and reflected under fixed-assets-machinery equipment item. The book value has not yet been known as no details are provided.

Huaneng Tongyu Tuanjie wind power plant is located in Tuanjie Township, Tongyu County, Baicheng, Jilin. The project is to be constructed in six phases with the planned capacity of 300MW. Phases A, B and C work are completed, while Phases D, E and F are not commenced. The items included in the valuation scope are buildings of Phases A, B and C work, where: the installed capacity of Phase A construction project is 49.5MW, with 25×2MW wind power units installed; the installed capacity of Phase B construction project is 49.5MW, with 25×2MW wind power units installed. The commencement date of Phases A and B work was August 2010. However, the project was suspended due to the slow progress of Tongyu 500KW output project. The date of resumption to work was the second half of 2014. The completion date was August 2015. The installed capacity of Phase C construction project is 48MW, with 24×2MW wind power units installed. Such reasons lead to a failure to scheduled commencement of the project. The actual commencement date was the early 2015. The completion date was October 2015. Main assets are comprehensive production building, living quarters, spare parts warehouse of pump house, spare parts warehouse of garage, product oil depot, 220KV booster station, plant fences and gates, fans and box- type transformer substations, access to wind farm, access road of booster station and site leveling with reinforced concrete frame structure and in good maintenance and service condition.

(2) Equipment, including machinery equipment, vehicles and electronic equipment.

Machinery equipment is mainly wind power equipment, transformation and distribution equipment and auxiliary production equipment.

All existing wind power generator units and main equipment of the plant are in normal operation condition and free of major accident or failure. Importance is attached to maintenance and service when they are used. Existing technical indicators meet the design requirements.

Vehicles are vehicles of various types. The electronic equipment is office equipment including computers in good service condition.

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

(3) Construction in progress, all of which are civil work, mainly the upfront fee of Tongyu wind power project of Phases D, E and F. As of the valuation base date, Phases D, E and F wind power project of Tongyu Tuanjie wind power plant has not yet been commenced.

6. Thermal Power Branch

Main assets of the Thermal Power Branch include monetary fund and electronic equipment.

Assets and liabilities included in the valuation scope are in consistent with the scope determined in the Asset Valuation Engagement Letter for the entrusted valuation.

Assets and liabilities included in the valuation scope have been audited by PricewaterhouseCoopers Zhong Tian LLP (Special General Partnership), with the audit report (the PwC ZT Te Shen Zi (2016) No. 1936) provided without any reservation.

IV. TYPE OF VALUE AND ITS DEFINITION

With full consideration of purpose of valuation, market conditions, conditions of valuation object and national regulations on valuation, it is determined that the value type of asset valuation is market value. This means that the voluntary buyer and the voluntary seller value the estimated amount of value under normal and fair transaction of the object on the valuation base date in a rational way and without subject to any forces.

V. VALUATION BASE DATE

The Assets valuation base date selected for the project is 31 May 2016.

The valuation base date is determined through negotiation between the client and the entities evaluated according to the special purpose of the valuation. The reasons and conditions for such determination are:

(I) It is close to the date on which the economic behavior is achieved;

(II) Huaneng Jilin checked all assets and related liabilities as at the valuation base date. The balance sheet as at the base date is prepared on such basis. The financial statements have been audited and confirmed by PricewaterhouseCoopers Zhong Tian LLP (Special General Partnership), which lays foundation for asset valuation.

Definition of asset valuation scope, determination of valuation price and selection of valuation parameters for asset valuation are based on the internal financial statements of the Company as at the valuation base date, external economic conditions and market conditions.

The price level (data) used in the asset valuation is the effective price standard of the open market as at the valuation base date.

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

VI. VALUATION BASIS

(I) Basis of the economic activity

1. The resolution minutes of the general manager meeting of China Huaneng Group (Edition 34, 2016).

(II) Legal basis

1. Company Law of the People's Republic of China (revised on 28 December 2013);
2. The Property Law of the People's Republic of China (Decree of the President of the PRC No.5, issued on 16 March 2007);
3. Securities Law of the People's Republic of China (Decree of the President of the PRC No.43, issued on 27 October 2005);
4. Administrative Measures for Valuation of State-owned Assets (No.91 order of State Council in 1991, 1991);
5. Temporary Provision for Supervision of State-owned Assets of the Enterprise (No.378 order of State Council, 2003)
6. Enterprise State-owned Assets Law of the People's Republic of China (Decree of the President of the PRC No.5, issued on 28 October 2008);
7. Interim Measures for the Administration of Valuation of Enterprises State-owned Assets (Order No.12 of the State-owned Assets Supervision & Administration Commission of the State Council, issued on 25 August 2005);
8. The Notice on the Issues Related to Strengthening Management of Valuation of State-owned Assets of Enterprises (Guo Zi Wei Chan Quan [2006] No.274);
9. The Notice of the Ministry of Finance and the State Administration of Taxation on Several Issues Concerning the Transformation and Reform of Value-added Tax in China (Cai Shui [2008] No. 170);
10. Law of the People's Republic of China on the Administration of Urban Real Estate (Decree of the President of the PRC No.72, revised at the twenty-ninth meeting of the Standing Committee of the Tenth National People's Congress of People's Republic of China on 30 August 2007);
11. Land Administration Law of the People's Republic of China (Decree of the President of the PRC No.28, revised at the eleventh meeting of the Standing Committee of the Tenth National People's Congress on 28 August 2004);

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12. Implementation Regulations for Land Administration Law of the People's Republic of China (No.256 order of State Council);
13. Procedures for Valuation of Urban Lands (GB/T18508-2001);
14. Procedures for Rating of Urban Lands (GB/T18507-2001) (issued by the People's Republic of China National General Administration of Quality Supervision, Inspection and Quarantine on 12 November 2001 and implemented on 1 July 2002);
15. Standards of Valuation of Real Estates GB/T50291-1999;
16. PRC Interim Regulations on the Assignment and Transfer of the Right to Use State-owned Land in Urban Areas (No.55 order of State Council of the PRC, issued on 19 May 1990);
17. Accounting Standard for Enterprises – Basic Standard (the Ministry of Finance Decree No.33, issued on 15 February 2006).

(III) Principle basis

1. Asset Valuation Standards – Basic Principles (Cai Qi [2004] No.20);
2. Standards of Professional Ethics for Asset Valuation – Basic Principles (Cai Qi [2004] No.20);
3. Standards of Professional Ethics for Asset Valuation – Independence (Zhong Ping Xie [2012] No.248);
4. Asset Valuation Standards – Valuation Report (Zhong Ping Xie [2011] No.230);
5. Asset Valuation Standards – Valuation Procedure (Zhong Ping Xie [2007] No.189);
6. Asset Valuation Standards –Letter of Engagement (Zhong Ping Xie [2011] No.230);
7. Asset Valuation Standards – Working Papers (Zhong Ping Xie [2007] No.189);
8. Asset Valuation Standards – Machinery and Equipment (Zhong Ping Xie [2007] No.189);
9. Asset Valuation Standards – Real Estate (Zhong Ping Xie [2007] No.189);
10. Asset Valuation Standards – Intangible assets (Zhong Ping Xie [2008] No.217);
11. Asset Valuation Standards – Enterprise Value (Zhong Ping Xie [2011] No.227);
12. Investment Real Estate Evaluation Guidance Opinions (Trial) (Zhong Ping Xie [2009] No.211);
13. The Guiding Opinions on Types of Value in Asset Valuation (Zhong Ping Xie [2007] No.189);



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14. Guiding Opinions on Attention of Certified Public Valuers on Legal Ownership of Valuation Objects (Kuai Xie [2003] No.18);

15. The Guidelines for the State-owned Asset Valuation Reports of Enterprises (Zhong Ping Xie [2008] No.218);

(IV) Right ownership basis

1. Business license for the legal entity of the client, entities evaluated and investees;
2. State-owned land use right certificate, building ownership certificate, etc.
3. Procurement invoice of significant equipment.

(V) Pricing basis

1. The Latest Commonly Used Data and Coefficient Handbook in Asset Valuation (2012);
  2. Price index published by the national authority;
  3. The loan interest rate announced by the financial institutions of People's Bank of China;
4. The 2013 Version of the Electric Power Construction Engineering Quota and Cost Calculation Rules Issued by National Energy Administration (Guo Neng Dian Li [2013] No.289);
5. Thermal Power Project Construction Budgeting and Calculation Rules (2013);
  6. Budget Compilation and Calculation Standards in Electric Power Construction Projects (2013);
7. Thermal Power Engineering Limited Design Reference Cost Indicators (level 2015) by the Institute of Electric Power Planning and Design;
8. Master station file on cost and quota management in power construction projects, the Circular on Releasing the 2013 Version Pricing Level Adjustment for the Financial Estimates and Budget Quota of Power Construction Project (Ding E [2015] No. 44);
9. Master station file on cost and quota management in power construction projects, the Circular on Releasing the Pricing of Electric Power Engineering is Basing on the Transitional Implementation Plan Made for Adapting the Transition from Business Tax to Value-added Tax (Ding E [2016] No.9);
10. Notice of Department of Housing and Urban-Rural Development of Jilin Province on Issuing the Measures for the Implementation of Adjusting the Pricing Basis of Construction Work in Jilin Province by Replacing Business Tax with Valued-added Tax in the Construction Industry (Ji Jian Zao [2016] No. 6);

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11. Onshore Wind Farm Project Budget Quota (2011) (NB/T31010-2011), Provisions and Standards for the Preparation of Budget of Onshore Wind Farm Project (2011) (NB/ T31011-2011);
12. Valuation and cost quota for construction, decoration and installation work of Jilin Province (2014);
13. Construction Cost Information for Jilin Project (May 2016);
14. Notice on the Issuing of Provisions on the Administration of Charge for Engineering Survey and Design (Ji Jia Ge [2002] No.10) issued by National Development Planning Commission and Ministry of Construction;
15. Notice on Construction Project Supervision and the Related Service Charge Management Stipulation (Fa Gai Jia Ge [2007] No.670) Issued by the National Development and Reform Commission and the Ministry of Construction;
16. The Notice on the Reduction of On-grid Tariffs for Coal-fired Power Generation and Electricity Prices for General Industrial and Commercial Use issued by National Development and Reform Commission (Fa Gai Jia Ge [2015] No.3105);
17. Local government, financial regulation on electricity prices, subsidies and other related documents;
18. Notice on Perfection of Policies Regarding the Grid Tariffs of Wind Power Generation issued by National Development and Reform Commission (Fa Gai Jia Ge [2009] No.1906);
19. Notice on the Issuing of Interim Measures for Administration of Subsidy Funds for Tariff Premium of Renewable Energy (Cai Jian [2012] No.102);
20. Notice of National Development and Reform Commission, Ministry Environmental Protection and National Energy Administration on Problems Regarding Implementation of Supporting Policies for Ultra-Low Emissions Electricity Price of Coal-fired Power Plants issued by the National Development and Reform Commission, the Ministry of Environmental Protection, National Energy Administration (Fa Gai Jia Ge [2015] No.2835);
21. Notice on Improving Onshore Wind Benchmark Price of Photovoltaic Electricity Policy issued by the National Development and Reform Commission (Fa Gai Jia Ge [2015] No.3044);
22. Feasibility study, design, budgt, completion settlement and final settlement for each electric power project of target power plant.
23. Price information published on professional websites including Zhongguancun On Line, Autohome, etc.;

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24. Interim Regulation of the People's Republic of China on Vehicle Purchase Taxes (Order No. 294 of the State Council, 2000);
25. The Provisions on the Criteria for Compulsory Discard of Motor Vehicles (the ministry of commerce, national development and reform commission, ministry of public security, environmental protection, No.12 of 2012);
26. Standard for Evaluation of Damage Condition of Houses of the former Ministry of Urban and Rural Construction and Environmental Protection (8 November 1984);
27. Code for Design of Civil Buildings (GB50352-2005);
28. Real estate transaction and tenancy information;
29. Historic business data and future revenue forecast data provided by entities evaluated;
30. Relevant industrial information collected by appraisers;
31. Relevant data inquired from iFinD terminal;
32. Contracts, accounting documents, accounting statements and other accounting information provided by the entities evaluated;
33. Assets valuation declaration form provided by the entities evaluated;
34. Relevant written information, certificates and other relevant information provided by the entities evaluated;
35. Other legal documents information provided by the entities evaluated;
36. On-site survey records, working paper.

(VI) Other basis

1. An standard unqualified audit report (the PwC ZT Te Shen Zi (2016) No.1936) issued by PricewaterhouseCoopers Zhong Tian (Special General Partnership);
2. Summary Report of Land Appraisal ((Beijing) Zhong Di Hua Xia [2016] Ping (Gu) Zi No.70) and its fascicule issued by Beijing Zhongdi Land and Real Estate Appraisal Co. Ltd..

VII. VALUATION METHOD

Market method, asset-based method and income method can be used in asset valuation based on the asset valuation basis. The specific method should be chosen based on the available data and information in light of valuation purpose combined with the specific nature of valuation type and valuation target of entities evaluated.



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(I) Selection and reason of valuation method

1. The entity evaluated was founded in 2007, principally engaged in the development, investment, construction, production, operation and sales of electric projects. Entity evaluated has operated normally since its establishment. The income method is considered in the valuation of the total shareholder's equity of entity evaluated based on the historical operation and financial data that can conduct an estimation for the future operating assets of the Company.
2. The number of the same industry as entity evaluated or property right transaction case in the similar industry is rare and difficult to get, market method is inappropriate in the case.
3. Each asset and debt of entity evaluated has been clear since its establishment and market price of individual asset is available and proven, while the use of each tangible asset and intangible asset is equipped with solid plan.

(II) Procedure and formula of asset-based method

The asset-based method for the valuation of an enterprise's value, also named cost method, refers to the valuation method whereby the value of the entity under valuation is determined by the reasonable valuation of all the on-balance-sheet and off-balance-sheet assets and liabilities of the enterprise based on the balance sheet of the enterprise under valuation as on the valuation base date. For assets, it is an asset valuation method that makes reference to the difference derived from deducting the physical depreciation, functional depreciation and economic depreciation incurred by the appraised assets from the total costs necessary for the replacement or construction of the new appraised assets under present conditions when determining the appraised value of the appraised assets. The cost method can also ascertain the value of the appraised asset by first estimating the newness of the appraised asset when compared with its brand new conditions, i.e. obtaining the newness rate, and then multiplying the newness rate by the total cost to obtain its appraised value. The basic formula is as follows:

Assessment value = replacement price – devaluation by real degradation – devaluation of economic obsolescence – devaluation by functional degradation

Or, assessment value = replacement price × newness rate

This report chooses the formula of assessment value = replacement price × newness rate, based on the collection of delegated estimation of market information and relevant data.

The valuation of each asset is as followed:

1. Valuation of current assets

Audited book value is assessment value for the nature of monetary of current assets (monetary capital) in the valuation of current assets. Based on the verification of creditor's assets, assessment value can be determined in light of the possibility of recovery through comprehensive analysis to its aging, nature and

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debtor's condition, etc. Current assets (inventory) in physical substance are calculated by current market price. Assessment value is determined by the transaction price of current market price on the basis of the verified number.

2. Valuation of available-for-sale financial assets

Available-for-sale financial assets consist of stock investment and other investment. Stock investment of enterprises is calculated by fair value. Other investment of enterprises is calculated by cost method. Different valuation methods are adopted in different investments, and the detail is as followed:

- (1) The assessment value is calculated by the close price on the valuation base date and number of shares due to the availability of normal transaction and open transaction price in the stock market for the shares of Bank of Communications.

Assessment value of stock investment = close price on the valuation base date × number of shares

Investments of two companies are non-listed company, and Huaneng Jilin (Huaneng Jilin) is all of its shares with no substantial control or significant influence and holdings. Jilin Zhanyu Wind Power Assets Management Co., Ltd. is currently in the construction phase, and has not been carried out since the establishment of business, no income and no profits; although Jilin Research Institute Co., Ltd. is in the normal operation, while there was an operating loss in January-May 2016.

In light of the above situation, assessment value is calculated by the carrying amount of net assets reflected in the unaudited statement provided by the two companies on 31 May 2016 and shareholding ratio of entities evaluated.

Assessment value of other investment = carrying amount of net assets of entities evaluated on valuation base date × shareholding ratio

3. Valuation of long-term equity investment

Long-term investment refers to a behavior that in order to obtain investment interests and income, enterprise injects assets to the projects that are not directly used for the enterprise itself. The existence of long-term investment is for the interests of other enterprises, and the valuation of long-term equity investment, therefore, refers to a valuation of equity on behalf of the long-term investment.

The assessment staff verifies the authenticity and integrity of the long-term investment through the reason of long-term investment, verification of book value and actual situation with reference of investment agreement, resolution of shareholder meeting, prospectus and relevant accounting records. While the assessment staff arrives the scene to verify their assets and liabilities and prepares an overall investment of entities evaluated. Each entities evaluated has operated normally since their foundation, and maintain the original operating mode and obtain the proceeds. Asset-based method and income method are considered in the valuation therefor.

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Assessment value of long-term investment = net assets after the overall valuation of entities evaluated × shareholding ratio

The valuation principles and methods of the parent company will be used in the valuation procedures of each equity investment company as well.

4. Valuation of investment real estate

Investment real estate refers to 1 real estate measured by cost mode, and the valuation adopts the method of real estate combined with land.

Please refer to the Valuation of Building Construction for further details of the theory and formula of the valuation method.

5. Valuation of building construction

Market method and replacement cost method are mainly adopted in the valuation for the scope of building construction on the basis of the use, acquisition and features of the building construction.

(1) Market comparison method

The basic principle of the market comparison method refers to compare the transaction of real estate similar to the delegated building construction on or around valuation base date with the delegated building construction in line with substitution principle to prepare an evaluation of objectively justified price or value of delegated building construction. The formula is as followed:

Price of property for valuation = price of comparable cases × (transaction index of valuation target/ transaction index of comparable cases) × (property price index on the transaction date of the valuation target/property price index on the transaction date of the comparable cases) × (regional factors and conditions index of valuation target/regional factors and conditions index of comparable cases) (individual factors and conditions index of the valuation target/individual factors and conditions index of comparable cases).

(2) Replacement cost method

Formula: estimated value = replacement costs × comprehensive newness rate

Determining the replacement cost

Replacement costs = civil and erection costs + preliminary work and other costs + capital costs

Construction and installation engineering cost:

&#8212; Common buildings

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Construction and installation engineering comprehensive cost = building engineering cost + decoration engineering cost + installation project cost

The valuers will choose representative buildings from buildings with same applications and structures according to the category of buildings, and determine the construction and installation engineering comprehensive cost on the valuation base date on the materials gathered that reflect the design, budget and final account, contract and the local construction project budget and building cost information.

Other buildings can be calculated with analogy method as per the construction and installation cost of other representative buildings from buildings with same applications and structures, combining the common data and parameter used for evaluation of buildings.

¶; Special buildings

Special buildings mainly refers to buildings built to meet the requirement of enterprise production process, equipment installation and product characteristics, such as main power house of thermal power projects, cooling tower, chimneys, etc.. Their replacement cost should be calculated according to related industry quota respectively.

The early stage cost of capital is calculated according to the 2013 Budgeting and Calculation Regulations of Thermal Power Projects.

Cost of capital is chosen by the available prevailing lending rate on the valuation base date based on the reasonable duration of project construction determined by construction scale of the construction project. For thermal power generation facilities, the cost of capital is calculated according to the 2013 Budgeting and Calculation Regulations of Thermal Power Projects:

Coefficient of the cost of capital = capital cost coefficient before the electricity generation of the first unit + capital cost coefficient after the electricity generation of the first unit.

Among them:

Capital cost coefficient before the electricity generation = ¶; [(cumulative investment at the beginning of the year + investment of the year/2) × annual interest rate]

Capital cost coefficient after the electricity generation of the first unit = ¶; [(investment of the year/2) × annual interest rate]

Cost of capital = (project cost + pre-project and other expenses) × coefficient of cost of capital

¶; Determination of comprehensive newness rate

The comprehensive newness rate is determined by the weighted average of the two calculate result of age limit approach and exploration approach. The calculation formula is as follows:

Comprehensive newness rate = age limit approach of newness rate × 40% + scoring approach × 60%



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Among them:

Age limit approach of newness rate = remaining durable years of the building ÷ economic and durable years of the building × 100%

The remaining durable years of the buildings refers to the remaining durable years of the building till the valuation base date. Generally it uses the durable yeas of the building minus the years already spent and make appropriate amendment according to the actual maintenance condition of the building.

The newness rate of scoring approach is determined according to the scoring standard of the newness rate of buildings with different structures, combining the site survey result of the structure, decoration and equipment (facilities) of the buildings.

The newness rate of scoring approach = scoring of the structure newness × G + scoring of decoration newness × S + scoring of equipment (facilities) newness × B

Evaluation of G, S and B is determined respectively according to ratio of the structure, decoration and equipment (facilities) in the total cost of the building

The scoring criteria of the newness of evaluated buildings are determined according to the national and local scoring criteria of the damage level and newness of the buildings, combining the requirement of design and usage of the buildings.

6. Valuation on assets of equipment

The value standard of this valuation is the market value of the equipment in continuous use and in the open market. According to the characteristic of the appraised assets, this valuation of the appraised assets applied cost method.

Cost method refers to an asset valuation method that makes reference to the difference derived from deducting the physical depreciation, functional depreciation and other kinds of depreciation incurred by the appraised assets from the total price and proper expenses necessary for the replacement or construction of the new appraised assets under present conditions when determining the appraised value of the appraised assets. The cost method can also ascertain the value of the appraised asset by first estimating the newness of the appraised asset when compared with its brand new conditions, i.e. obtaining the newness rate, and then multiplying the newness rate by the total cost to obtain its appraised value.

The basic formula is as follows:

Appraisal value = replacement cost – physical depreciation – economic depreciation – functional depreciation

Or, appraisal value = replacement cost × newness rate

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According to the collection of the market information and relevant parameters of the reported assets of equipment, appraisal value = replacement cost × newness rate is adopted as the calculation method for the valuation in this report.

(1) Determination of replacement value

1 main equipment and the major auxiliary equipment

Replacement cost = purchase cost for equipment + comprehensive transportation fee + installation and engineering fee + other cost + capital cost – deductible increase tax

Purchase cost for equipment: the price for main equipment and the major auxiliary equipment, such as the boiler, the gas turbine machine, power generation machine, the transformer, etc., which shall be fixed through the inquiry to the manufacturer for the price published on the date of valuation basis date, or seek for the market price in current time from relevant quotation materials, or refer to the price of the same type equipment purchased in recent period.

Comprehensive transportation fee: according to the Budgeting Preparation and Calculation Standards of Thermal Power Generation Engineering Construction (2013) and other requirements as published by the NDRC, the comprehensive transportation fee is measured after considering the distance between the plant and the manufacturer for equipment and different transportation tools, which included the handling, transportation charge, procurement, safekeeping and other expenses incurred from the manufacturing plant to the work site of the equipment. The calculation formula is as follows:

Comprehensive transportation fee = purchase cost for equipment × comprehensive transportation fee

Installation engineering fee: it will be determined after the adjustment made according to “The Electric Power Construction Engineering Budget Quota” (2013 edition); “Thermal Power Engineering Limited Design Reference Cost Indicators (level 2015)” by the Institute of Electric Power Planning and Design; Document for the Pricing for Power Engineer and Norm Management Station, the Notice to Adjust the 2015 Norm Price Level for Power Construction and Engineering budget in 2013 version”, Ding E Norm [2015] No.44; and Document for the Pricing for Power Engineer and Norm Management Station, “Notice on Pricing of Power Engineering According to the Transitional Implementation Plan for Adjustment from Business Tax to Value-added Tax”, Ding E [2016] No.9.

Other cost: It is confirmed according to the Budget Preparation and Calculation Standard for Thermal Power Generation Engineering Construction (2013) issued by the National Reform Commission and Notice about Management Provision for Engineering Survey Design Charge issued by State Development Planning Commission, Document for the Pricing for Power Engineer and Norm Management Station, “Notice on Pricing of Power Engineering According to the Transitional Implementation Plan for Adjustment from Business Tax to Value-added Tax”, Ding E [2016] No.9 and Ministry of Construction (Ji Jia Ge (2002) No.10).

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Capital cost: The capital cost is confirmed according to the reasonable construction work period in this project, based on the total amount for the cost to purchase the equipment, the installation and engineering fee, and other fee with the interest rate of loan in the corresponding period on the valuation base date.

The formula is as follows

The interest payable on the loans during the construction period = the loan interest payable for the construction period before the first unit starts generating electrical power + the loan interest payable for the construction period after the first unit starts generating electrical power

In the above formula: the loan interest payable for the construction period before the first unit started generating electrical power =  $\left[ \text{accumulated principal and interest of loans at the beginning of the year} + \frac{\text{loans for that year}}{2} \times \text{annual interest rate} \right]$

The loan interest payable during the construction period after the first unit started generating power =  $\left[ \text{loans of the year} / 2 \times \text{annual interest rate} \right]$

The deductible input tax: according to the Notice of the Ministry of Finance and the State Administration of Taxation on Several Issues Concerning the Transformation and Reform of Value-added Tax in China (Cai Shui [2008] No. 170) and the Notice of Carrying Out Business Tax Levy Value-added Tax Policy Pilot in the Transportation Industry and Part of Modern Service Industry in China (Cai Shui [2013] No. 37), input tax of newly purchased equipment and vehicles is to be deducted.

2 Transportation equipment

Replacement price = purchase cost of vehicle + vehicle purchase tax + license fees – deductible input tax

Purchase cost of vehicle: determined by referring to the latest transaction price of the same local vehicle type.

Purchase tax on vehicles: pursuant to the requirements of the PRC Tentative Regulations on Vehicle Purchase Tax (Cai Shui [2001] No. 294, (No.294 order of the State Council for the year 2001) and Notice on the Reduction of the Purchase Tax on Vehicles for 1.6 Liters and the following Displacement of Passenger Vehicle from Ministry of Finance and the State Administration of Taxation ([2015] No.104), purchase tax on vehicles is calculated by 10% and 5% of the tax price, respectively.

Licence fee: The determination of licence fee is based on the reasonable level of charge standard of the local vehicle management department.

3 Other machinery and equipment

Total replacement costs = purchase price of equipment + freight and miscellaneous charges + installation and commissioning charges + cost of funds – deductible input tax



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The amount is determined mainly according to the Handbook for Price Quotations of Mechanical and Electrical Products in China for the Year 2016 and the latest market trading price of the equipment. Further, according to the document "Cai Shui [2008] No. 170", the value-added tax measured will be deducted from the total replacement costs of the equipment which meets the conditions for the deduction of value-added tax.

(2) Determination of newness rate

The newness rate is determined via the on-site inspection on the use, construction environment, maintenance, observable conditions, utilization rate and availability of the equipment and upon exchange of views among operating crew and reference to necessary records inspected in respect of, among others, the operating conditions, incidents, repair and maintenance and performance assessment of such equipment.

1 Determination of newness rate of the electronic specific equipment and general machinery equipment

Its available usage period is confirmed mainly in accordance with the economic lifespan of the equipment, used period, the onsite investigation and understanding for the usage condition of equipment and the technology condition. The comprehensive newness rate can be fixed by the following formula on the basis of the available usage period.

The comprehensive newness rate = available usage period/(available period + used period) × 100%

Or the comprehensive newness rate is determined by the weighted average of the two calculating result of age limit approach and on-site exploration approach. The calculation formula is as follows:

Comprehensive newness rate = age limit approach of newness rate × 40% + on-site exploration approach of newness rate × 60%

2 Determination of newness rate of the small size equipment such as the electronic equipment and air conditioners

The comprehensive newness rate can be fixed mainly through its economic lifespan; the comprehensive newness rate of the large size electronic equipment can be fixed through the reference of its work environment, and operation of the equipment. The formula is as above.

3 Determination of newness rate of vehicles

According to the provision stipulated in the Standard to Discard Automobile Compulsorily (No. 12 Order in 2012) issued by Ministry of Commerce, National Development and Reform Commission, Ministry of Public Security and Ministry of Environment Protection on 27 December 2012, the newness rate shall be determined by vehicle miles traveled and method of actual service life in light of the principle of whichever lower (for the vehicles not subject to mandatory scrap, the newness rate in theory is calculated by adopting

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

the method of actual service life). At last, choose the lower data of which newness rate determined by life and newness rate determined by miles and average with the on-site surveyed newness rate to calculate comprehensive newness rate. The formula is as follows:

Newness rate determined by life (with no mandatory scrap life) = available-for-use life/(serviced life + available-for-use life) × 100%

Newness rate determined by life (with mandatory scrap life) = (prescribed service life – serviced life)/ prescribed service life × 100%

Newness rate determined by miles = (prescribed miles – traveled miles)/prescribed miles × 100%

Comprehensive newness rate = MIN (Newness rate determined by life, newness rate determined by miles) × 40% + on-site surveyed newness rate × 60%

(3) The determination of valuation price

Valuation price = repurchase full price × comprehensive newness rate

7. Valuation of construction in progress

The construction in progress includes civil works and the projects of equipment installation.

In this valuation, the construction in progress is evaluated by adopting the cost method, in other words, to determine the price for replacement by identifying the total cost required to re-form the quantity of finished works of construction in progress as of the valuation base date under normal conditions. When there is obviously serious material obsolete devaluation, functional obsolete devaluation and economic obsolete devaluation, it needs to deduct all depreciation sums or otherwise the depreciation sum would be null. The total cost here generally includes direct costs (including preliminary costs), indirect costs that need to be calculated and other costs, capital costs, etc.. Specific cost items and the amounts should be determined according to the standards promulgated by the relevant departments that are still in force and the existing current price on the valuation base date.

In addition, Huaneng Group (33775;33021;38598;22296;) has approved the construction in progress of verified destruction, and the valuation is zero.

8. Valuation of project materials

The project materials are used-for-construction materials, and the valuation is based on the current market price. It's said that based on the verification of the quantity, the appraisal value is determined based on the current market transaction price.

In addition, this valuation of the cable picked and used for the construction before the valuation base date of valuation is zero.

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9. Valuation of the land use right

The land use right of this project is valued by Beijing Zhongdi Land and Real Estate Appraisal Co. Ltd. Details of the land valuation, please refer to the Land Evaluation Report (Beijing) Zhong Di Hua Xia (2016) Ping (Gu) Zi No.70 issued by Beijing Zhongdi Land and Real Estate Appraisal Co. Ltd.

10. Valuation of other intangible assets

The estimated other intangible assets recorded in the accounts includes software purchased externally. The software purchased externally, as application software, is normally used currently. Its market value of the same type or similar software which valuers offer to software provider is determined according to the market price of the software of the same type on the valuation base date.

11. Valuation of liabilities

The valuation of liabilities adopts the method of review, test and verify over the relevant liability, and the valued sum shall be the amount of liabilities the entities evaluated actually needs to assume after the complement of valuation purpose.

VIII. IMPLEMENTATION AND STATUS OF VALUATION PROCESS

Under the national laws and regulations of assets valuation and assets valuation standards and the general principles of accounting, according to the matters in assets valuation agreement, the Company has audit the legal documents of the valued assets and accounting records and related information, conduct necessary market research and price comparison, and the other corresponding valuation procedure. The assets valuation can be divided into four steps:

(I) Accept entrustment and preparation

1. The Company accepts entrustment, and formally values the assets. After accepting the commission, the project leader will firstly inquire the related information: assets composition, delineation of property rights, operation conditions, valuation scope and valuation purpose of the enterprise evaluated.
2. Enter into the assets valuation agreement, define the liabilities and obligations of each party.
3. Under the specific leading of professionals, according to the requirements of the scope of valuation, the enterprise evaluated make preparations before valuation, including inventory, obtain evidence of assets; and train the cooperate personnel of assets valuation, fill in carefully the detailed statement for checking and valuation of assets, and other related information which require provision.

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

4. According to related information of valuation purpose, valuation scope, assets composition and quantity of work, the Company prepares the work plan, identify the valuation personnel and set up assets valuation field work team. The project divided into four professional valuation teams, namely device team, property team, financial team and consolidated team, and we equip with corresponding professional valuation personnel.

5. Market research and collection of market price are under conduction.

(II) Site liquidation phase

1. Liquidation of major enterprise assets

Appraisers adopt various methods to verify different targets including physical assets, equity assets, monetary fund, creditors and debtors with reference to the given reporting details of assets and liabilities on the basis of liquidation of assessed unit assets. Details are as follows:

Monetary fund is confirmed by counting and checking of bank balance statement and adjustment forms and issue of inquiry letters.

In respect of monetary creditor and debtor, the validity of relevant assets and liability is confirmed in ways such as issue of the inquiry letters following the inspection of accounting information including financial statement.

The validity of inventory assets is verified based on physical counting.

The verification of investment properties and house buildings about the size, structure, decoration, ancillary facilities, tangible and intangible loss, overhaul records, maintenance and some others is conducted with reference to evaluation statements and relevant technical information obtained from the enterprise, determining the validity of existence of the buildings and the legitimacy of the property rights owned by the assessed unit.

For equipment, the valuation personnel conduct checking and verification on by one according to the valuation declaration provided by the enterprises, and coordinate professionals to make technical valuation well for the key equipment with higher price; record shortage or overage equipment in detail. The above conditions should be confirmed by the enterprises, and make adjustment for the book value, and propose that the enterprises conduct relevant disposal procedure for the equipment that needs checking and verification.

For land use right, in accordance with the specific conditions of valuation object, verified registration status of the land, land right status and status of attachments on the land, invest the four boundaries, utilization status, and transactions of ambient markets of the parcel land entrusted to be appraised, and have necessary communications with appraisers from land appraisal institution.

For intangible assets, the valuation personnel compared valuation declaration and relevant information provided by the enterprises, got knowledge of the source of intangible assets and its content, and verified its authenticity and effectiveness.

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

For long-term equity investment, the valuation personnel collected the information, such as capital verification report of the entities invested etc., got knowledge of the operation status of the enterprises invested on site, and conducted checking of assets based on the different assets types of the enterprises invested.

IX. VALUATION ASSUMPTIONS

The assumptions as followed are adopted in the valuation:

(I) Basic assumptions

1. Going-concern Assumption. The existing use of assets will be the same and its business will keep on operating.
2. Open Market Assumption. Each asset premises on the physical inventory on the valuation base date, and current market price of related assets is based on the domestic price level.
3. Transaction Assumption. The valuer simulates a market for valuation according to transaction conditions of the valuation object, etc. The valuation conclusion is estimation for the most likely transaction price of the valuation object.
4. No material changes in the current national macroeconomic, finance and industry, resource utilization, energy, laws of environmental protection, as well as massive technological innovation in industry.
5. No material changes in social economic environment and policies of tax and tax rate of entities evaluated.
6. No material changes in industrial policy and technology of entities evaluated.
7. Exchange rate, significant interest rate fluctuations and influences of inflation to the currency will not be taken into account in the valuation.
8. The accounting policy adopted by entities evaluated will maintain consistency in the key aspects. No changes on key accounting policies and the provision of financial accounting and other information is true, accurate and complete, and the provision of future performance is reasonable, scientific and solid.
9. Contingent matters, litigations, subsequent events and other material events are fully disclosed, and asset ownership covered in valuation scope is clear, and the provision of documents of asset ownership is legally effective.
10. Influences from assets in the valuation scope and other liability related pledge, collateral, guarantee, contingent assets and contingent liabilities after the valuation base date to Valuation Conclusions will not be taken into account in the valuation.

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

11. The issues of law outside the valuation scope will not be taken into account in the valuation, as well as the influences of changes in asset markets after the valuation base date to Valuation Conclusions.

12. No material adverse effect of force majeure and unforeseeable factors.

(II) Special assumptions

1. Technical team and its senior managements of entities evaluated will be relatively stable in each year and no core professional staff loss.
2. Entities evaluated will keep on operating, and electric power production and sales will still be the main business.
3. Income forecast provided by the management of entities evaluated is based on the sustainable and well operation of the enterprise in the future, with influences from objective and reasonable consideration of enterprise of future plan and overall development plan of local government.
4. Pricing in electric network adopted in the income forecast is determined by the newly implemented electricity price of the company, and assume it will not be adjusted in the forecast period; and no material changes in provision and price of raw material and accessories used by entities evaluated in the future operating periods.
  5. Entities evaluated will comply with relevant national laws and regulations in the future, and no significant non-compliance that has adverse effect on the development and profit of the Company.
  6. Entities evaluated have well-distributed revenue, cost, renewal and other expense during each year.
7. The structure of main business, sale strategies and cost control of the entities evaluated will stay the same as previous years without material changes. No changes in management, operation strategies and business environment, that is, the valuation is based on the production capacity, assets structure and business scale on the valuation base date.
8. No significant changes on the expenses of operation and management of entities evaluated based on the existing infrastructure in the future operating periods, keeping on the trend of previous years and changing with movement of business scale. Financial expenses in the valuation refer to the interest on the borrowing generated from the production and operation of the enterprise. Interest income and service fee of settlement business will not be taken into account in the valuation in light of frequent changes or significant changes of enterprise bank deposit.
9. Enterprise income tax rate adopted by the entities evaluated is 25%, without regard to tax preference in the future.

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

10. Enterprises need to update its operating facilities, equipment and production capacity in the future operating periods, and take into account the capital expenses generated from the electronic equipment and office equipment due to the increase of the staff.

11. Enterprises can obtain borrowing through financial channel in the future.

12. The increase of operating capital of the company keeps abreast of the business scale.

If there are changes in the future conditions, it may affect the valuation conclusion, and the report users should fully understand the influence of valuation assumptions and restrictions on the valuation conclusion.

X. VALUATION CONCLUSIONS

(I) Valuation conclusion with asset-based method

Book value of all equity of shareholders (net assets) is RMB-332.4174 million, the appraised value was RMB 555.0057 million, the appraised value added is RMB887.4231 million and the value added rate is 266.96%;

The total book value of assets is RMB11,514.8331 million, the appraised value is RMB12,395.2623 million, the appraised value added is RMB880.4292 million and the value added rate is 14.79%;

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## APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

## Summary Table for Asset Valuation Result

Unit of amount: RMB0,000

	Item	Book value	Appraisal value	Increased/ Decreased Amount	Growth Rate (%)
		A	B	C=B-A	D=C/A×100%
1	Current assets	398,058.65	424,233.98	26,175.33	6.58
2	Non-current assets	753,424.66	815,292.25	61,867.59	8.21
3	In which: financial assets available for sale	9,420.24	9,664.73	244.49	2.60
4	Held-to-maturity investments	—	—	—	—
5	Long-term receivables	—	—	—	—
6	Long-term equity investment	2,000.00	-2,899.81	-4,899.81	-244.99
7	Investment property	408.05	—	-408.05	-100.00
8	Fixed assets	694,334.87	759,769.91	65,435.04	9.42
9	Projects in progress	3,103.01	3,112.39	9.38	0.30
10	Project materials	11.38	10.63	-0.75	-6.59
11	Disposal of fixed assets	—	—	—	—
12	Capitalized biological assets	—	—	—	—
13	Oil and gas assets	—	—	—	—
14	Intangible assets	12,456.89	20,483.79	8,026.90	64.44
15	Development expenditure	—	—	—	—
16	Goodwill	—	—	—	—
17	Long-term unamortized expenses	—	—	—	—
18	Deferred income tax assets	18,329.73	11,790.12	-6,539.61	-35.68
19	Other non-current assets	13,360.48	13,360.48	—	—
20	Total assets	1,151,483.31	1,239,526.23	88,042.92	7.65
21	Current liability	243,631.71	243,631.71	—	—
22	Non-current liability	941,093.34	940,393.95	-699.39	-0.07
23	Total liabilities	1,184,725.05	1,184,025.66	-699.39	-0.06
24	Net assets (owner's equity)	-33,241.74	55,500.57	88,742.31	266.96

Please refer to Detailed Statement of Asset Valuation for further valuation conclusion.

## (II) Determination of valuation conclusions



Assets-based method and income method are considered in the valuation of the total shareholder's equity of entities evaluated, and the result from income method is lower than that from assets-based method. The discrepancy between the two methods attributed to:

Firstly, assets-based estimate assesses the market value of assets from the perspective of the replacement of the assets, and recognises the overall value of the enterprise through the current value of each asset. Income method assesses the market value of assets from the perspective of the contribution from

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APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

each asset to the enterprise's value, that is, based on the expected earnings level of the overall asset of the enterprise, and quantifies and presents the current value of the economic interest that is expected to enable to inflow into the enterprise.

Secondly, the entities evaluated principally engage in the production, operating, management and sales of electric and thermal power, and carry out the business, including thermal power, wind power, and biomass power generation. Their grid tariffs are affected by the national pricing policy, and the rigid increase in cost is not expected to be absorbed in the future, which results in the lower income level in the future; and under the influence of the power supply demand, power generating hours are not so higher, and the fluctuation is much bigger in the recent years, which results in the failure to effectively use its designed generating capacity; the debt ratio of the entities evaluated is high, and the financial interest expense is huge.

The valuer took fully consideration into the operating character of the entities evaluated combing the purpose of the evaluation, and considered after the comprehensive analysis that it is rational to take the result of assets-based method as the market value of the total shareholder's equity of the entities evaluated, that is the marker value of the total shareholder's equity of the Huaneng Jilin Power Generation Co., Ltd. (&#33775;&#33021;&#21513;&#26519; &#26377;&#38480;&#20844;&#21496;) on the valuation base date was RMB555.0057 million.

XI. STATEMENT OF SPECIAL ISSUES

- 1.The valuation is conducted on the basis of auditing, and Auditor's Report on the of valuation base date is an important basis for this valuation.
- 2.For the tax payable due from Huaneng Jilin Power Generation Co., Ltd. (&#33775;&#33021;&#21513;&#26519; &#26377;&#38480;&#20844; &#21496;), the valuation conclusion should be adjusted correspondingly based on the audit conclusion after the tax department has checked the situation of tax payment.
- 3.Financial assets available for sale held by the entities evaluated – the valuation of stock investment is determined by the closing price on the valuation base date without consideration of the relevant taxes payable for the disposal of marketable securities. The price of shares listed and traded fluctuated under the influence of the supply-demand relation and other factors in the market. Therefore, the valuation results will be adjusted according to the change of price in stock market in the future.
- 4.Among vehicles covered in this valuation, the owners' names recorded on the driving licenses of the 5 passenger cars are not the entities evaluated. It is said that it was because the transfer formalities had not been handled after being used by the subordinate units of the entities evaluated. And this valuation does not consider the matter's effect on the valuation conclusion.
- 5.Among house buildings covered in this valuation, No.399 property located at Xinghuo Road has no property ownership certificates. The valuation is based on the valuation areas in the house purchase contracts. If the area on the certificates differs from that in the house purchase contracts after the valuation base date, it would be necessary to make corresponding adjustments according to valuation method.



APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

Among house buildings of branch companies covered in this valuation, all properties have no property ownership certificates. The valuation is conducted on the basis of areas declared by the entities evaluated. If the areas written on the certificate differ from those of declared after the valuation base date, it would be necessary to make corresponding adjustments according to the valuation methods.

6. For house buildings of Siping wind power plant (22235;24179;39080; 24288;) covered in this valuation, the base complex (Shuangliao) was purchased in 2009 and the housing payments was settled. However, when enterprise consult the Housing Management Bureau in April 2016, the property ownership is found to be still under the name of the property developer and the purchase contract has not been filed. In addition, the property developer mortgaged the property in December 2015. The abovementioned matter is under processing by the lawyer engaged by the enterprise. As of the checking date, no conclusion is received. Therefore, this valuation is demonstrated by the audited carrying amounts. This valuation does not consider the effect of the title defects on the valuation conclusion.
7. For equipment assets of Siping wind power plant (22235;24179;39080; 24288;) covered in this valuation, a small ordinary passenger car Toyota SCT6491, whose license plate number is Ji EH0001 was acquired by Siping wind power plant (22235;24179;39080; 24288;) and the owner written on the driving license of the vehicle is Meihekou comprehensive utilization power plant construction office of Huaneng Jilin Power Generation Co. Ltd.. The ownership of the vehicle property belongs to Siping wind power plant (22235;24179;39080; 24288;). Siping wind power plant (22235;24179;39080; 24288;) and Meihekou comprehensive utilization power plant construction office of Huaneng Jilin Power Generation Co. Ltd. gave the recognition to ownership of the vehicle, and issued a written statement of property rights. This valuation does not consider the matter's effect on the valuation conclusion.
8. Building Ownership Certificate and State-owned Land Use Right Certificate were not issued for certain buildings and state-owned land use rights within the valuation scope. The floor area of building without building ownership certificate was 303,711.90 sq.m. and area of land without state-owned land use right certificate was 129,168.87 sq.m..
9. Fixed assets of Huaneng Linjiang Jubao Hydropower Co., Ltd. (33775;33021;33256;27743;32858;23542;27700; 26377;38480;20844;21496;) – allocated land, of which, the land compensation fees are included in the carrying amounts of the house buildings. Because the assets of Huaneng Linjiang Jubao Hydropower Co., Ltd. (33775;33021;33256;27743;32858;23542;27700; 26377;38480;20844;21496;) were the liquidated assets of former Linjiang Jubao Hydropower Station (33256;27743;32858;23542; 31449;) after its bankruptcy, the carrying amounts of the land compensation fees cannot be divided. The carrying amounts of the fixed assets- allocated land was reported as nil.
10. As of the valuation base date, Huaneng Zhenlai Wind Power Co., Ltd. (33775;33021;37806;36058;39080;21147; 26377; 38480;20844;21496;) has acquired the State-owned Land Use Rights Certificates. However, because Phase I land lots' book value was allocated in the house building and the machinery equipment as the initial expenses, Phase II land lots' book value was included in the book value of the provision for amortization of fixed assets, there are no original entry value and book value.



APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

11. The entities appraised and China Development Bank Corp entered into accounts receivable pledge contract borrowings. The entities appraised pledged the electricity charging rights generated from the future electricity revenue after the completion of the projects of Jiutai Power Plant (20061; 24288;), Changchun Thermal Power Plant (38263; 26149; 29105; 24288;), Siping Wind Power Plant (22235; 24179; 39080; 24288;) as collateral and provided guarantee for the loan from China Development Bank Corp.
12. For the land use rights covered in this valuation, the valuation was conducted by Beijing Zhongdi Land and Real Estate Appraisal Co. Ltd.. The valuation report only adduced the land valuation conclusions of Land Appraisal Report produced by that institution.
13. The approved write-off of construction in progress and other factors detected in this valuation have caused the change of the asset value, and impairment has been made in the valuation results. The entities appraised should conduct the accounting treatments after reporting for approval according to the prevailing relevant regulations.
14. This valuation does not consider the effect of increase or decrease of the assets on the income tax.
15. The value of part of shareholders' equity is not necessarily equal to the value of all shareholders' equity multiplied by the equity ratio. Users using this valuation conclusion should take into consideration the effect of the premium from the controlling interest or discounted price for minority interests and liquidities on the target price of proposed transactions.
16. The valuation scope and adopted data, certificates on assets ownership and relevant materials are subject to the data, statements and relevant materials provided by the entities appraised. The entities appraised shall be responsible for the genuineness and completeness of the information and documents provided and shall assume legal liability.
17. This assets evaluation is made based on independent, objective and equitable principles. All staff of our company participating in the evaluation work and the clients do not have any special interest. The evaluation work is completed under the relevant laws and regulations. Valuers abided by the professional ethics and norms in the process of evaluation and made sufficient efforts.
18. This valuation does not take into consideration the legal issues beyond the scope of the evaluation, expenses that may be paid additionally for the special transactions and changes in assets market after the valuation base date, including the effects of the mortgage, pledge, guarantee and auction on the valuation conclusion.
19. Within the term of validity of this valuation conclusion, in the case of any change in the quantity of assets, the value should be adjusted in accordance with the original valuation method; within the term of validity of this valuation conclusion, if the pricing standard of any asset is changed, which has a notable impact on the valuation result, the clients should timely engage a valuation agency to reevaluate the value.

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

20. "Appraised value" in this report is the market value under the condition that the current usage of assets valued is unchanged and operates on an on-going basis. The valuation conclusion is the objective reflection of the value of the assets evaluated being on 31 May 2016, being the base date.
21. Certified public valuers are obliged to comply with all applicable laws, regulations and asset valuation standards, analyze and evaluate the value of entities appraised for a specific purpose on the valuation and issue professional opinions. The clients and other related entrusting parties, for their part, are obliged to provide any and all materials necessary for the valuation, ensure the authenticity, legality and integrity of such materials, and use the valuation report in a proper way.
22. This valuation is based on the premise that the valuation assumptions would not fail. If the valuation assumptions change or become not applicable, it would have an important effect on the valuation conclusion or invalidate the valuation conclusion.

Users using this valuation report for the valuation purposes listed in this report should pay attention to the effects of the aforementioned special matters on the valuation conclusion.

XII. STATEMENT OF LIMITATION ON THE USE OF THE VALUATION REPORT

- (I) The valuation report can be only used by the clients, the entities evaluated and users of other valuation reports as set out in this valuation report for the valuation purposes specified in this report and for the review by the assets assessment authorities, and shall not be used for other purposes. The undersigned certified public valuers and valuation agencies shall not be responsible for the consequences resulted from any improper use.
- (II) Without permission from the valuation agency, the content of this valuation report shall not be copied, quoted or disclosed in public media, unless otherwise provided for by laws, regulations and otherwise agreed by the related entrusting parties.
- (III) According to the regulations of relevant departments of the country, the valuation conclusion shall be valid for one year (from 31 May 2016 to 30 May 2017). After the one-year period expired, new asset valuation will be necessary.

Users using this valuation report for the valuation purposes listed in this report shall read the limitations on the use hereof.

XIII. DATE OF VALUATION REPORT

The date of valuation report is 14 October 2016.

(This is the end of the text)

Legal representative (signature)

Hu Jiawang (&#32993;&#23478;&#26395;)

APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

Certified public valuer (signature)

Ran Nan (Ran Nan)

Chen Jie (Chen Jie)

Hubei Zhong Lian Assets Appraisal Co. Ltd.

(Hubei Zhong Lian Assets Appraisal Co. Ltd.)

14 October 2016

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APPENDIX I(ii) SUMMARY OF ASSET VALUATION REPORT OF JILIN POWER

PART 4 APPENDICES OF VALUATION REPORT (Note)

- I. Document of the economic activity
- II. Main Related Ownership Evidence Materials Concerning the Valuation Object
- III. Letter of Undertaking from the Clients and Related Entrusting Parties
- IV. Qualification of the Appraisal Agency and the Undersigned Certified Public Valuer
- V. Financial Information Concerning the Valuation Object

Note: Relevant appendices to the asset valuation report have not been included in this circular.

APPENDIX I(iii)

SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

ASSET VALUATION REPORT (SUMMARY)

IN CONNECTION WITH  
ALL EQUITY INTERESTS OF SHAREHOLDER OF HUANENG HEILONGJIANG  
POWER GENERATION CO., LTD. INVOLVED IN THE PROPOSED  
TRANSFER OF EQUITY IN HUANENG HEILONGJIANG POWER GENERATION  
CO., LTD. TO HUANENG POWER INTERNATIONAL, INC. BY CHINA HUANENG GROUP

Zhong Tian Hua Zi Ping Bao Zi [2016] No. 1468

CHINA APPRAISAL ASSOCIATES

13 OCTOBER 2016

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SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

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APPENDIX I(iii)

SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

STATEMENT

1. We comply with all laws and regulations and assets valuation standards, and uphold the principles of independence, objectivity and fairness in the present valuation project;
2. Certified public valuers are obliged to comply with all applicable laws, regulations and asset valuation standards to evaluate the valuation object and issue professional valuation opinions. The client and related entrusting parties are obliged to provide any necessary information for the valuation, and to ensure the authenticity, legality and integrity of such materials, and use the valuation report in a proper way.
3. We do not have any existing or potential interest in valuation object as specified in the valuation report; furthermore, we do not have any interest, existing or potential, in any of the relevant parties, and therefore do not have any prejudice against or bias for any such party.
4. We have carried out on-site investigation and valuation of the valuation object and the assets involved. We have paid necessary attention to the ownership of the entity evaluated and the assets involved and examined and verified the legal ownership certification; however, we do not make any guarantee in any form whatsoever in connection with the legal ownership of the valuation object.
5. The analyses, judgment and conclusion in the valuation report issued by us are subject to the assumptions and qualifications in the valuation report. Therefore, users of the valuation report are advised to give proper consideration to the assumptions, qualifications and statement of special issues as well as their effect on the valuation conclusion.
6. Our estimation on the value of the valuation object and our professional opinions are intended to be reference of the realization of economic activities. The valuation report should be used by the users exclusively for the purpose specified in the report within the term of validity. The valuation agency or any of the undersigned certified public valuers may be held no responsibility for any and all consequences of any improper use of the report.
7. Certified public valuers engage themselves in asset valuation exclusively for the purpose of assessing the values of the valuation object and issue professional opinions and hence do not assume any decision-making responsibilities of any of the relevant parties. The valuation conclusion may not be deemed as guarantee for any expected realizable price of the valuation object.

APPENDIX I(iii)

SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

ASSET VALUATION REPORT

IN CONNECTION WITH  
ALL EQUITY INTERESTS OF SHAREHOLDER OF HUANENG HEILONGJIANG  
POWER GENERATION CO., LTD. INVOLVED IN THE PROPOSED  
TRANSFER OF EQUITY IN HUANENG HEILONGJIANG POWER GENERATION  
CO., LTD. TO HUANENG POWER INTERNATIONAL, INC. BY CHINA HUANENG GROUP

SUMMARY

Zhong Tian Hua Zi Ping Bao Zi (2016) No. 1468

Upon authorization by China Huaneng Group and Huaneng Power International, Inc., China Appraisal Associates carried out valuation of the equity interests of shareholder of Huaneng Heilongjiang Power Generation Co., Ltd. involved in the proposed transfer of equity in Huaneng Heilongjiang Power Generation Co., Ltd. to Huaneng Power International, Inc. by China Huaneng Group, for the purpose of providing valuation reference for the intended equity transfer.

Pursuant to the purpose of the valuation, the valuation object is the equity interests of the shareholder of Huaneng Heilongjiang Power Generation Co., Ltd.. The valuation scope covers all the assets and relevant liabilities of Huaneng Heilongjiang Power Generation Co., Ltd. on the valuation base date. The exact scope of the valuation is subject to the balance sheet and valuation statements provided by Huaneng Heilongjiang Power Generation Co., Ltd..

31 May 2016 is adopted as the valuation base date.

The value type of the valuation belongs to market value.

On the precondition of continuous use and open market, and based on the actual circumstances of the valuation object as well as all other relevant factors, we comprehensively valued Huaneng Heilongjiang Power Generation Co., Ltd. by asset-based method and the income method and formed the valuation conclusion.

In view of the applicability precondition of the valuation methods and the valuation purpose, the conclusion drawn through the asset-basis method was adopted as the final conclusion.

During the valuation process, the valuation team of our company went through the necessary valuation procedures for the assets within the eligible valuation scope in accordance with the rules and regulations of the industry. The said procedures include: verification, on-site investigation, market research and consultation, assessment estimates and other valuation procedures.

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SUMMARY OF ASSET VALUATION REPORT OF  
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On the basis of the above work and subject to the fulfillment of all valuation preconditions and presumptions, the following valuation conclusion was reached:

Result arrived at through the asset-basis method: as at 31 May 2016, being the valuation base date, the total book value of the assets of Huaneng Heilongjiang Power Generation Co., Ltd. was RMB3,267.2662 million, the liabilities was RMB2,302.4103 million, net assets was RMB964.8559 million; the total value of assets was RMB4,400.4765 million, with an added value of RMB1,133.2103 million, representing an added-value rate of 34.68%; the total value of liabilities was RMB2,302.4103 million; the value of net assets was RMB2,098.0662 million, with an added value of RMB1,133.2103 million and an added-value rate of 117.45%.

Report users are specially advised to pay attention to the special issues and subsequent important events set out in the report when using the valuation conclusion.

The valuation conclusion in this report is valid for one year beginning from the valuation base date, which means until 30 May 2017. Re-valuation shall be conducted after the one-year period expired.

Related entrusting parties are advised to pay attention to the following items when using the valuation conclusion:

The above statements are extracted from the context of the valuation report. Those who want to learn more details on the project valued and a proper understanding about the valuation conclusion are advised to read the full text of the valuation report.

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SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

ASSET VALUATION REPORT

IN CONNECTION WITH  
ALL EQUITY INTERESTS OF SHAREHOLDER OF HUANENG HEILONGJIANG  
POWER GENERATION CO., LTD. INVOLVED IN THE PROPOSED  
TRANSFER OF EQUITY IN HUANENG HEILONGJIANG POWER GENERATION  
CO., LTD. TO HUANENG POWER INTERNATIONAL, INC. BY CHINA HUANENG GROUP

Zhong Tian Hua Zi Ping Bao Zi (2016) No. 1468

China Huaneng Group and Huaneng Power International, Inc.:

Under the commission of both enterprises, China Appraisal Associates assessed the market value as at 31 May 2016, all the equity of shareholders of Huaneng Heilongjiang Power Generation Co., Ltd., involved in the proposed equity transfer by China Huaneng Group in accordance with relevant laws, regulations as well as asset valuation standards and principles by using the asset-based method and income method and in accordance with necessary valuation procedures.

Following sets out the report on the asset valuation:

I. PROFILE OF THE CLIENTS, THE ENTITY EVALUATED AND OTHER USERS OF THE VALUATION  
REPORT AS SPECIFIED IN THE LETTER OF ENGAGEMENT

The clients of the project are China Huaneng Group and Huaneng Power International, Inc. and the entity evaluated is Huaneng Heilongjiang Power Generation Co., Ltd.. Users of the valuation report including the clients, other users of valuation report stipulated in the letter of engagement and valuation report users as permitted by the state laws and regulations. Except as mentioned above, no third party that have obtained the report shall be deemed as user of the valuation report, and the valuation institution or any certified public valuer shall have no responsibility in any way whatsoever for any loss that may arise as a result of such third party's misuse of the valuation report.

(I) Profile of the clients

Profile of client A:

- |    |                       |  |
|----|-----------------------|--|
| 1. | Name of enterprise:   | China Huaneng Group (hereinafter referred to as "Huaneng Group") |
| 2. | Address:              | No. 23A, Fuxing Road, Haidian District, Beijing                  |
| 3. | Legal representative: | Cao Peixi  |
| 4. | Registered capital:   | RMB20 billion  |
| 5. | Paid-in capital:      | RMB20 billion  |





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SUMMARY OF ASSET VALUATION REPORT OF  
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6. Company type: state-owned

7. Scope of business: investment, operation and management in industry; development, investment, construction, operation and management of power sources; production and sale of power and heat; development, investment, construction, production and sale of products in relation to information, transportation, new energy and environmental protection industries.

8. Company type: History and development

China Huaneng Group founded in 1985, is a key state-owned enterprise with the approval of the State Council. It is a state-authorized investment institution and a pilot of state holding company, with a registered capital of RMB20 billion. In accordance with the State Council's requirements of national electricity system reform, China Huaneng Group is an independent and self-financing corporate entity seeking integrated development, with operating power industries as its main business. The Company is mainly engaged in the following business: development, investment, construction, operation and management of power sources; production and sale of power and heat; development, investment, construction, production, and sale of products in relation to finance, energy, transportation, new energy, and environmental protection industries; investment, operation and management in industry.

China Huaneng Group is committed to building itself into a large enterprise group with international competitiveness. By the end of 2013, the company had total installed capacity of 143GW, with assets distributed all over China and overseas, and sectors of coal, finance, technology R&D, and transportation etc. that supporting the development of core business of electric power has established basic structure.

Profile of client B:

1. Name: Huaneng Power International, Inc. (hereinafter referred to as "Huaneng International")

2. Address: Huaneng Building, No.6 Fuxingmennei Street, Xicheng District, Beijing

3. Name of legal representative: Cao Peixi

4. Registered capital: RMB140,553.8344 billion

5. Economic nature: joint-stock company

6. Scope of business: investment, construction, operation and management of power plants; development, investment, operation of export-oriented business and other related businesses; production and supplying of heat.

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SUMMARY OF ASSET VALUATION REPORT OF  
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## 7. History and development:

Huaneng International was established as a joint stock limited company on 30 June 1994 in Beijing with the approval of the former State Commission for Restructuring Economy's Ti Gai Sheng [1994] No. 74 Document on the Reply of Establishment of Huaneng Power International, Inc. and the former Ministry of Foreign Trade and Economic Cooperation's [1994] Wai Jing Mao San Han Zi No.338 Document on the Reply of Establishment of Huaneng Power International, Inc.. It was jointly initiated by Huaneng International Power Development Corporation (&#33775;&#33021;&#22283;&#38555; &#21147;&#38283; &#20844;&#21496;), Hebei Construction and Investment Company, Fujian Investment and Development Group, Jiangsu Investment Company, Liaoning Energy Investment Company, Dalian Construction Investment Group, Nantong Construction Investment Group and Shantou Power Development Company.

## (II) Profile of the entity evaluated:

1. Name of enterprise: Huaneng Heilongjiang Power Generation Co., Ltd.
2. Nature of enterprise: limited liability company (sole proprietorship of legal person invested or controlled by natural person)
3. Registered capital: RMB683,350,000
4. Registered address: No. 67 Huashan Road, Nangang District, Harbin City, Heilongjiang Province
5. Legal representative: Peng Yong
6. Business development, investment, construction, production and operation as well as management of the power scope: (heating) projects; development and investment of the industries related to coal and transportation, the wholesale business of coal. (Items which require approvals under the law shall be subject to the approval from relevant departments before the commencement of business).

## 7. Profile of the enterprise

H u a n e n g H e i l o n g j i a n g P o w e r G e n e r a t i o n C o . , L t d . (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;) is a secondary industrial c o m p a n y a p p r o v e d b y C h i n a H u a n e n g G r o u p (&#20013;&#22283;&#33775;&#33021;&#38598;&#22296;&#20844;&#21496;), and is a wholly-owned subsidiary of China Huaneng Group (&#20013;&#22283;&#33775;&#33021;&#38598;&#22296;&#20844;&#21496;). The company was incorporated on 23 November 2007, and as stipulated in the two documents of China Huaneng Group, being Hua Neng Ren [2007] No. 467 and Hua Neng Ren [2007] No. 617, the establishment of Huaneng Heilongjiang P o w e r G e n e r a t i o n C o . , L t d . (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;) shall be solely funded by China Huaneng Group, with registered capital of RMB100 million. Xinhua Power Plant and Hegang Power Plant will be included into the management of Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;).



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In December 2009, according to the document Hua Neng Cai [2009] No.351 issued by China Huaneng Group, the group company will held 64% equity in Huaneng Hegang Power Generation Co., Ltd. (&#33775;&#33021;&#40372;&#23831; &#26377;&#38480;&#20844;&#21496;) and 70% equity in Huaneng Xinhua Power Generation Co., Ltd. (&#33775; &#33021; &#26032;&#33775; &#26377;&#38480;&#36012;&#20219;&#20844;&#21496;) and the equity in Heilongjiang branch is vested to Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;) for management as investment of the Group in Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;), with a value of RMB314,438,849.10.

As at 19 December 2011, Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;) increased capital. After which, its registered capital increased to RMB183.3500 million from RMB100.0000 million. All the increased capital are funded by China Huaneng Group in monetary fund of RMB100.0000 million, and has been verified by Heilongjiang Longhua Accounting Firm, which has issued a verification report of Hei Long Hui Suo Yan Zi [2011] No.2 for verification.

As at 31 December 2013, Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;) increased capital. After which, its registered capital increased to RMB483.3500 million from RMB183.3500 million. All the increased capital are funded by China Huaneng Group in monetary fund of RMB300.0000 million, and has been verified by Heilongjiang Longhua Accounting Firm, which has issued a verification report of Hei Long Hui Suo Yan Zi [2014] No.1 for verification.

As at 6 February 2015, Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377; &#38480;&#20844;&#21496;) increased capital. After which, its registered capital increased to RMB683.3500 million from RMB483.3500 million. All the increased capital are funded by China Huaneng Group in monetary fund of RMB200.0000 million, and has been verified by Heilongjiang Longhua Accounting Firm, which has issued a verification report of Hei Long Hui Suo Yan Zi [2015] No.2 for verification.

As of the valuation base date, the corporation structure of the company is set out as follows:

Unit: RMB0'000

Investor	Registered capital	Proportion of registered capital (%)	Structure of paid-in capital	Percentage of shares held (%)
China Huaneng Group	68,335.00	100.00%	68,335.00	100.00%
Total	68,335.00	100.00%	68,335.00	100.00%

8. Financial status

The main audited assets operation data of Huaneng Heilongjiang Power Generation Co., Ltd. (Huaneng Heilongjiang Power Generation Co., Ltd.) in the latest three years and on the valuation base date is set out as follows:

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Unit: RMB0'000

Item	31 May 2016	31 December 2015	31 December 2014	31 May 2013
Total value of assets	396,418.75	364,205.46	336,509.78	425,790.58
Total value of liabilities	229,492.33	191,573.49	257,616.15	346,848.90
Net value of assets	166,926.42	172,631.97	78,893.62	78,941.68
Item	January – May 2016	2015	2014	2013
Income from main business	877.37	3,406.93	7,575.00	6,557.49
Total profits	-3,035.88	-3,068.74	-48.05	-197.70
Net profits	-3,071.37	-3,068.74	-48.05	-197.70

The financial information for the period between 2013 and 2014 is extracted from the standard unqualified audit report (Zhong Zheng Tian Tong (2015) Shen Zi No.0201110-1) issued by Beijing Zhongzheng Tiantong Certified Public Accountants (Special General Partnership) (Beijing Branch). The financial information for the period between 2015 and 2016 is extracted from the standard unqualified is audited and issued the standard unqualified audit report (Pu Hua Yong Dao Zhong Tian Te Shen Zi (2016) No.1934) by PricewaterhouseCoopers Zhong Tian (Special General Partnership).

## 9. Operation Status

At present, Heilongjiang Company has 6 power-generating enterprises under operation with a total installed capacity of 3.52 million KW, namely Huaneng Hegang Power Generation Co., Ltd. (&#33775; &#33021;&#40372;&#23831; &#26377;&#38480;&#20844;&#21496;) (1.2 million KW), Huaneng Xinhua Power Generation Co., Ltd. (&#33775; &#33021; &#26032; &#33775; &#26377;&#38480;&#36012;&#20219;&#20844;&#21496;) (0.53 million KW), Huaneng Tongjiang Wind Power Co., Ltd. (&#33775;&#33021;&#21516;&#27743;&#39080;&#21147; &#26377;&#38480;&#20844;&#21496;) (0.198 million KW), Daqing Lvyuan Wind Power Co., Ltd. (&#22823;&#24950;&#32160;&#28304;&#39080;&#21147; &#26377;&#38480;&#20844;&#21496;) (0.192 million KW), Huaneng Daqing Heating Power Co., Ltd. (&#33775;&#33021;&#22823;&#24950;&#29105; &#26377;&#38480;&#20844;&#21496;) &#65288;0.7 million KW &#65289;, and Huaneng Yichun Heating Power Co., Ltd. (&#33775;&#33021;&#20234;&#26149;&#29105; &#26377;&#38480;&#20844;&#21496;) (0.7 million KW), respectively, and 1 project under construction, being the Phase II of the Daqing Wind and Power Project (0.096 million KW). For the 8 years since its incorporation, Heilongjiang Company has obtained in aggregate 1.886 million KW approved, making the approved capacity doubled to the installed capacity at the beginning of its incorporation.

## 10. Principal Accounting Policies and Tax Preference

Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;) implements the

Accounting Standards for Enterprises, Accounting Standards for Enterprises – Application Guidance and other relevant requirements issued by the Ministry of Finance to conduct the accounting of the economic business and prepare the account statement.

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11. Relationship between the clients and the entity evaluated

The client, China Huaneng Group is the controlling parent company of Huaneng Heilongjiang Power Generation Co., Ltd. (A-065740845-27743; A-26377-38480-20844-21496;), and Huaneng Power International, Inc. is the equity acquirer of Huaneng Heilongjiang Power Generation Co., Ltd. (A-065740845-27743; A-26377-38480-20844-21496;) involved in this economic activity.

II. VALUATION PURPOSE

China Huaneng Group intends to transfer the equity of Huaneng Heilongjiang Power Generation Co., Ltd. held by it to China Huaneng Group. The purpose of the valuation is to provide reference for value of the all equity interests of shareholders of Huaneng Heilongjiang Power Generation Co., Ltd. involved in the proposed transfer by China Huaneng Group of the equity it holds in Huaneng Heilongjiang Power Generation Co., Ltd..

Relevant economic activities and the approval documents thereof have been included into the appendices to this valuation report.

III. OBJECT AND SCOPE OF VALUATION

(I) According to the valuation purpose, the valuation object is the value of all the equity interests of shareholders of Huaneng Heilongjiang Power Generation Co., Ltd.

(II) According to the valuation purpose and the above valuation object, the valuation scope is all the assets and liabilities of Huaneng Heilongjiang Power Generation Co., Ltd. on the valuation base date.

After auditing, on the valuation basis date, the total book value of assets amounted to RMB3,267.2662 million, liabilities amounted to RMB2,302.4103 million and net assets amounted to RMB964.8559 million. Specifically, it includes current assets of RMB1,058.8703 million, non-current assets of RMB2,208.3959 million, current liabilities of RMB2,107.4103 million and non-current liabilities of RMB195.0000 million.

Above assets and liabilities are abstracted from the balance sheet audited by PricewaterhouseCoopers Zhong Tian (Special General Partnership), and the valuation is basing on the audit of the enterprise.



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Following are the types and book values of the assets of Huaneng Heilongjiang Power Generation Co., Ltd. that included into the valuation scope:

Unit: RMB0'000

No.	Items	Book value A
1	Current assets	105,887.03
2	Non-current assets	220,839.59
3	Among which: available-for-sale financial assets	—
4	Held-to-maturity investments	—
5	Long-term receivables	10,000.00
6	Long-term equity investments	209,146.36
7	Investment-orientated real estate	305.65
8	Fixed assets	820.98
9	Work in progress	265.33
10	Construction materials	—
11	Liquidation of fixed-assets	0.33
12	Productive biological assets	—
13	Oil and gas assets	—
14	Intangible assets	300.94
15	Development expenditure	—
16	Goodwill	—
17	Long-term deferred expenses	—
18	Deferred income tax assets	—
19	Other non-current assets	—
20	Total assets	326,726.62
21	Current liabilities	210,741.03
22	Non-current liabilities	19,500.00
23	Total liabilities	230,241.03
24	Net assets	96,485.59

1. The main assets in the valuation scope include buildings, vehicles and electronic equipment for production purpose of Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844; &#21496;).

(1)

The office building of Huaneng Heilongjiang Power Generation Co. Ltd. located at Fendou Road was purchased from Heilongjiang Electric Power Limited Company (&#40657;&#40845;&#27743; &#21147;&#32929;&#20221;&#26377; &#38480;&#20844;&#21496;) in 1996 according to the approval and instruction of Huaneng Power Generation Company and the document of Hei Dian Ji [1996] No.487 issued by Heilongjiang Electric Power Industry Bureau by installments. The property is jointly developed by Heilongjiang Electric Power Limited Company (&#40657;&#40845;&#27743; &#21147;&#32929;&#20221;&#26377;&#38480;&#20844;&#21496;) and technical investigation department of Harbin Municipal Public Security Bureau. After completion, as the dispute

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between both parties in relation to the lobby, the building has not obtained the certificate of title yet. At the end of 2009, Heilongjiang branch of China Huaneng Group has allocated the property to Huaneng Heilongjiang Power Generation Co., Ltd.

(&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;).

(2) According to the property ownership certificate Ha Fang Quan Zheng Kai Guo No. 00038271 and state-owned land use rights certificate Ha Guo Yong (2001) Zi No.73351, for the office building purchased by Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;), the registered owner is China Huaneng Group with an area of 1,900.76 square meters. For the garage, it has obtained property ownership certificate (Quan Min Dan Wei Zi Guan Gong Chan Zi No. C03124), which has not obtained land certificate, with a total area of 73.25 square meters, the registered owner of which is Heilongjiang Huaneng Power Generation Company (&#40657;&#40845;&#27743;&#30465;&#33775;&#33021; &#20844;&#21496;). The above two properties were partially allocated to Huaneng Heilongjiang Power Generation Co., Ltd. at the establishment of it, but has not changed the registered owner yet.

(3) The company has 10 vehicles, and details of owners and annual inspection of driving license are set out as follows:

No.	Plate No	Brand	Purchase date	Status on valuation base date	Registered owner
1	Hei AJ3330	Audi	February 2008	Sealed	Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;)
2	Hei AAY233	Audi	April 2008	Sealed	Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;)
3	Hei 00D11	TOYOTA Jeep	October 2008	Sealed	Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;)
4	Hei A05420	FuQi Jeep	November 1997	Sealed	Heilongjiang branch of China Huaneng Group
5	Hei A84312	Skoda	December 2001	Sealed	Heilongjiang branch of China Huaneng Group
6	Hei A03323	Audi	January 2004	Sealed	Heilongjiang branch of China Huaneng Group
7	Hei AX5785	BUICK	October 2004	In operation	Heilongjiang branch of China Huaneng Group
8	Hei A7K912	MAGOTAN	May 2013	In operation	Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;)
9	Hei A4360F	LACROSSE 2.0	November 2013	In operation	Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;)
10		MAGOTAN			

Hei  
AF261L

January  
2016

In  
operation

Huaneng Heilongjiang Power Generation Co., Ltd.

(#33775;#33021;#40657;#40845;#27743; #26377;#3848

2. The company did not report any intangible assets unrecorded in the books.

3. The company did not report any off-balance-sheet assets.

(III) The object and scope of the entrusted valuation shall be identical with that involved in economic activities.

(IV) Conclusions quoted from the reports issued by other institutions.

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The financial statements on the valuation base date is extracted from the standard unqualified audit report (Pu Hua Yong Dao Zhong Tian Te Shen Zi (2016) No.1934) audited and issued by PricewaterhouseCoopers Zhong Tian (Special General Partnership).

IV. TYPE OF VALUE AND ITS DEFINITION

In light of the specific purpose and object of the valuation, market value was adopted for the valuation.

Market value refers to the estimated value of the valuations objective in fair and normal transaction on the valuation base date on the precondition that the buyer and seller, both of which were willing, engage in the transaction in a reasonable way and free of any pressure or coercion.

V. VALUATION BASE DATE

In light of the valuation purpose and on the basis of the consensus among the clients and the entities evaluated, 31 May 2016 was adopted as the valuation base date.

All prices adopted in the valuation are valid prices and rates on the valuation base date.

VI. VALUATION BASIS

(I) Economic basis

The resolution minutes of the general manager meeting of China Huaneng Group (Edition 34, 2016).

(II) Legal basis

1. The PRC Law on State-owned Assets of Enterprise (adopted at the 5th Session of the Standing Committee of the 11th National People's Congress of the People's Republic of China on 28 October 2008);
2. Property Law of the People's Republic of China (Order No.5 of the President of the People's Republic of China on 16 March 2007);
3. Securities Law of the People's Republic of China (Order No.43 of the President of the People's Republic of China on 27 October 2005);
4. The Company Law of the People's Republic of China (according to the 6th Session of the Standing Committee of the 12th National People's Congress of the People's Republic of China on 28 December 2013 and effective as of 1 March 2014);
5. The Administrative Measures for Valuation of State-owned Assets (Order No. 91 of 1991 of the State Council);

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6. The Detailed Rules for Implementation of the Administrative Measures for Valuation of State-owned Assets (Guo Zi Ban Fa [1992] No.36 of the former State-owned Assets Administration Bureau);
7. Provisions on Issues concerning the Administration of the State-owned Assets Valuation (Order No. 14 of the Ministry of Finance of the People's Republic of China promulgated on 31 December 2001);
8. Circular on Forwarding the Opinions of the Ministry of Finance on Reforming the Administrative Regulation of State-owned Assets Valuation and Enhancing Assets Valuation Supervision and Regulation (General Office of the State Council, Guo Ban Fa [2001] No. 102);
9. The Tentative Measures for the Supervision and Administration of State-Owned Assets of Enterprises (Order No. 378 of the State Council of the People's Republic of China in 2003);
10. The Tentative Measures for the Administration of the Transfer of State-owned Assets and Equity in Enterprises (Order No.3 of the State-owned Assets Supervision and Administration Commission of the State Council and the Ministry of Finance on 31 December 2003);
11. The Interim Administrative Measures on the Valuation of the State-owned Assets in Enterprises (Order No.12 of the State-owned Assets Supervision and Administration Commission of the State Council on 25 August 2005);
12. Guidelines for the Record-Filing in Connection with State-Owned Asset Valuation Projects of Enterprises (Guo Zi Fa Chan Quan [2013] No.64);
13. Guo Zi Wei Chan Quan [2006] No.274, Circular on Strengthening the Administration of the Appraisal of State-owned Assets of Enterprises;
14. The Enterprise Income Tax Law of the People's Republic of China (adopted at the 5th Session of the 10th National People's Congress of the People's Republic of China on 16 March 2007); the Circular of the Ministry of Finance and the State Administration of Taxation on Several Issues Concerning the National Implementation of VAT Transformation and Reform (Cai Shui [2008] No. 170);
15. The Circular of the Ministry of Finance and the State Administration of Taxation on Issues Concerning VAT Deductible of Fixed Assets (Cai Shui [2009] No. 113);
16. Circular on the Expansion of the Pilot Program of Levying VAT in lieu of Business Tax Nationwide (Cai Shui [2016] No. 36);

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17. Urban Real Estate Administration Law of the People's Republic of China (Order No.72 of the President of the People's Republic of China, amended at the 29th meeting of the standing committee of the 10th National People's Congress of the People's Republic of China on 30 August 2007);
18. Land Administration Law of the People's Republic of China (Order No.28 of the President of the People's Republic of China, amended at the 11th meeting of the standing committee of the 10th National People's Congress of the People's Republic of China on 28 August 2004);
19. Regulation on the Implementation of the Land Administration Law of the People's Republic of China (Order No.256 of the State Council);
20. GB/T18508-2001 Urban Land Appraisal Regulations;
21. Regulations For Gradation and Classification on Urban Land (GB/T18507-2001) (issued by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China on 12 November 2001 and implemented on 1 July 2002);
22. GB/T50291-1999 Standard of Real Estate Appraisal;
23. Interim Regulations of the People's Republic of China Concerning the Assignment and Transfer of the Right to the Use of the State-Owned Land in the Urban Areas (promulgated in accordance by Decree No.55 of the State Council of the People's Republic of China on 19 May 1990);
24. Corporate Accounting Principles – Basic Principles (Order No.33 of the Ministry of Finance on 15 February 2006);
25. Other laws, regulations and rules related to valuation.

(III) Standards basis of valuation

1. Asset Valuation Standards – Basic Standards;
2. Standards of Professional Ethics for Asset Valuation – Basic Standards;
3. Standards of Professional Ethics for Asset Valuation – Independence;
4. Asset Valuation Standards – Valuation Report;
5. Asset Valuation Standards – Valuation Procedure;
6. Asset Valuation Standards – Letter of Engagement;
7. Asset Valuation Standards – Working Paper;

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8. Asset Valuation Standards – Enterprise Value;
9. Asset Valuation Standards – Machinery and Equipment;
10. Asset Valuation Standards – Real Estate;
11. Asset Valuation Standards – Intangible Assets;
12. Asset Valuation Standards – Utilization of Expertise;
13. The Guiding Opinions on Types of Value in Asset Valuation;
14. The Guidelines for the State-owned Asset Valuation Reports of Enterprises;
15. The Guiding Opinions on Attention of Certified Public Valuers on Legal Ownership of the Valuation Object.

(IV) Ownership basis

1. Property ownership certificates;
2. State-owned land use certificate;
3. Driving license of vehicles;
4. Purchase contracts or certificates of important assets;
5. Other contracts, legal documents and other materials in connection with the acquisition and use of assets.

(V) Pricing basis

1. Standard Provisions for Motor Vehicles Compulsory Scrap implemented since 1 May 2013;
2. The Interim Regulations on the Tax on Vehicle Purchases in People’s Republic of China (The State Council order [2000] No. 294);
3. Mechanical and Electrical Products Quotation Manual in 2016 (Machinery Industry Information Research Institute);
4. The People’s Bank Lending Rates Table implemented since 24 October 2015;
5. Historical Operating Information and Future Planning Information provided by Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;);



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6. Records of on-site interviews and investigations by the valuers;

7. Data obtained and collected by the valuers through market investigations;

8. Other relevant materials.

(VI) Other reference materials

1. Asset verification reporting schedule provided by Huaneng Heilongjiang Power Generation Co., Ltd.  
(#33775;#33021;#40657;#40845;#27743; #26377;#38480;#20844;#21496;);

2. Audited report of Huaneng Heilongjiang Power Generation Co., Ltd.  
(#33775;#33021;#40657;#40845;#27743; #26377;#38480;#20844; #21496;) in previous years and  
on the valuation base date;

3. Handbook of Commonly used Data and Parameters for Asset Valuation (the second edition) (Beijing Science &  
Technology Press);

4. Other relevant materials.

VII. VALUATION METHOD

(I) Selection of valuation method

When valuing the value of enterprise, we have to analysis the applicability of the basic methods of asset valuation basing on the valuation purpose, valuation object, value type, assets collection and other conditions to select one or more than one basic valuation methods.

According to provisions under asset valuation standards of China, there are three basic methods, namely, the income method, the market method and the asset-based method may be adopted in valuation.

The income method under the valuation of enterprise refers to the method of valuation by which the valuation object is determined by capitalizing or converting the anticipated income. The market method under the valuation of enterprise refers to the method of valuation by which the valuation object is determined by comparing the valuation object with comparable listed companies or comparable trading cases. The asset-based approach under the valuation of enterprise refers to the method of valuation by which the value of valuation object is determined after reasonably valuating the assets and liabilities included into and excluded from the enterprise reporting form on the basis of the balance sheet of the enterprise subject to valuation as of the valuation base date.

Based on our knowledge of the state of operation, business plans and development plans of the company under valuation as well as our research in the industry and market that the company is operated in, we came to believe that the company is expected to operate in an on-going basis in the future and therefore eligible for the revenue-based method in the valuation.



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In view of the financial data and asset management data of the business under valuation were complete and available, the sources of the data and information on the asset re-procurement cost were fairly varied, and that there is inherent relation and substitution between the asset replacement cost and the then present value of earnings, therefore, the asset-basis method was also applicable to the present valuation project.

Through the above analysis, the present valuation project was considered through according to the asset-basis method and revenue-based method respectively; on the basis of a comparison of the valuation conclusions arrived at through the two methods, the factors behind the differences between the two conclusions would be analyzed, so as to ultimately identify the appraisal value.

(II) Overview of the asset-basis method

In this method, the amount of investment that would be required on the valuation base date to re- create a business enterprise or independent for-profit entity that was identical with the business under valuation was adopted as the basis on which the total asset value of the business was decided. Specifically, it is a method through which the value of a business enterprise is identified by the sum of the appraisal value of component assets of the business minus the appraisal value of the liabilities of the business.

The valuation methods for different types of assets and liabilities are as follows:

1. On the valuation of current assets

- (1)monetary capital: the valuers verifies the cash holdings of the business under valuation through on-site surveys, and calculate retrospectively to identify the amount of cash held by the business on the base day of valuation, and carry out trial balancing on the basis of bank statements and bank balance adjustment table. After proper verification, the verified book value of monetary capital denominated in RMB should be adopted as the appraisal value;
- (2)note receivables: the valuer shall inspect the general account, the itemized account, financial statement and the detail list of the valuation. Secondly, the note in the stock shall be supervised so as to verify the related content in the registration book of the note receivables. If the bill has been recovered on the date of on-site verification by valuer, and the subsidiary accounts checked and verified the receipt of payment, bank deposit and note receivables by the valuer is true, the book value can be used as the valuation result. For the bank acceptance bill. if the bill has not been recovered on the date of on-site verification by valuer, the book value can be used as the valuation result.
- (3)receivables (receivables, interest receivables, other receivables and non-current assets due within one year): through accessing books, original vouchers and on the basis of analyses of economic contents and account receivable ages and a combination of individual identification and account receivable analysis, the amount recoverable from receivable and the assessed risks of sums recoverable in the future, so as to identify the appraisal value of the receivables.

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## 2. Valuation of Long-term Receivables

Long-term receivables of Huaneng Heilongjiang Power Generation Co., Ltd. are the long-term borrowings owed by Daqing Lvyuan Wind Power Co., Ltd.. After reviewing the borrowing contracts and accounting vouchers, the valuers took the audited book value as the appraisal value.

## 3. Introduction of long-term equity investment valuation

## (1) Valuation scope

There are seven long-term equity investment in the valuation scope, with a carrying amount of RMB2,158,211,045.07, details of which are set out as follows.

No.	The Name of Entities Invested	Date of investment	Du Inv Ag
1	Daqing Lvyuan Wind Power Co., Ltd. (#22823;#24950;#32160;#28304;#39080;#21147; #26377;#38480;#20844;#21496;#2010	24 May	Lon
2	Huaneng Yichun Thermal Power Co., Ltd. (#33775;#33021;#20234;#26149;#29105; #26377;#38480;#20844;#21496;)	21 June 2012	Lon
3	Huaneng Tongjiang Wind Power Co., Ltd. (#33775;#33021;#21516;#27743;#39080;#21147; #26377;#38480;#20844;#21496;#2009	28 April	Lon
4	Huaneng Daqing Thermal Power Co., Ltd. (#33775;#33021;#22823;#24950;#29105; #26377;#38480;#20844;#21496;)	9 April 2012	Lon
5	Huaneng Hegang Power Generation Co., Ltd. (#33775;#33021;#40372;#23831; #26377;#38480;#20844;#21496;)	30 June 2009	Lon
6	Huaneng Xinhua Power Generation Co., Ltd. (#33775;#33021;#26032;#33775; #26377;#38480;#36012;#20219;#20844;#21496;#2009	30 June	Lon
7	Zhaodong Huaneng Thermal Power Co., Ltd. (#32903; #33775;#33021;#29105;#21147;#26377;#38480;#20844;#21496;)	10 May 2016	Lon
	Total		
	Less: provision for impairment of long-term equity investments		
	Net value		

## (2) Process and method of valuation

Valuers collected evidences and verified the cause, book value and actual status of the long-term investments first, and reviewed the investment agreements, shareholder solutions, articles of association and relevant accounting records to appraise the companies under valuation on such basis.

The companies invested are all holding companies and the valuers determined the appraised value by multiplying the appraised value of net assets in the companies invested as at the base date by the shareholding proportion:

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In determining the appraised value of long-term equity investment, valuers did not take into account the effect of premium and liquidity resulted from the shareholding.

4. Valuation of Investment property

Investment properties included in the valuation scope was the office building of Huaneng Heilongjiang Power Generation Co., Ltd. located at Fendou Road (currently known as Guogeli Avenue) of Nangang District. The property is presented in book value as valuers found out that it was subject to dispute and its title was uncertain after investigating the property and the books for verification purpose.

5. Valuation of Machinery and Equipment

Equipment and machinery were evaluated mostly by the cost method according to conditions such as the characteristics of the equipment, types of values appraised and the collection of materials. The formula of the cost method is as follows:

Appraisal value = replacement cost × comprehensive newness rate

(1) Determination of the replacement cost

Transportation equipment

Replacement cost is determined by the market value (net of tax) as at the valuation base date plus other reasonable cost such as vehicle purchase tax and license fee. The formula of the cost method of transportation cost is as follows:

Replacement cost= purchase price (net of tax) + purchase price × 10%/(1+17%) + license fee

&#8218; Electronic device

Electrical devices included in the valuation scope is of low value and need no installation (or provider being responsible for installation) with low transportation cost. It is determined with reference to the purchase price (net of tax) prevailing in the market.

(2) Determination of comprehensive newness rate

&#402;The newness rate of vehicles used for transportation purposes was mainly determined according to the Provisions on the Standards for the Compulsory Scrapping of Motor Vehicles (Order of the Ministry of Commerce, National Development and Reform Commission, the Ministry of Public Security and the Ministry of Environmental Protection [2012] No. 12). If a number of years that a vehicle was in use or a mileage was specified under the standards as the threshold for compulsory decommissioning of motor vehicles, the lower of the two newness rates calculated according to the number of years and mileages should be adopted as the actual newness rate and adjusted according to the findings of on-

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site inspection; however, if no number of years was specified under the standards as the threshold for scrapping a motor vehicle, then the newness rate should be identified according to the mileage and adjusted according to the findings of on-site inspection. The calculation formulas are as follows:

Mileage-based newness rate = (the specified mileage – mileage already covered)/specified mileage × 100%

the newness rate based on service life = (the economic life – number of years for which the vehicle has been used)/the statutory economic life × 100%

the comprehensive newness rate = theoretical news rate + adjustment coefficient

&#8218; Newness Rate of Electronic Devices

Newness rate = (1 – the number of years that the devices had already been used/the economic life) × 100%

or the newness rate = [number of remaining years/(number of elapsed years + number of remaining years)] × 100%

Further, electronic devices that were evaluated directly at the second-hand-market price were exempted from newness rate.

(3) Determination of appraisal value

Appraisal value = full replacement price × comprehensive newness rate

Value of some of the devices was determined with their second-hand-market price directly, while value of devices to be scrapped was determined based on their realizable value.

6. On the valuation of buildings and structures

In view of the specific purpose of the valuation, market approach was adopted in the valuation of buildings to determine the appraised value of each building. Investment property was stated in book value as its title was subject to dispute and the property ownership certificate was not obtained.

The market comparison method is a method through which eligible real estates were evaluated through comparing such real estate with similar real estate traded not long before or after the valuation base date and adjusting the known price of the traded similar real estates. In practice, the real estates designated for evaluation were placed in one and the same market as three similar real estates which had been traded and had the same useful values as the designated one and a similar surrounding environment similar to that of the designated one. After that, in light of the transaction profile, date, location and case-specific factors and service life of the appraised real estate, so as to identify the appraisal value of the appraised real estate on the valuation base date.

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The calculation formula under the market comparison method is as follows:

The adjusted price of a case = the price of the case  $\times$  a  $\times$  b  $\times$  c  $\times$  d  $\times$  e

a = [(adjustment on the date of transaction)/100]

b = [100/(transaction profile adjustment)]

c = [100/(adjustment to the location factor)]

d = [100/(individual factor adjustment)]

e = service life correction factor

In the above formulas, the valuation object is adopted as the benchmark, with a score of 100. The market value of such assets on the valuation base date was identified through proper adjustment.

The exact procedures are as follows:

Selection of actual cases of transaction

Choose real estate transaction cases that are within the same geographical or supply-and demand range as the appraised real estate and are similar with actual cases similar to the appraised real estate. The standards for the selection of actual cases are as follows: the reference real estates were traded real estates in an area neighboring the location where the appraised real estate was located or were within the same demand-and-supply world as the appraised real estate. The reference real estates were the same as the appraised real estate in terms of type of transaction and the land they occupy should belong to the same category. The transaction of a reference real estate is either normal transaction or a transaction that can be adjusted to be normal. The reference real estate should be a transaction case that occurred recently (within one year); the individual factors of the reference real estate must be essentially the same as and comparable with those of the appraised real estate.

&#8218; Adjustment of transaction time

The transaction time of the reference real estate is different from the transaction time of the appraised real estate. Therefore, the two may be different in terms of the transaction price. Therefore, it is necessary to make adjustment in light of the impact of difference in transaction time on price.

&#402; Adjustment to trading on the market

Certain special transaction factors in the transaction price of the reference real estate must be eliminated, such as whether the two parties to the transaction were related, whether the seller concluded transaction in haste in order to realize cash or whether the buyer purchased in a hurry, and special and unique preferences on the part of the two parties to the transaction.





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&#8222; Adjustment made in light of the location factor

The transaction price of the reference real estate should be adjusted according to the location factors of the area in which the appraised real estate was in and in light of the differences between the area where the reference real estate was located and that where the appraised real estate was located in terms of prosperity, communication accessibility and environmental quality.

&#8230; Making adjustments in light of the unique individual factors

The price of the reference real estate is adjusted in light of the unique individual factors of the appraised real estate, such as whether it is on the side of any road or street, building structure, layout, equipment and decoration, degree of recency, property services and support services and facilities.

&#8224; The remaining portion of the licensed land use period is adjusted according to the following formula:

In the above formula:

“r” stands for the discount rate;

“n” stands for the remaining portion of the licensed land use period of the reference case;

“m” refers to the remaining portion of the licensed land use period of the appraised real estate.

The adjustment rates of the reference real estate and the designated reference real estate should be calculated separately.

&#8225; Identify the price of the appraised real estate

The adjusted price of the comparable case the transaction price of the comparable case  $\times$  (transaction time of the appraised real estate/the transaction time of the reference real estate)  $\times$  (normal transaction conditions/transaction conditions of the reference real estate)  $\times$  (value of the location factors of the appraised real estate/value of the location factors of the reference real estate)  $\times$  (the unique individual factors of the appraised real estate/the unique individual factors of the reference real estate)  $\times$  land use right period adjustment rate.

Calculate the mathematic average of the adjusted prices of the comparable cases so as to identify the assessed unit price of the appraised real estate.

Price of the appraised real estate = the assessed unit price of the appraised real estate  $\times$  floor space of the appraised real estate

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7. Valuation of work in progress

The valuation of work in progress in the present valuation project was evaluated by replacement cost. To avoid repeated valuation and omissions of assets value, and give full consideration in progress, the following valuation method was adopted:

- (1) in the case of any project which started within 6 months prior to the valuation base date, the balance between the value declared by the company, minus unreasonable items of expenditure upon proper verification was adopted as the appraisal value.
- (2) in the case of a project still in progress that was started more than six months prior to the valuation base date, if it was confirmed by the valuation team through on-site investigation that all fees and costs had been appropriately paid, and the payment progress was consistent with the progress of the project, and the book value of the project did not include capital cost, the appraisal value should be calculated on the basis of the replacement cost plus capital cost (a reasonable term multiplied by the benchmark daily interest rate).

8. Valuation on the disposal of fixed assets

Valuers reviewed purchase contracts, asset cards and checked some of the assets selectively to determine the value based on their realisable value.

9. Valuation of intangible asset

Valuer checked the intangible assets involved in the valuation scope, subsidiary ledger and general ledger according to the breakdown submitted by the company to verify the consistency between accounts, accounts and assets as well as accounts and statements; collected ownership certificates and similar information to verify the ownership of such intangible assets; checked the consistency between information set out in the ownership certificate and the details reported, and made adjustment in accordance with ownership certificates if there was any difference in the details reported; found out the current status and uses of such intangible assets.

Other intangible assets involved in the valuation scope included office software purchased externally. In terms of software for specific use, valuers took the book value after amortisation as their appraised value. For general software, valuers determined the appraised value by deducting the upgrading cost from sales price of identical software on the valuation base date.

10. Valuation of liabilities

Current liabilities include short-term loans, accounts payables, other payables, remuneration payables to employees, tax payables, interest payables and non-current liability due within a year; non-current liabilities include long-term loans. The valuation personnel, on the basis of breakdown statements of different items of liabilities and relevant financial data, provided by the company, verified the book value of the liabilities and identified the value of the company's liabilities according to the account of liabilities that the company actually undertook.

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VIII. IMPLEMENTATION AND STATUS OF VALUATION PROCEDURES

We implemented the valuation between 27 June 2016 to 13 October 2016, and the whole valuation process was divided into four phases:

(I) Preparation phase

1. All parties concerned reached consensus over the purpose, valuation base date and valuation scope, and jointly formulated the working plan of the valuation project.
2. Assisting the company to complete asset review, and fill in the asset valuation declaration forms and other operations. Members of the valuation team examined the assets to be evaluated, made arrangements for the valuation, assisted the company in declaring the assets for valuation and collecting documents and other materials necessary for the asset valuation.

(II) On-site valuation phase

1. The valuation team attended the briefing by employees of the company subject to valuation on the overall situation of the company and the past and present of the assets to be evaluated, learnt the financial and asset management rules as well as status of business operation of the company.
2. Reviewed and verified the asset review and valuation declaration forms submitted by the company, and verified relevant financial records and data of the company, and worked with the company to address problems uncovered in the process.
3. Carried out a comprehensive review and checkup of the fixed-assets of the company according to the declaration forms, and carried out sampling-based examination of physical assets in the current assets of the company.
4. Accessed technical data on major equipment of the company; collected price data on general equipment of the company through market research and consulting relevant documents; learnt the management rules of the company in connection with its buildings and structures, and the maintenance, renovation and expansion of such buildings and structures.
5. Carefully examined the management and operation of the company, including staffing, supply of materials, management system and guidelines, etc..
6. Analyzed the operation status of the company on the basis of the historic financial data of the company.
7. Checked and collected the documentation and operational materials in connection with the assets to be evaluated, and verified the property ownership materials supplied by the company.

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8. Formulate the technical plan for the valuation on the basis of comprehensive analysis of the assets, business model and financial standing of the company.

(III) Summary phase

The preliminary results were reviewed and summed up. Necessary adjustment, correction and improvement were made to the valuation results.

(IV) Submission of report

On the basis of the work completed in previous phases, an asset valuation report was drafted; opinions were exchanged with the clients; revised and adjusted the report on the basis of relevant opinions and in accordance with the three-review rules and procedures of the valuation agency for valuation reports.

IX. VALUATION ASSUMPTION

1. There is no major change to relevant laws, regulations and policies as well as the macro economic situation of China; there is no major change in the political, economic and social environments of the regions in which all parties to the proposed transfer are located, and no other unforeseeable and uncontrollable factors result in any significant adverse impact;
2. In light of the actual state of the evaluated assets on the valuation base date, it is presumed that the company will operate on a continuous basis;
3. It is assumed that the managers of the company are responsible and the management of the company is competent for their offices;
4. It is assumed that on the basis of its current management model and management capabilities, the future business scope and approach will be consistent with what they currently are;
5. It is assumed that the accounting policies that the company subject to the valuation will adopt is consistent with the accounting policy that it followed at the time when this report was prepared in all important aspects;
6. No major change will happen to interest rate, exchange rate, base rates of taxes and duties, and policy-based fees and charges;
7. The valuation is based on the current operational capacity of the company on the reference day. No consideration is given to expansion in the operational capabilities of the company, which is caused by the management and operational strategy of or additional investment in the company;
8. All assets evaluated were subject to the amount actually held by the company on the valuation base date. The current market price of relevant assets was subject to the valid domestic price on the valuation base date;

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9. The electricity price and unit of heating in profit forecast period would remain unchanged;
10. the influences of foreign equity investments to value of entities evaluated project after the valuation base date would not be taken into account;
11. For the purpose of the present valuation, it is assumed that the basic materials and financial materials provided by the clients and the company subject to the valuation are genuine, accurate and complete;
12. The valuation scope is subject to the valuation declaration forms provided by the company undergoing the valuation. No consideration is made to the possibility that the client or the company may provide assets or liabilities not included on the list they provided;
13. Users of this report are specially reminded that the analyses, judgment and conclusion in the report are subject to the assumptions and qualification conditions in the report. The valuation result generally will become invalid upon any change to the aforementioned assumptions or conditions.

X. VALUATION CONCLUSION

(I) Results of valuation by asset-based method

As of 31 May 2016, being the valuation base date, the book value of the total assets of Huaneng Heilongjiang Power Generation Co., Ltd. (Huaneng Heilongjiang Power Generation Co., Ltd.) was RMB3,267.2662 million, liabilities was RMB2,302.4103 million, net assets was RMB964.8559 million; the total value of the assets was RMB4,400.4765 million, with an added value of RMB1,133.2103 million, representing an added-value rate of 34.68%; the total value of liabilities was RMB2,302.4103 million; the net value of assets was RMB2,098.0662 million, with an added value of RMB1,133.2103 million and representing an added-value rate of 117.45%. Details of the valuation result are set out in the table below:

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## Consolidated Table of the Asset Valuation Results

Unit: RMB0'000

Item	Book value	Appraisal value	Increased/ Decreased Amount	Growth Rate (%)
Current assets	105,887.03	105,887.03	—	—
Non-current assets	220,839.59	334,160.62	113,321.03	51.31
Among which, available-for-sale financial assets	—	—	—	—
Held-to-maturity investment	—	—	—	—
Long-term receivables	10,000.00	10,000.00	—	—
Long-term equity investment	209,146.36	320,082.90	110,936.54	53.04
Investment-orientated real estate	305.65	305.65	—	—
Fixed assets	820.98	3,193.11	2,372.14	288.94
Work in progress	265.33	265.33	—	—
Project materials	—	—	—	—
Liquidation of fixed-assets	0.33	0.58	0.25	76.26
Productive biological assets	—	—	—	—
Oil and gas assets	—	—	—	—
Intangible assets	300.94	313.04	12.10	4.02
Development expenditure	—	—	—	—
Goodwill	—	—	—	—
Long-term deferred expenses	—	—	—	—
Deferred income tax assets	—	—	—	—
Other non-current assets	—	—	—	—
Total assets	326,726.62	440,047.65	113,321.03	34.68
Current liabilities	210,741.03	210,741.03	—	—
Non-current liabilities	19,500.00	19,500.00	—	—
Total liabilities	230,241.03	230,241.03	—	—
Net assets (ownership interest)	96,485.59	209,806.62	113,321.03	117.45

## (II) Analysis of the valuation conclusion:

The operation and profitability might not be stable for the coming years and it might be mainly engaged in investment and management. Therefore, revenue methods might not give a true view of the company's real value. In view of the fact that the purpose of the present valuation was to serve equity transfer, therefore, the equity value under valuation should be the inherent value of the equity on the precondition that the object under valuation operates in a normal manner. The asset-based method, which adopts the existing assets of the company as its precondition, is believed to produce an evaluation result that is more prudent and more realistic from the perspective of future investors. Therefore, the result reached by the asset-based method was adopted as the final valuation conclusion in this report.

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In summary, all the shareholder's interests in Huaneng Heilongjiang Power Generation Co., Ltd. was evaluated at RMB2,098.0662 million on 31 May 2016, being the valuation base date.

The valuation conclusion was reached on the basis of the valuation in the preceding parts and is valid subject to the valuation hypothesis and qualification conditions listed in this valuation report.

## XI. STATEMENT ON SPECIAL ISSUES

## (I) Defective issues of property right information

1. The office building of Huaneng Heilongjiang Power Generation Co. Ltd. located at Fendou Road was purchased from Heilongjiang Electric Power Limited Company (&#40657;&#40845;&#27743; &#21147;&#32929;&#20221;&#26377;&#38480;&#20844;&#21496;) in 1996 according to the approval an instruction of Huaneng Power Generation Company and the document of Hei Dian Ji [1996] No.487 issued by Heilongjiang Electric Power Industry Bureau by installments. The property is jointly developed by Heilongjiang Electric Power Limited Company (&#40657;&#40845;&#27743; &#21147;&#32929;&#20221;&#26377;&#38480;&#20844;&#21496;) and technical investigation department of Harbin Municipal Public Security Bureau. After completion, as the dispute between both parties in relation to the lobby, the building has not obtained the certificate of title yet. At the end of 2009, Heilongjiang branch of China Huaneng Group has allocated the property to Huaneng Heilongjiang Power Generation Co., Ltd. (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;). For the property, the valuer list in accordance with the carrying amount.
2. According to the property ownership certificate Ha Fang Quan Zheng Kai Guo No. 00038271 and state-owned land use rights certificate Ha Guo Yong (2001) Zi No.73351, for the office building purchased by Huaneng Heilongjiang P o w e r G e n e r a t i o n C o . , L t d . (&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844;&#21496;), the registered owner is China Huaneng Group with an area of 1,900.76 square meters. For the garage, it has obtained property ownership certificate (Quan Min Dan Wei Zi Guan Gong Chan Zi No. C03124), which has not obtained land certificate, with a total area of 73.25 square meters, the registered owner of which is Heilongjiang Huaneng Power Generation Company (&#40657;&#40845;&#27743;&#30465;&#33775;&#33021; &#20844;&#21496;). The above two properties were partially allocated to Huaneng Heilongjiang Power Generation Co., Ltd. at the establishment of it, but has not changed the registered owner yet.
3. There were 4 vehicles in total. The owner set out in the certificates of such vehicles was the former company of Huaneng Heilongjiang Power Generation Co., Ltd. before its transformation and does not match. The ownership was not changed after its transformation.

No.	Plate No.	Brand	Purchase date	Status on valuation base date	Registered Owner	Validity of Driving License
1	Hei A05420	FuQi Jeep	November 1997	Sealed	Heilongjiang branch of China Huaneng Group	Invalid
2		Skoda		Sealed		Invalid



	Hei A84312		December 2001		Heilongjiang branch of China Huaneng Group	
3	Hei A03323	Audi	January 2004	Sealed	Heilongjiang branch of China Huaneng Group	Invalid
4	Hei AX5785	BUICK	October 2004	In operation	Heilongjiang branch of China Huaneng Group	Invalid

4. Ownership Defective Matters of Each Subsidiary

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(1) Daqing Lvyuan Wind Power Co., Ltd.:

All properties has not obtained Property Ownership Certificate. Daqing Lvyuan Wind Power Co., Ltd. has provided construction contracts, payment vouchers, statement of ownership and relevant documents, stating that the properties without certificates were held by the company.

(2) Huaneng Yichun Thermal Power Co., Ltd.:

Huaneng Yichun Thermal Power Co., Ltd. did not obtain any Property Ownership Certificate of all properties subject to valuation as of the valuation base date.

Huaneng Yichun Thermal Power Co., Ltd. acquired the state-owned construction land use right of 50 years for a parcel of land (Yi Chu Di No.yc2016-01) with an area of 21,889.01square meters for industrial use by bidding on 16 May 2016. It has obtained the confirmation of public transfer of the state-owned construction land use right (No.22283;No.26377;No.24314;No.35373;No.29992;No.22320;No.20351;No.29992;No.27402;No.25499;No.29260;No.20986;No.35373) and paid the land transaction performance bond as well as the deed tax. The land use right was credited to project under construction. The state-owned land use right certificate was under application.

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SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

## (3) Huaneng Tongjiang Wind Power Co., Ltd.:

The following table sets out properties of Huaneng Tongjiang Wind Power Co., Ltd. without certificates:

No.	Name of Building	Structure	Complete Date	Floor Area (m2)	Carrying Amount (RMB)	
					The original value	Net Value
2	Condenser room – (Jie Jin Shan)	Steel structure	2009-12-1	90.64	292,552.22	236,148.50
7	Provisional valuation of houses of Linjiang Project Phase II	brick-concrete	2015-12-1	64.20	3,840,783.01	3,757,992.77

## (4) Huaneng Daqing Thermal Power Co., Ltd.:

There were no relevant documents regarding approval, proposal, commencement of construction, construction or operation of and no land use right certificate of the land occupied by Qinan Branch of the Huaneng Daqing Thermal Power Co., Ltd..

As of the valuation base date, the company reported 41 buildings in aggregate with a floor area of 95,811.98 square meters. and has provided relevant documents such as construction contracts and payment vouchers, proving that it was the owner of all the properties without certificates.

## (5) Huaneng Hegang Power Generation Co., Ltd.:

Huaneng Hegang Power Generation Co., Ltd. did not obtain any property ownership certificate of all properties subject to valuation as of the valuation base date.

Huaneng Hegang Power Generation Co., Ltd. has acquired the state-owned Land Use Right Certificate for all land use rights it had. The State-owned Land Use Right Certificate (Tang Guo Yong (96) Zi Di No. 120000001) set out that the owner was Hegang Power Plant (&#40372;&#23831; &#24288;), which was inconsistent with the name on the company's business license. As of the valuation base date, the company has not applied for alteration.

## (6) Huaneng Xinhua Power Generation Co., Ltd.:

As of 31 May 2016, a black King Long bus (plate No.: Hei E31030), a black minibus (plate No.: Hei E9706), a black truck with a cage (plate No.: Hei E35418) and a black Jinbei minibus (plate No.: Hei ED0568) and a black King Long bus (plate No.: Hei E37989, in the process of annual inspection) were used inside the plant as economic life of some of them were expired or surpassed the statutory mileage and did not go through annual inspection.



## APPENDIX I(iii)

SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

The company reported 6 parcels of land which were intangible assets with an area of 2,017,231.88 square meters acquired by means of transfer. The owner set out in the certificates of the parcels of land was inconsistent with the name of the company. Details are as follows:

No.	No. of Certificate of Land	Use of the Land	Type of Use Right	Area (M2)	Registered Owner
1	Da Qing Guo Yong (89) No. 0008	Tank station site	Transfer	10,306.49	Xinhua power plant
2	Da Qing Guo Yong (89) No. 0009	Gas station	Transfer	7,565.42	Xinhua power plant
3	Da Qing Guo Yong (89) No. 0010	Plant	Transfer	1,207,612.81	Xinhua power plant
4	Da Qing Guo Yong (89) No. 0011	Asphalt plant	Transfer	13,634.16	Xinhua power plant
5	Hei Guo Yong (2004) No. 24800011	Integrated products plant of dust coal	Transfer	778,085.00	Daqing Huaneng Xinhua Power Generation Limited Liability Company
6	Hei Guo Yong (2004) No. 24800012	Pumping station of water	Transfer	28.00	Daqing Huaneng Xinhua Power Generation Limited Liability Company
Total				2,017,231.88	

As of 31 May 2016, being the valuation base date, there were totally 131 buildings of Huaneng Xinhua Power Generation Co., Ltd. subject to valuation. The owner set out in certificates of 56 buildings was Xinhua Power Plant (26032;33775; 24288;), which is the former company name before its transformation, and no changes have been made in this regard. That part of assets had a floor area of 29,863.76 square meters. as set out in their certificates with book value of RMB3,470,057.98. Besides, 72 buildings had not obtained property ownership certificates with a floor area of 44,006.00 square meters. as indicated by the ledger of fixed assets and with book value of RMB13,233,563.04.

(7) Zhaodong Huaneng Thermal Power Co., Ltd:

As of 31 May 2016, the company pledged its plant for production with a gross floor area of 11,310.65 square meters. and its land use right with an area of 50,110 square meters. for mortgages of RMB30,000,000 from Changchun Rural Commercial Bank for a period from 29 April 2014 to 28 April 2017.

As of the valuation base date, the 2\*29 boiler plant (40T) (ownership certificate No.: Zhao Fang Quan Zheng Cheng Qu Zi No.2013008895) pledged by the company has been demolished partly and the remaining area was 978.12 square meters. The ownership certificate has not been renewed.

The Room 101, 102, 201 and 202 in Building No.2, Block B of Zhaodong Qing Hua Ming Yuan Garden (No.3, with a floor area of 201.66 square meters were for commercial use and were occupied by the company as an office for collection of heating fee. As advised by the company, the property was acquired as repayment of liabilities and the owner was currently the

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## APPENDIX I(iii)

SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

company who entrusted the valuation. The appraised value was the book value provided by the company as relevant property ownership certificates and evidence were not obtained in the valuation process.

As of the issuance date of the report, Zhaodong Huaneng Thermal Power Co., Ltd has completed the construction of 11 properties in total in November 2011 successively for production and operation use with an area of 5,229.72 square meters including guard room and boiler plant, but did not applied for the issuance of any property ownership certificates. The details are set out in the following table. The company has provided relevant documents such as construction contracts, payment vouchers and ownership statements, proving that it was the owner of all the properties without certificates.

No.	No. of Building Ownership Certificate	Name of the Building	Structure	Complete Date	Floor Area (m2)
1	Nil	Guard Room	brick – concrete	October 2012	51.70
2	Nil	Garage under the Zhan bridge	brick – concrete	October 2012	208.80
3	Nil	Room 101, 102, 201 and 202 of Building No.2, Block B of Qing Hua Ming Yuan Garden	steel – concrete	May 2013	201.66
4	Nil	2*29 boiler room (40T)	steel structure	November 2011	978.12
5	Nil	2*58 garage for coal bulldozer	brick – concrete	August 2012	135.00
6	Nil	2*58 oil pump room	steel – concrete	October 2012	55.13
7	Nil	2*58 weighbridge room	steel – concrete	August 2012	64.24
8	Nil	2*58 coal crushing room (coal program control room)	steel – concrete	October 2012	828.04
9	Nil	1*58 boiler main workshop	steel – concrete	October 2014	2,179.54
10	Nil	1*58 draught fan room	steel – concrete	October 2014	156.00
11	Nil	2*58 draught fan room	steel – concrete	October 2012	371.49

(II) Quotation of report conclusions from other institutions

The financial statements of 31 May 2016 is audited by PricewaterhouseCoopers Zhong Tian (Special General Partnership) and issued the standard unqualified audit report (Pu Hua Yong Dao Zhong Tian Te Shen Zi (2016) No.1934).

(III) Significant subsequent events

Subsequent events refer to significant issues, if any, that occurred after the valuation base date but prior to the release of the valuation report.

There is no significant subsequent event occurred during this valuation.

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SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

(IV) Other issues that need to be explained

1. The clients and the entities evaluated shall be responsible for the accuracy and completeness of the valuation scope and data, statements and other relevant materials provided by them. The ownership certification documents and relevant materials involved in the valuation report were provided by the entity evaluated. The clients and the entity evaluated shall bear the legal responsibility for the accuracy and legality of such documents and materials.
2. Where there is any change to the amount of assets or the pricing standard thereof within the term of validity after the valuation base date, such change should be handled according to the following principles:
  - (1) In the case of any change in the quantity of assets, the quantity of the affected assets should be adjusted in accordance with the original valuation method;
  - (2) If the pricing standard of any asset is changed, which has a notable impact on the valuation result, the clients should timely engage a qualified asset valuation agency to reevaluate the value of such asset;
  - (3) The clients should give full consideration to any change in the quality or pricing standard of any asset and make the corresponding adjustment.
3. Huaneng Heilongjiang Power Generation Co., Ltd. has provided us with the profit forecasts which served as an important basis for the revenue approach of the valuation report. We have conducted necessary investigation, analysis and judgment to such profit forecasts before we were satisfied with such information.

The application of such profit forecasts by us is not a guarantee of the future profitability of the company.

XII. STATEMENT OF LIMITATION ON THE USE OF THE VALUATION REPORT

- (I) This valuation report can only be used for the purpose as described in the report. In addition, the valuation conclusion in this report is purported to reflect the current fair market value as determined by open market principles and for the purpose of the valuation under this report. It does not take into consideration the impact that any possible pledge or security and additional price that a special party to the transaction may have to pay may have on the valuation price. Furthermore, this report does not take into consideration either changes in state macroeconomic policies, natural forces and other forms of force majeure may have on asset prices. When the above mentioned qualification conditions and the principle of continuous operation are changed, the valuation conclusion will generally lose its validity. This valuation agency may not be held legally responsible for such invalidity of valuation conclusion due to any change in the abovementioned conditions.

The prerequisite for the validity of this valuation report is that the economic activity hereunder complies with any and all applicable state laws and regulations, and is approved by relevant authorities.

(II) This valuation report can only be used by the users as specified herein. The use right of the valuation report shall belong to the clients, and the valuation agency will not disclose this report to any other party without the consent of the clients.

(III) Without permission from the valuation agency and verifying the relevant contents, all or part of the valuation report may not be copied, quoted or disclosed in public media, unless otherwise provided for by laws, regulations and otherwise agreed on by the relevant parties.

(IV) The term of validity of the valuation conclusion: according to the current state regulations, the conclusion of this conclusion of assets valuation report shall be valid for one year, calculated from 31 May 2016, being the valuation base date, and ended on 30 May 2017. After the one- year period expired, new asset valuation shall be carried out.

XIII. DATE OF VALUATION REPORT

This valuation report was formally submitted on 13 October 2016.

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Legal representative of the valuation agency      Li Xiaohong  
(#26446;#26313;#32005;)

Certified public valuer                                      Zhang Liang (#24373;#20142;)

Certified public valuer                                      Hou Xinfeng  
(#20399;#26032;#39080;)

China Appraisal Associates  
13 October 2016

APPENDIX I(iii)

SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

The Appendices to Assets Valuation Report (Note)

&#8226; The Resolution Minutes of the General Manager Meeting of China Huaneng Group (Edition 34, 2016);

&#8226; Engagement Letter of Asset Valuation;

&#8226; Corporate Business Licenses of the Client and the Entities evaluated;

&#8226; Special Audit Report of Huaneng Heilongjiang Power Generation Co., Ltd.  
(&#33775;&#33021;&#40657;&#40845;&#27743; &#26377;&#38480;&#20844; &#21496;);

&#8226; Letters of Undertaking from the Client and the Entity Evaluated&#65307;

&#8226; Letter of Undertaking from the Undersigned Certified Public Valuer;

&#8226; The Qualification Certificates of Valuation Institutes;

&#8226; Copies of Corporate Business License of Valuation Institutes;

&#8226; The Qualification Certificates of the Undersigned Certified Public Valuer;

&#8226; Name List of Persons Participating in the Valuation Project.

Note: Relevant appendices to the asset valuation report have not been included in this circular.

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SUMMARY OF ASSET VALUATION REPORT OF  
HEILONGJIANG POWER

Name List of the Valuation Project Team

Certified Public Valuer            Hou Xinfeng

Certified Public Valuer            Zhang Liang

Valuers:

Valuers for current asset:

Li Xiaosen (身份证: 264462631326862), Zhang Shu (身份证: 2437328557), Ma Xiaocui (身份证: 393402631332736), Yu Xiang (身份证: 2011032724), Chen Yong'an (身份证: 385152770423433), Mou Guiping (身份证: 292792669024179)

Valuers for equipment:

Yu Wei (身份证: 2011020553), Zhao Yi (身份证: 3624927589), Li Zengwei (身份证: 266472268620553), Wei Hongyu (身份证: 397592794623431), Tong Yaoming (身份证: 203193276826126), Sun Boyu (身份证: 234032133823431), Yu Hanqiao (身份证: 219472845027211)

Valuers for property:

Wu Shangyi (身份证: 2155536604), Lv Wenfeng (身份证: 215702599123792), Wang Yusheng (身份证: 295792957732882), Zhang Shuying (身份证: 243732811333521), Gu Yang (身份证: 2147638525), Yin Yongbo (身份证: 275752770427874)

APPENDIX I(iv)

SUMMARY OF ASSET VALUATION REPORT OF  
ZHONGYUAN CCGT

ASSET VALUATION REPORT (SUMMARY)

IN CONNECTION WITH  
ALL EQUITY INTERESTS OF SHAREHOLDER OF HUANENG HENAN  
ZHONGYUAN GAS POWER GENERATION CO., LTD. INVOLVED IN THE  
PROPOSED TRANSFER OF EQUITY IN HUANENG HENAN ZHONGYUAN  
GAS POWER GENERATION CO., LTD. TO HUANENG POWER  
INTERNATIONAL, INC. BY CHINA HUANENG GROUP

Zhong Tian Hua Zi Ping Bao Zi [2016] No. 1501

CHINA APPRAISAL ASSOCIATES

14 OCTOBER 2016

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APPENDIX I(iv)

SUMMARY OF ASSET VALUATION REPORT OF  
ZHONGYUAN CCGT

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SUMMARY OF ASSET VALUATION REPORT OF  
ZHONGYUAN CCGT

STATEMENT

1. We comply with all laws and regulations and assets valuation standards, and uphold the principles of independence, objectivity and fairness in the present valuation project;
2. Certified public valuers are obliged to comply with all applicable laws, regulations and asset valuation standards to evaluate the valuation object and issue professional valuation opinions. The client and related entrusting parties are obliged to provide any necessary information for the valuation, and to ensure the authenticity, legality and integrity of such materials, and to use the valuation report in a proper way.
3. We do not have any existing or potential interest in valuation object as specified in the valuation report; furthermore, we do not have any interest, existing or potential, in any of the related entrusting parties, and therefore do not have any prejudice against or bias for any such party.
4. We have carried out on-site investigation and valuation of the valuation object and the assets involved. We have paid necessary attention to the ownership of the entity evaluated and the assets involved and examined and verified the legal ownership certification; however, we do not make any guarantee in any form whatsoever in connection with the legal ownership of the valuation object.
5. The analyses, judgment and conclusion in the valuation report issued by us are subject to the assumptions and qualifications in the valuation report. Therefore, users of the valuation report are advised to give proper consideration to the assumptions, qualifications and statement of special issues as well as their effect on the valuation conclusion.
6. Our estimation on the value of the valuation object and our professional opinions are intended to be reference of the realization of economic activities. The valuation report should be used by the users exclusively for the purpose specified in the report within the term of validity. The valuation agency or any of the undersigned certified public valuers may be held no responsibility for any and all consequences of any improper use of the report.
7. Certified public valuers engage themselves in asset valuation exclusively for the purpose of assessing the values of the valuation object and issue professional opinions and hence do not assume any decision-making responsibilities of any of the related entrusting parties. The valuation conclusion may not be deemed as guarantee for any expected realizable price of the valuation object.

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APPENDIX I(iv)

SUMMARY OF ASSET VALUATION REPORT OF  
ZHONGYUAN CCGT

ASSET VALUATION REPORT (SUMMARY)

IN CONNECTION WITH  
ALL EQUITY INTERESTS OF SHAREHOLDER OF HUANENG HENAN  
ZHONGYUAN GAS POWER GENERATION CO., LTD. INVOLVED IN THE  
PROPOSED TRANSFER OF EQUITY IN HUANENG HENAN ZHONGYUAN  
GAS POWER GENERATION CO., LTD. TO HUANENG POWER  
INTERNATIONAL, INC. BY CHINA HUANENG GROUP

SUMMARY

Zhong Tian Hua Zi Ping Bao Zi (2016) No. 1501

Upon authorization by Huaneng Power International, Inc., China Appraisal Associates carried out valuation of the equity interests of shareholder of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;) involved in the proposed transfer of equity in Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;) to Huaneng Power International, Inc. by China Huaneng Group, for the purpose of providing valuation reference for the intended equity acquisition.

Pursuant to the valuation purpose, the valuation object is all equity interests of the shareholder of Huaneng Henan Z h o n g y u a n G a s P o w e r G e n e r a t i o n C o . , L t d . (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;), the valuation scope covers all the assets and relevant liabilities of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;) on the valuation base date. The exact scope of the valuation is subject to the asset balance sheet and valuation statements provided by Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;).

31 May 2016 is adopted as the valuation base date.

The value type of the valuation belongs to market value.

On the precondition of continuous use and open market, and based on the actual circumstances of the valuation object as well as all other relevant factors, we comprehensively valued Huaneng Henan Zhongyuan Gas Power Generation C o . , L t d . (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;) by assets-based method and income method and formed the valuation conclusion.

In view of the applicability precondition of the valuation methods and the valuation purpose, the conclusion drawn through the assets-based method was adopted as the final conclusion.



During the valuation process, the valuation team of our company went through the necessary valuation procedures for the assets within the eligible valuation scope in accordance with the rules and regulations of the industry. The said procedures include: verification, on-site investigation, market research and consultation, assessment estimates and other valuation procedures.

On the basis of the above work and subject to the fulfillment of all valuation preconditions and presumptions, the following valuation conclusion was reached:

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SUMMARY OF ASSET VALUATION REPORT OF  
ZHONGYUAN CCGT

Result arrived at through the assets-based: as of 31 May 2016, being the valuation base date, the total book value of the assets of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;) was RMB1,781.1370 million, the total book value of liabilities was RMB1,927.9383 million, the book value of net assets was RMB-146.8013 million; the total value of assets was RMB1,981.2915 million, with an added value of RMB200.1545 million, representing an added-value rate of 1.24%; the total value of liabilities was RMB1,927.9383 million; the value of net assets was RMB53,3532 million, with an added value of RMB200.1545 million and an added-value rate of 136.34%.

Report users are specially advised to pay attention to the special issues and subsequent important events set out in the report when using the valuation conclusion.

The valuation conclusion in this report is valid for one year beginning from the valuation base date, which means it is valid until 30 May 2017. Re-valuation shall be conducted after the one-year period expired.

Related entrusting parties are advised to pay attention to the following items when using the valuation conclusion:

1. As of the date of this report, Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;) has not obtained property ownership certificate for any of its production or non-production buildings, including the main factory buildings, and the administrative buildings, which were sequentially constructed after 2007 with a total floor area of 19,839.77 square meters. Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021; &#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;) promised that such part of assets are owned by itself, and the valuation agency had nothing to do with the possible dispute for such part of property. For this part of assets, the valuation personnel conducted verification and then assessed the enterprise reporting area, which was reported according to the on-site measurement; if the areas are not in conformity with the reporting areas in the future for the relevant certificates, the valuation results should be adjusted according to the area of the certificate of property rights by enterprise.
2. As of the valuation base date, all the three cars, namely Passat Yu QA5588, Santana Yu QA3655 and Accord Yu Q00689 have been disposed before the base date.
3. As of 31 May 2016, the long-term borrowings and non-current liabilities due within one year include: RMB1,958,000,000 from China Development Bank Co. Henan branch and book balance of which is RMB1,424,000,000 and is pledged by the legal tariff collection right enjoyed by Huaneng Henan Zhongyuan Gas P o w e r G e n e r a t i o n C o . , L t d . (&#33775;&#33021;&#27827;&#21335;&#20013;&#28304; &#27683; &#26377;&#38480;&#20844;&#21496;) and all its interest thereunder, the principal and interest will be repaid in installments from 2005 to 2025; the principal and interest of the borrowings of RMB400,000,000 of China Huaneng Finance Corporation Limited will be repaid in installments before 27 November 2017.

The above statements are extracted from the text of the valuation report. Those who want to learn more details on the project valued and a proper understanding about the valuation conclusion are advised to read the full text of the valuation report.



ASSET VALUATION REPORT (SUMMARY)

IN CONNECTION WITH  
ALL EQUITY INTERESTS OF SHAREHOLDER OF HUANENG HENAN  
ZHONGYUAN GAS POWER GENERATION CO., LTD. INVOLVED IN THE  
PROPOSED TRANSFER OF EQUITY IN HUANENG HENAN ZHONGYUAN  
GAS POWER GENERATION CO., LTD. TO HUANENG POWER  
INTERNATIONAL, INC. BY CHINA HUANENG GROUP

Zhong Tian Hua Zi Ping Bao Zi (2016) No. 1501

Huaneng Power International, Inc.:

Under the commission of the enterprise, China Appraisal Associates assessed the market value as at all the equity of shareholder of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. as at 31 May 2016 involved in the proposed transfer of equity in Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. to Huaneng Power International, Inc. by China Huaneng Group, in accordance with relevant laws, regulations as well as asset valuation standards and principles by using the assets-based method and income method and in accordance with necessary valuation procedures.

The following sets out the report on the asset valuation:

I. PROFILE OF THE CLIENTS, THE ENTITY EVALUATED AND OTHER USERS OF THE VALUATION REPORT AS SPECIFIED IN THE LETTER OF ENGAGEMENT

The clients of the project is China Huaneng Group and the entity evaluated is Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. and other users of valuation report stipulated in the letter of engagement is the relevant regulation authority to submit for record according to the relevant provisions of management of state assets. Except as mentioned above, no third party that have obtained the report shall be deemed as a user of the valuation report, and the valuation institution or any certified public valuer shall have no responsibility in any way whatsoever for any loss that may arise as a result of such third party's misuse of the valuation report.

(I) Profile of the clients

1. Name of enterprise: China Huaneng Group (hereinafter referred to as "Huaneng Group")
2. Address: No. 23A, Fuxing Road, Haidian District, Beijing
3. Legal representative: Cao Peixi
4. Registered capital: RMB20 billion



APPENDIX I(iv)

SUMMARY OF ASSET VALUATION REPORT OF  
ZHONGYUAN CCGT

5. Company type: state-owned
6. Scope of business: investment, operation and management in industry; development, investment, construction, operation and management of power sources; production and sale of power and heat; development, investment, construction, production and sale of products in relation to information, transportation, new energy and environmental protection industries.
7. History and development:

China Huaneng Group founded in 1985, is a key state-owned enterprise with the approval of the State Council. It is a state-authorized investment institution and a pilot of state holding company, with a registered capital of RMB20 billion. In accordance with the State Council's requirements of national electricity system reform, China Huaneng Group is an independent and self-financing corporate entity seeking integrated development, with operating power industries as its main business. The Company is mainly engaged in the following business: development, investment, construction, operation and management of power sources; production and sale of power and heat; development, investment, construction, production, and sale of products in relation to finance, energy, transportation, new energy, and environmental protection industries; investment, operation and management in industry.

China Huaneng Group is committed to building itself into a large enterprise group with international competitiveness. By the end of 2013, the company had a total installed capacity of 143GW, with assets distributed all over China and overseas, and sectors of coal, finance, technology R&D, and transportation etc. supporting the development of core business of electric power has established basic structure.

As of 31 December 2013, China Huaneng Group recorded a total combined assets of RMB855.2 billion, total liability of RMB705.7 billion, ownership interest of RMB149.5 billion. The total revenue from operation amounted to RMB293.2 billion and net profit of RMB16.1 billion in 2013.

(II) Profile of client B:

1. Name: Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (Huaneng Gas Power Generation)
2. Nature of enterprise: limited liability company (state owned)
3. Registered capital: RMB400 million
4. Registered address: Industrial Agglomeration Zone of Zhumadian City

## APPENDIX I(iv)

SUMMARY OF ASSET VALUATION REPORT OF  
ZHONGYUAN CCGT

5. Legal representative: Li Jianmin
6. Business scope: natural gas power generation; the export business of enterprise products and technology and the import business of machinery, equipment, spare parts, raw materials and techniques required by the enterprise (operating with certificate) (items which require approvals under the law shall be subject to the approval from relevant departments before the commencement of business)
7. Profile of the enterprise:

Huaneng Gas Power Generation Company (&#33775;&#33021; &#27683; &#20844;&#21496;) (previously known as H e n a n Z h o n g y u a n G a s P o w e r C o . , Ltd.&#65288;&#27827;&#21335;&#30465;&#20013;&#28304; &#27683; &#21147;&#26377;&#38480;&#20844;&#21496;&#65289;) is jointly established by Henan Lentan Group Co., Ltd. (&#27827;&#21335;&#34253;&#22825;&#38598;&#22296;&#26377;&#38480;&#20844;&#21496;), Henan Hualin Plastic Group Company (&#27827;&#21335;&#33775;&#26519;&#22609;&#33184;&#38598;&#22296;&#20844;&#21496;) and Guangshan Yiguang Industrial Co. Ltd. (&#20809; &#32291;&#39515;&#20809;&#23526;&#26989;&#26377;&#38480;&#20844;&#21496;), and registered at Administration of Industry and Commerce of Zhumadian, and has been granted Business License of Enterprise Legal Person with registration number of 411700100000199 on 29 July 2003. The registered capital of Huaneng Gas Power Generation Company (&#33775;&#33021; &#27683; &#20844;&#21496;) is RMB200 million, of which, R M B 1 0 0 million is contributed by Henan Lentan Group (&#27827;&#21335;&#34253;&#22825;&#38598;&#22296;&#26377;&#38480;&#20844;&#21496;), accounting for 50% of the registered capital, RMB80 million is contributed by Henan Hualin Plastic Group Company (&#27827;&#21335;&#33775;&#26519;&#22609;&#33184;&#38598;&#22296;&#20844;&#21496;), accounting for 40% of the registered capital, RMB20 million is contributed by Guangshan Yiguang Industrial Co. Ltd. (&#20809; &#32291;&#39515;&#20809;&#23526;&#26989;&#26377;&#38480;&#20844;&#21496;), accounting for 10% of the registered capital.

I n J u n e 2 0 0 4 , H e n a n L e n t a n G r o u p (&#27827;&#21335;&#34253;&#22825;&#38598;&#22296;&#26377;&#38480;&#20844;&#21496;) acquired 40% equity of Henan Hualin Plastic Group Company (&#27827;&#21335;&#33775;&#26519;&#22609;&#33184;&#38598;&#22296;&#20844;&#21496;). After this equity change, the registered capital remained RMB200 million, among which, RMB180 million and RMB20 million is contributed by Henan Lentan Group (&#27827;&#21335;&#34253;&#22825;&#38598;&#22296;&#26377;&#38480;&#20844;&#21496;) and Guangshan Yiguang Industrial Co. Ltd. (&#20809; &#32291;&#39515;&#20809;&#23526;&#26989;&#26377;&#38480;&#20844;&#21496;), respectively, accounting for 90% and 10% of the registered capital, respectively.

I n J u l y 2 0 0 7 , H e n a n L e n t a n G r o u p (&#27827;&#21335;&#34253;&#22825;&#38598;&#22296;&#26377;&#38480;&#20844;&#21496;) increased capital; of RMB200 million. After which, the registered capital amounted to RMB400 million, of which RMB380 million is contributed by Henan Lentan Group (&#27827;&#21335;&#34253;&#22825;&#38598;&#22296;&#26377;&#38480;&#20844;&#21496;), accounting for

95% of the registered capital, RMB20 million is contributed by Guangshan Yiguang Industrial Co. Ltd. (20809; 32291; 39515; 20809; 23526; 26989; 26377; 38480; 20844; 21496;), accounting for 5% of the registered capital.

In December 2007, China Huaneng Group entered into Equity Transfer Agreement with Henan Lentan Group (27827; 21335; 34253; 22825; 38598; 22296; 26377; 38480; 20844; 21496;) and Guangshan Yiguang Industrial Co. Ltd. (20809; 32291; 39515; 20809; 23526; 26989; 26377; 38480; 20844; 21496;) in Zhengzhou. After which, the equity structure became as follows: China Huaneng Group and Henan Lentan Group (27827; 21335; 34253; 22825; 38598; 22296; 26377; 38480; 20844; 21496;) held 90% and 10% of the equity, respectively. China Consultants of Accounting and Financial Co. Ltd. (20013; 33775; 36001; 21209; 26371; 35336; 35566; 35426; 26377; 38480; 20844; 21496;) was entrusted by China Huaneng Group to assess the equity acquisition, and which issued asset valuation report (Zhong Hua Ping Bao Zi (2007) No.226).

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In 2008, the company was renamed as Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;) as determined by the general meeting resolution.

The aforesaid change of equity and capital change matters have been completed the formalities of the change of the registration.

As of 31 May 2016, being the valuation date, the equity structure of Huaneng Gas Power Generation (&#33775;&#33021; &#27683; &#20844;&#21496;) is set out in the following table:

Name of Shareholder	Amount of contribution (RMB0'000)	Shareholding proportion
China Huaneng Group	38,000	90%
Henan Lentan Group	2,000	10%
Total	40,000	100%

## 8. Financial status

The main audited operation data of Huaneng Gas Power Generation (&#33775;&#33021; &#27683; &#20844;&#21496;) in the latest three years and on the valuation base date is set out as follows:

Unit: RMB0'000

Item	January – May 2016	2015	2014	2013
Total value of assets	178,113.70	181,467.73	184,331.69	198,797.31
Total value of liabilities	192,793.83	197,204.38	200,290.73	214,894.45
Net value of assets	-14,680.13	-15,737.13	15,959.04	-16,097.14
Income from operation	40,515.62	83,243.85	105,793.70	116,501.72
Total profits	1,428.91	221.91	138.11	139.54
Net profits	1,056.99	221.91	138.11	139.54

The aforesaid financial data comes from the financial statements provided by Huaneng Gas Power Generation (&#33775;&#33021; &#27683; &#20844;&#21496;). The 2013 annual financial statement has been audited by WUYIGE Certified Public Accountants LLP (Special General Partnership), and has issued the standard audit report without qualified audit opinion (Da Xin Shen Zi [2014] No. 11-00018); the 2014 annual financial statement has been audited by WUYIGE Certified Public Accountants LLP (Special General Partnership), and has issued the standard audit report without qualified audit opinion (Da Xin Shen Zi [2015] No. 11-00094); the financial statement for the period between 2015 and 2016 on the



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valuation base date has been audited by PriceWaterhouseCoopers (Special General Partnership) and has issued the standard audit report with unqualified audit opinion (Zhong Xing Hua Shen. Zi (2016) No. BJ03-0147).

## 9. Principal accounting policies and tax preference

Huaneng Gas Power Generation (Huaneng Gas Power Generation Co., Ltd.) implements the Accounting Standards for Business Enterprises, Accounting Standards for Business Enterprises – Application Guide and other relevant requirements issued by the Ministry of Finance on 15 February 2016, to conduct the accounting of the economic business and prepare the account statement.

Types of tax	Tax rate
Added-value tax	17%, 6%
Urban maintenance and construction tax	7%
Education surcharge	3%
Corporate income tax	25%
Property tax	1.2%
Land tax	RMB6/m <sup>2</sup> /year

## 10. Relationship between the clients and the entity evaluated

China Huaneng Group, being the client, is the holding shareholder of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd., which is the entity evaluated.

## (III) Profile of other users of the valuation report as specified in the letter of engagement

The users of this valuation report are the clients, the entities evaluated, related entrusting parties to the economic activities and relevant regulatory agencies to which this report is required to be filed in accordance with relevant regulations on state-owned assets administration.

Unless otherwise regulated by any law or regulations of China, none of the entity or individual not authorized by the valuation agency and the client will be the user of this valuation report due to the receipt of this report.

## II. VALUATION PURPOSE

China Huaneng Group intends to transfer the equity of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. held by it to China Huaneng Group. The purpose of the valuation is to provide reference for value of the all equity interests of shareholders of Huaneng Henna Zhongyuan Gas Power Generation Co., Ltd. involved in the proposed transfer by China Huaneng Group of the equity it holds in Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd.



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Relevant economic activities and the approval documents thereof have been included into the appendices to this valuation report.

## III. OBJECT AND SCOPE OF VALUATION

(I) According to the valuation purpose, the valuation object is the value of all the equity interests of shareholders of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;).

(II) According to the valuation purpose and the above valuation object, the valuation scope is all the assets and liabilities of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;) on the valuation base date.

The total book value of assets amounted to RMB1,781.1370 million, liabilities amounted to RMB1,927.9383 million and net assets amounted to RMB-146.8013 million. Specifically, it includes current assets of RMB491.6895 million, non-current assets of RMB1,289.4475 million; current liabilities of RMB452,9383 million; non-current liabilities of RMB1,475.00 million.

Following are the types and book values of the assets of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;) that included into the valuation scope:

Unit: RMB0'000

Items	Book value
Current assets	4,9168.95
Non-current assets	128,944.75
Among which: Fixed assets	127,754.74
Work in progress	
Construction materials	
Intangible assets	1,190.02
Long-term deferred expenses	
Total assets	178,113.70
Current liabilities	45,293.83
Non-current liabilities	147,500.00
Total liabilities	192,793.83
Net assets	-14,68.13

1. The major assets within the scope of the valuation are the production buildings, machinery and equipment, vehicles and electronic devices of Huaneng Henan Zhongyuan Gas Power Generation Co.,

Ltd. Among which, the housing properties were built in November 2007 and all have not obtained Building Ownership Certificate; vehicles have obtained driving

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licenses, and the registered owner is Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;). As of the valuation base date, three vehicles, namely Passat Yu QA5588, Santana Yu QA3655 and Accord Yu Q00689 have been disposed before the valuation base date.

2. The intangible assets recorded in the accounts are one land use right, which has been granted with land use right certificate (Zhu Shi Guo Yong (2011) No.8606), and the registered owner is Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (&#33775;&#33021;&#27827;&#21335;&#20013;&#21407; &#27683; &#26377;&#38480;&#20844;&#21496;).

3. The company did not report any off-balance-sheet assets.

(III) The object and scope of the entrusted valuation shall be identical with that involved in economic activities.

(IV) Conclusions quoted from the reports issued by other institutions.

The financial statements as of the valuation base date were audited by PricewaterhouseCoopers, which issued standard audit report with unqualified audit opinion ([2016] No. 1522).

As of 31 May 2016, being the valuation base date, for the selling land included into the valuation scope, Beijing Zhongdi Huaxia Land and Real Estate Evaluation Co., Ltd. issued a land valuation report (Zhong Di Hua Xia (2016) Ping (Gu) Zi No. 70 – Henan-Zhumadian-Yicheng District-Chu-1). According to the collecting and verifying the land use right certificate by the valuation team, Beijing Zhongdi Huaxia Land and Real Estate Evaluation Co., Ltd. obtained some knowledge about the ownership and status of the land. We quoted the valuation conclusion of Beijing Zhongdi Huaxia Land and Real Estate Evaluation Co., Ltd. as the value of the land use right of such kind of land on the base of accuracy assurance after verification.

IV. TYPE OF VALUE AND ITS DEFINITION

In light of the purpose and the specific object of the valuation, market value was adopted for the valuation.

Market value refers to the estimated value of the valuation object in fair and normal transaction on the valuation base date on the precondition that the buyer and seller, both of which were willing, engage in the transaction in a reasonable way and free of any pressure or coercion.

V. VALUATION BASE DATE

In light of the valuation purpose and on the basis of the consensus among the clients and entities evaluated, 31 May 2016 was adopted as the valuation base date.

The determination was primarily based on the consideration that the date was close to the date on which the valuation purpose was expected to be fulfilled, so that the valuation results would be effectively used to serve the valuation purpose and any major impact that any adjustment after the valuation base date may have on the valuation results would be reduced or even prevented.





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All prices adopted in the valuation are valid prices and rates on the valuation base date.

VI. VALUATION BASIS

(I) Economic basis

The resolution minutes of the general manager meeting of China Huaneng Group (Edition 34, 2016).

(II) Legal basis

1. The PRC Law on State-owned Assets of Enterprise (adopted at the 5th Session of the Standing Committee of the 11th National People's Congress of the People's Republic of China on 28 October 2008);
2. The Company Law of the People's Republic of China (amended for the third time according to the Decision on Amending Seven Laws Including the Marine Environment Protection Law of the People's Republic of China adopted at the 6th Session of the Standing Committee of the 12th National People's Congress of the People's Republic of China on 28 December 2013 and effective as of 1 March 2014);
3. The Administrative Measures for Valuation of State-owned Assets (Order No. 91 of 1991 of the State Council);
4. Provisions on Issues concerning the Administration of the State-owned Assets Valuation (Order No. 14 of the Ministry of Finance of the People's Republic of China promulgated on 31 December 2001);
5. Circular on Forwarding the Opinions of the Ministry of Finance on Reforming the Administrative Regulation of State-owned Assets Valuation and Enhancing Assets Valuation Supervision and Regulation (General Office of the State Council, Guo Ban Fa [2001] No. 102);
6. The Tentative Measures for the Administration of the Transfer of State-owned Assets and Equity in Enterprises (Order No.378 of the State Council in 2003);
7. The Tentative Measures for the Administration of the Transfer of State-owned Assets and Equity in Enterprises (Order No.3 of the State-owned Assets Supervision and Administration Commission of the State Council and the Ministry of Finance on 31 December 2003);
8. The Interim Administrative Measures on the Valuation of the State-owned Assets in Enterprises (Order No.12 of the State-owned Assets Supervision and Administration Commission of the State Council on 25 August 2005);
9. Guidelines for the Record-Filing in Connection with State-Owned Asset Valuation Projects of Enterprises (Guo Zi Fa Chan Quan [2013] No.64);

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10. Guo Zi Wei Chan Quan [2006] No.274, Notice on Strengthening the Administration of the Appraisal of State-owned Assets of Enterprises;
11. Notice on the Issue of Guidelines on Verification of Assets Valuation Project of State-owned Assets of Enterprises (Guo Zi Fa Chan Quan [2010] No. 71) issued by the State-owned Assets Supervision and Administration Commission of the State Council;
12. Enterprise Income Tax Law of the People's Republic of China (passed in the Fifth Standing Committee Meeting of the Tenth National People's Congress on 16 March 2007);
13. Land Administration Law of the People's Republic of China;
14. City Planning Law of the People's Republic of China;
15. Regulation on the Implementation of the Land Administration Law of the Peoples Republic of China;
16. Urban Real Estate Administration Law of the People's Republic of China;
17. Interim Regulations of the People's Republic of China Concerning the Assignment and Transfer of the Right to the Use of the State-Owned Land in the Urban Areas of the State Council;
18. Other laws, regulations and rules related to valuation.

(III)

Standards basis of valuation

1. Asset Valuation Standards – Basic Standards;
2. Standards of Professional Ethics for Asset Valuation – Basic Standards;
3. Standards of Professional Ethics for Asset Valuation – Independence;
4. Asset Valuation Standards – Valuation Report;
5. Asset Valuation Standards – Valuation Procedure;
6. Asset Valuation Standards – Enterprise Value;
7. Asset Valuation Standards – Machinery and Equipment;
8. Asset Valuation Standards – Real Estate;
9. Asset Valuation Standards – Intangible Assets;



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10. Asset Valuation Standards – Utilization of Expertise;
  11. The Guiding Opinions on Types of Value in Asset Valuation;
  12. The Guidelines for the State-owned Asset Valuation Reports of Enterprises;
  13. The Guiding Opinions on Attention of Certified Public Valuers on Legal Ownership of the Valuation Object.
- (IV) Ownership basis
1. State-owned land use certificate;
  2. Driving license of vehicles;
  3. Purchase contracts or certificates of important assets;
  4. Other contracts, legal documents and other materials in connection with the acquisition and use of assets.
- (V) Pricing basis
1. The 2013 versions of the Budget Norms for Electric Power Development Projects and Budgetary Estimate Norms for Electric Power Development Projects promulgated by China Electricity Council;
  2. Provisions on the Compilation and Calculation of the Budgets for Thermal Power Generation Projects by the National Development and Reform Commission (2013 edition);
  3. Circular on the issuance of the 2013 Edition of the Provisions on the Norms and Cost Calculation of Electric Power Development Projects by the National Energy Administration (Guo Neng Dian Li [2013] No. 289);
  4. Cost information of Zhumadian City, Henan Province in connection with construction materials in May 2016;
  5. Reference Cost Indicators for the Norms of Thermal Power Generation Projects (on the level of 2012) formulated by the Electric Power Planning and Engineering Institute;
  6. Notice on Adjusting the 2013 Edition of the Norm and Price Levels of the Budgetary Estimates of Electric Power Development Projects (Ding E [2014] No.1) issued by the Electrical Engineering Cost and Norm Management Center;
  7. Standard Provisions for Motor Vehicles Compulsory Scrap implemented since 1 May 2013;

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8. The Interim Regulations on the Tax on Vehicle Purchases in People's Republic of China (The State Council order [2000] No. 294);
9. Mechanical and Electrical Products Quotation Manual in 2016 (Machinery Industry Information Research Institute);
10. The benchmark exchange rate of RMB on 31 May 2016 as announced by the State Administration of Foreign Exchange;

Historical Operating Information and Future Planning Information provided by Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd.)

12. Records of on-site interviews and investigations by the valuers;

13. Data obtained and collected by the valuers through market investigations;

14. Other relevant materials.

(VI) Other reference materials

Asset verification reporting schedule provided by Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd.)

2. Audited report of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd.) for the years 2014, 2015, and 2016, and on the valuation base date;

3. Handbook of Commonly used Data and Parameters for Asset Valuation (the second edition) (Beijing Science & Technology Press);

4. Other relevant materials.

VII VALUATION METHOD

(I) Selection of valuation method

When valuing the value of enterprise, we have to analysis the applicability of the basic methods of asset valuation basing on the valuation purpose, valuation object, value type, assets collection and other conditions to select one or more than one basic valuation methods.

According to provisions under asset valuation standards of China, there are three basic methods, namely, the income method, the market method and the asset-based method may be adopted in valuation.

The income method under the valuation of enterprise refers to the method of valuation by which the valuation object is determined by capitalizing or converting the anticipated income. The market method under the valuation of

enterprise refers to the method of valuation by which the valuation object is

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determined by comparing the valuation object with comparable listed companies or comparable trading cases. The asset-based approach under the valuation of enterprise refers to the method of valuation by which the value of valuation object is determined after reasonably valuating the assets and liabilities included into and excluded from the enterprise reporting form on the basis of the balance sheet of the enterprise subject to valuation as of the valuation base date.

On the basis of our knowledge of the current state of operation and management of the business under valuation, as well as the business plans and development plans and the industry and market that the business is based on, we came to believe that the business was expected to have sustainable operation and profit-making capabilities and therefore eligible for the income method.

In view of the financial data and asset management data of the business under valuation were completed and available, the sources of the data and information on the asset re-procurement cost were fairly varied, and that there is inherent relation and substitution between the asset replacement cost and the present value of earnings, therefore, the asset-basis method was also applicable to the present valuation project.

In the case of the market-based method, it was applicable provided that there was an active and open market, with reasonably sufficient market data and comparable cases of transaction on the open market. However, the equity transaction market in China for non-listed companies was not fully developed, and therefore few comparable cases were in evidence; on the other hand, few of the listed companies that are in the same category as the business under valuation were comparable with the business in terms of operation orientation, scope of assets and scale of operation, among others; if an ordinary case was selected instead, major adjustment would be made to the case, as a result of which the case would largely lose its value orientation for the present project and hence would be unable to meet the applicability conditions of the market method. Therefore, this method is not eligible.

Through the above analysis, it was decided that the present valuation project was considered through the asset-basis method and income method respectively; on the basis of a comparison of the valuation conclusions arrived at through the two methods, the factors behind the differences between the two conclusions would be analyzed, so as to ultimately identify the appraisal value.

(II) Overview of the asset-basis method

In this method, the amount of investment that would be required on the valuation base date to re- create a business enterprise or independent for-profit entity that was identical with the business under valuation was adopted as the basis on which the total asset value of the business was decided. Specifically, it is a method through which the value of a business enterprise is identified by the sum of the appraisal value of component assets of the business minus the appraisal value of the liabilities of the business.

The valuation methods for different types of assets and liabilities are as follows:

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1. On the valuation of current assets

- (1) Monetary capital: the valuers carry out trial balancing on the basis of bank statements and bank balance adjustment table. After proper verification, the verified book value of monetary capital denominated in RMB should be adopted as the appraisal value;
- (2) Note receivables: according to the asset valuation declaration forms provided by entities evaluated, we have verified the book value of enterprise and inspected the accounting information and other relevant information. In the process of inspection and verification, there is no amount due to obvious bad debt in this subject, and the book value upon the inspection is used as the valuation result when the credit of the unit to issue the note is good.
- (3) receivables (receivables, prepayments and other receivables): through accessing books, original vouchers and on the basis of analyses of economic contents and account receivable ages and a combination of individual identification and account receivable analysis, the amount recoverable from receivables and the assessed risks of sums recoverable in the future, so as to identify the appraisal value of the receivables.

- (4) stock: mainly include low value consumables.

The stock included into the scope of the present valuation project were mostly low value consumables recently purchased spare parts for maintenance the production equipment. The cost of the low value consumables consisted of the actually cost incurred by the business in connection with the low value consumables. The business procured its low value consumables strictly in light of the total maintenance volume of the products. The low value consumables were purchased in light of the amount required for maintenance and on the basis of the most economical batches. If the unit prices in the books were close to the selling unit prices on the market on the base date, the verified unit prices of the low value consumables were adopted as the valuation unit price and the appraisal value of the low value consumables was identified by multiplying the unit prices with the actual amount of low value consumables on the base date. In the case where the unit prices in the books were considerably different from the unit selling prices on the market on the base date, the market prices on the valuation base date should be adopted as the unit price for the purpose of the valuation. The appraisal value of the materials was then identified by multiplying such prices with the actual amount of low value consumables on the base date. For the stock failed to specific assets items, the appraisal value sets out in accordance with the book value.

2. On the valuation of buildings and structures

For the specific purpose of the present valuation project, the buildings and structures were mostly evaluated according to the replacement cost method, so as to identify the appraisal value of the buildings and structures. For the production buildings built in factory adopts the replacement cost method for valuation assessment.



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In the case of key construction project, the replacement cost is mainly calculated on the basis of “budget and final accounts adjustment” or “re-budgeting”, i.e., to calculate the cost of the project at the base date on the basis of appropriate adjustment to the amount of work under the original proposed budget or financial accounts and according to the existing proposed budget quotas and rates of fees and costs. In the case of buildings and structures, “Electrical Power Estimates Norms” and “Proposed Budget Norms for Electrical Power Development Projects (2013 Edition)”.

## Calculation of the cost of construction and installation projects

Construction and installation project cost = direct project costs + other fees and costs

In the formula, the direct engineering cost is based on the base date and subject to the amount of work under the final accounts statement and the engineering drawings as well as onsite investigation. The direct cost of a project was calculated on the basis of Budgetary Estimate Norms for Electric Power Development Projects-Construction Engineering (2013 Edition) promulgated by the China State Administration of Energy and according to the corresponding sub-items of norms.

Other costs and fees: on the basis of the direct project costs, such items as measures fee, indirect costs and fees, formality fees, expected profits and taxes (if the project is located in one of the Category I areas) are calculated and collected on the basis of the Compilation and Calculation Standards for the Construction Budget of Thermal Power Generation Projects (2013) released via the Circular of the National Energy Administration on Promulgating the 2013 Edition of the Provisions on the Norms and Cost Calculation of Electric Power Development Projects (Guo Neng Dian Li [2013] No. 289). In addition, price differences in human resources, supplies and equipment were adjusted according to Circular on Adjusting the 2013 Edition of the Norm and Price Levels of the Budgetary Estimates of Electric Power Development Projects (Ding E [2014] No. 1) issued by the Electrical Engineering Cost and Norm Management Center.

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## Calculation of capital cost

Capital cost (loan interest payable during the construction period): the capital cost was identified on the basis of a reasonable construction period, the benchmark interest rate of RMB loans offered by financial institutions for the period covering the base date of valuation, with the construction and installation project cost adopted as the base.

In the case of thermal power generation units, the interest payable on each power generation units was calculated respectively according to the following formula:

The interest payable on the loans during the construction period = the loan interest payable for the construction period before the first unit started generating electrical power + the loan interest payable for the construction period after the first unit started generating electrical power

In the formula: the loan interest payable for the construction period before the first unit started generating electrical power = &#8721;[accumulated principal and interest of loans at the beginning of the year + the loans for that year/2] × annual interest rate]



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402; Calculation of replacement cost

Replacement cost = construction and installation project price + capital cost.

8222; Calculation of newness rate

For the purpose of the present valuation project, the newness rate was determined on the basis of both the newness rate identified through on-site investigation and the grading method and the theoretical newness rate identified through the economic life method, with the weighted average of the two rates reached by the two methods adopting as the comprehensive newness rate of the buildings.

The newness rate identified through on-site investigation was based on the structural aspects of the buildings (such as the foundation, load-bearing components, walls, roofs, floors, and floor grounds, etc), decoration aspects, including the decoration of both external and internal walls, and the equipment aspects, including the water and power supplies and bathrooms, etc, with the standard score of such aspects determined according to their respective proportions in the cost of the buildings; the assessed integrity scores of the aspects were then determined through on-site investigation. On the basis of the scores, the integrity score of a building as whole was identified, on the basis of which the newness rate (based on on-site survey) of the building was arrived at.

The newness rate based on on-site investigation (%) = Integrity score/standard score × 100%

Theoretical integrity rate (%) = (economic life period of the building – the elapsed proportion of the life period)/economic life period × 100%

Comprehensive rate of newness (%) = newness rate based on on-site investigation × 60% + theoretical newness rate × 40%

If the theoretical newness rate is calculated to be lower than 30%, the building old but used in a normal way, 30% should be adopted as the comprehensive rate of newness of the building.

8230; Calculation of appraisal value

Appraisal value = replacement cost × comprehensive newness rate

3. Valuation of machinery and equipment

Equipment and machinery were evaluated mostly by the cost method according to such conditions as the characteristics of the machinery and equipment, types of values appraised and the collection of materials. The formula of cost-based method is as follows:

Appraisal value = replacement cost × comprehensive newness rate

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(1) Determination of the replacement cost

Thermal power equipment

In the case of equipment which needs to be installed, the replacement cost usually includes equipment purchase price, freight and miscellaneous charges, installation fees, upfront costs and other expenses and costs;

As to the machinery and equipment that needs no installation, the replacement cost generally include equipment purchase price and freight and miscellaneous charges. Meanwhile, according to the document Cai Shui [2008] No.170, for an ordinary value-added-tax payer, if the machinery and equipment that meet the qualification conditions for value-added tax credits, the amount of VAT that otherwise is payable should be deducted from the replacement cost of such equipment and machinery. The formula of the replacement cost of the equipment is as follows:

Replacement cost of the machinery and equipment which needs installation = purchase price + freight miscellaneous charges + installation cost + upfront costs and other expenses + capital cost + capital cost – VAT deductible from equipment purchase cost and VAT deductible from freight charge

Replacement cost of the machinery and equipment that do not need installation = equipment purchase price + freight and miscellaneous charges – VAT deductible from equipment purchase cost and VAT deductible from freight charge

A. Purchase price

For large and essential equipment, their purchase prices were identified on the basis of the 2016 Quotation Handbook for Mechanical and Electrical Products of China, market prices (as per the Valuation Base Date of valuation) solicited from manufacturers, or the price of the same kind of equipment under contracts valid at a time not far from the Valuation Base Date. In the case of small equipment, the purchase prices were mostly identified through consulting the quotation information on the market as per the Valuation Base Date of valuation. In the case of equipment with no available price quotations, their purchase prices were mainly determined on the basis of the purchase prices of equipment of the same kind.

B. Freight and miscellaneous charges

Rate of freight and miscellaneous charges were calculated according to the Standards for the Compilation and Computation of the Budgets for Thermal Power Generation Projects as promulgated by the National Energy Administration in 2013, in combination with the distance from the equipment manufacturer to the installation site as well as the mode of transportation used. The calculation formula is as follows:

Freight and miscellaneous charges of equipment = Purchase price of equipment × Rate of freight and miscellaneous charges of equipment

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In which, rate of freight and miscellaneous charges of equipment= railway and waterway freight and miscellaneous charges + land freight and miscellaneous fee rates and railway and waterway freight and miscellaneous fee rates

The freight and miscellaneous charge rates for essential equipment (boilers, steam turbines, generators, and main transformers) are: within 100 kilometers, 1.5%; beyond 100 kilometers, the rate rises by 0.08% per each additional 50 kilometers; if any additional distance is less than 50 kilometers, it should nonetheless be deemed as 50 kilometers and charged as such.

a. the rates of railway and waterway freight and miscellaneous charges for other types of equipment set out in the table below:

No.	Applicable area	Rate
1	Shanghai, Tianjin, Beijing, Liaoning and Jiangsu	3.0
2	Zhejiang, Anhui, Shandong, Shanxi, Henan, Hebei, Heilongjiang, Jilin, Hunan and Hubei	3.2
3	Shaanxi, Jiangxi, Fujian, Sichuan and Chongqing	3.5
4	Inner Mongolia, Yunnan, Guizhou, Guangdong, Guangxi, Ningxia, Gansu (east of Wuwei) and Hainan	3.8
5	Xinjiang, Qinghai, Gansu (west of Wuwei)	4.5
6	Tibet	Subject to the actual distance

Note: none of the above rates includes such treatment fees as those in connection with the refitting of roads and bridges for the purpose of shipping equipment in excess of statutory capacity restrictions and fees in connection with the removal of obstacles.

b. Rate for road freight and miscellaneous charges.

The rate is 1.06% if the distance of freight is within 50 kilometers; however, if the distance is over 50 kilometers, the rate will increase by 0.35% per each additional 50 kilometers. If an additional distance is less than 50 kilometers, it should be deemed as 50 kilometers.

If the equipment can be directly shipped to the site via specially built railway links or wharves, the road freight and miscellaneous charges are exempted in the case of essential equipment, and freight and miscellaneous charges are levied at the rate of 0.5% for the distance covered by road freight in the case of other equipment.

c. Installation fee

The installation fee was calculated and adjusted according to the Budget Norms for Electric Power Development Projects (2013 Edition) and Compilation and Calculation Standards for the Construction Budget of Thermal Power Generation Projects (2013 Edition).



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## D. Upfront and other fees and charges

Other fees were calculated according to Compilation and Calculation Standards for the Construction Budget of Thermal Power Generation Projects (2013), the Circular of the National Energy Administration on Promulgating the 2013 Edition of the Provisions on the Norms and Cost Calculation of Electric Power Development Projects (Guo Neng Dian Li [2013] No. 289), and the Circular of the National Planning Commission and the Ministry of Construction on Promulgating the Provisions on Engineering Survey and Design Fees (Ji Jia [2002] No. 10). Other fees and charges include: project construction management fee, technical service fees in connection with project construction, production preparation charges and other fees. Details are in the table below:

No.	Name of fees and charges	Calculation basis: Compilation and Calculation Standards for the Construction Budget of Thermal Power Generation Projects (2013)	
		Formula	Rate
I	Project construction management fees		
1	Project legal person management fees	Installation fee $\times$ rate	2.62%
2	Bidding fee	(Equipment purchase fee + installation fee) $\times$ rate	0.39%
3	Project supervision cost	Installation fee $\times$ rate	1.73%
4	Equipment material supervision fee	(Equipment purchase materials fee + material installation fee) $\times$ rate	0.30%
5	Project settlement audit fee	Installation fee $\times$ rate	0.19%
6	Project insurance premium	(Equipment purchase fee + installation fee) $\times$ rate	0.40%
II	Technical service fee of project construction		
1	Upfront fees and costs of the project	Installation fee $\times$ rate	1.55%
2	Technical service fee for complete sets of equipment	Equipment purchase fee $\times$ rate	0.30%
3	Survey and design fee	(Equipment purchase fee + installation fee) $\times$ rate	2.67%
4	Design document review fee	Subject to the grade of power generation units	0.11%
5	Post-project assessment fee	Installation engineering fee $\times$ rate	0.15%
6	After-project assessment of flue gas desulfurization	Subject to the grade of power generation units	0.04%
7	Electrical engineering quality testing fee	Installation fee $\times$ rate	0.17%

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8	Safety inspection and testing fee for special equipment	Subject to the grade of power generation units	0.08%
9	Compilation and management fees for electrical engineering technical and economic standards	Installation fee × rate	0.10%
10	Commissioning and test-run fee for complete sets of equipment	Installation fee × rate	20.00%
III	Production preparation fee		
1	Training and early placement fee of production staff	Installation fee × rate	1.95%
2	Shipment adaptation fee for large equipment	Equipment Purchase Fee × rate	0.00%

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E. Capital cost

Capital cost was determined on the basis of a reasonable project term, at the benchmark RMB loan interest rate offered by financial institutions for the period covering the valuation base date, and on the basis of the sum of the equipment purchase fee, installation fee and other fees.

In the case of thermal power generation units, the interest payable on each power generation units was calculated respectively according to the following formula:

The interest payable on the loans during the construction period = the loan interest payable for the construction period before the first unit starts generating electrical power + the loan interest payable for the construction period after the first unit starts generating electrical power

In the above formula: the loan interest payable for the construction period before the first unit started generating electrical power =  $\frac{1}{2} \times [\text{accumulated principal and interest of loans at the beginning of the year} + \text{the loans of the year}] \times \text{annual interest rate}$

The loan interest payable during the construction period after the first unit started generating electrical power =  $\frac{1}{2} \times [\text{the loans for that year}] \times \text{annual interest rate}$

F. VAT deductible from the purchase price of equipment

The amount of deductible VAT for equipment qualified for VAT credits was calculated according to the document Cai Shui [2008] No. 170.

As for transportation equipment

Their replacement cost was determined on the basis of their market price on the valuation base date, plus such other reasonable expenses as vehicle purchase tax and license fee. The calculation formula of the replacement cost of machinery and equipment is as follows:

Replacement cost = purchase price + purchase price  $\times$  10% / (1 + 17%) + license fee

(2) Determination of comprehensive newness rate

Newness rate of machinery and equipment

The newness rate of equipment was identified on the basis of the weighted average of the theoretical newness rate (N1) and investigation-based newness rate (N2). That is to say, Newness Rate (N) = theoretical newness rate N1  $\times$  0.4 + Investigation-based newness N2  $\times$  0.6

Theoretical newness rate N1: it was calculated on the basis of the number of years that the equipment and machinery had been in use and valuation-based economic life period of the machinery and equipment of different types, or on the basis of the findings of on-site investigation and the remaining service life in excess of the economic life calculated on the basis of the major repair cycle and numbers:



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Theoretical newness rate  $N1 = (1 - \text{the number of years for which the equipment and machinery have been used/economic life period}) \times 100\%$

Or: theoretical newness rate  $N1 = \text{the number of remaining years} / (\text{the number of years for which the equipment and machinery have been used} + \text{the number of remaining years that the machinery and equipment can be used}) \times 100\%$

Investigation-based newness rate  $N2$ : investigation-based newness rate was identified through on-site investigation of the then current state of the equipment, accessing archives materials on the operation, maintenance and management of the equipment and inspection the components of the equipment.

&#8218; Newness rate of electronic devices

Newness rate =  $(1 - \text{the number of years that the devices had already been used/the economic life of the equipment and machinery}) \times 100\%$

Or the newness rate =  $[\text{number of remaining years/the number of years that the devices had already been used} + \text{number of remaining years}] \times 100\%$

Further, electronic devices that were evaluated directly at the second-hand-market price were exempted from newness rate.

&#402; The newness rate of vehicles used for shipping purposes was mainly determined according to the Provisions on the Standards for the Compulsory Scrapping of Motor Vehicles (Order of the Ministry of Commerce, National Development and Reform Commission, the Ministry of Public Security and the Ministry of Environmental Protection [2012] No. 12). If a number of years that a vehicle was in use or a mileage was specified under the standards as the threshold for compulsory decommissioning of motor vehicles, the lower of the two newness rates calculated according to the number of years and mileages should be adopted as the actual newness rate; however, if no number of years was specified under the standards as the threshold for scrapping a motor vehicle, then the newness rate should be identified according to the mileage and adjusted according to the findings of on-site inspection. The calculation formulas are as follows:

Mileage-based newness rate =  $(\text{the specified mileage} - \text{mileage already covered}) / \text{specified mileage} \times 100\%$

The newness rate based on service life =  $(\text{the statutory service life} - \text{number of years for which the vehicle has been used}) / \text{the statutory service life} \times 100\%$

The comprehensive newness rate = theoretical news rate x adjustment coefficient

(3) Determination of appraisal value.

Appraisal value = full replacement price x comprehensive newness rate

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4. Valuation of intangible assets

(1) Valuation of land use right

China Huaneng Group engaged Beijing Zhongdi Huaxia Land and Real Estate Evaluation Co., Ltd. to evaluate the land use right included into the scope of the valuation. According to the collecting and verifying the land use right certificate by the valuation team, Beijing Zhongdi Huaxia Land and Real Estate Evaluation Co., Ltd. obtained some knowledge about the ownership and status of the land. For the land use right classified into allocated land use right on the valuation base date, we quoted the valuation conclusion of Beijing Zhongdi Huaxia Land and Real Estate Evaluation Co., Ltd. as the value of the land use right of such kind of land on the base of accuracy assurance after verification.

(2) Valuation of other intangible assets

Valuers verify the detailed account and total account in the valuation scope according to Detailed Statement of Enterprise, and ensure the consistency of account to account, account accuracy and account statement; collect information of ownership certificate and verify ownership status of intangible assets; verify the consistency information of ownership registration and statement information, and make adjustment to the discrepancy of statement in light of document of ownership certificate; understand the current situation and use of intangible assets.

Other intangible assets included into the scope of valuation were software purchased from external sources, in the case of the special software, the valuers confirm the appraisal value as the book value after amortization; in the case of common software, the valuers take the value of the sale price of the same software as of the valuation base date after deducting the upgrading fee as the appraisal value.

5. Valuation of liabilities

Current liabilities included short-term borrowings, accounts payables, other payables, remuneration payable to employees, tax payable, interests payable and non-current liability due within a year; non-current liabilities include long-term borrowings. The valuer, on the basis of breakdown statements of different items of liabilities and relevant financial data, provided by the company, verified the book value of the liabilities and identified the value of the company's liabilities according to the account of liabilities that the company actually undertook.

VIII. IMPLEMENTATION AND STATUS OF VALUATION PROCEDURES

We implemented the valuation between 5 July 2016 to 13 October 2016, and the whole valuation process was divided into four phases:

(I) Preparation phase

1. All parties concerned reached consensus over the purpose, valuation base date and valuation scope, and jointly formulated the working plan of the valuation project.



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2. Assisting the company to complete asset review, and fill in the asset valuation declaration forms and other operations. Members of the valuation team examined the assets to be evaluated, made arrangements for the valuation, assisted the company in declaring the assets for valuation and collecting documents and other materials necessary for the asset valuation.

(II)

On-site valuation phase

1. The valuation team attended the briefing by employees of the company subject to valuation on the overall situation of the company and the past and present of the assets to be evaluated, learnt the financial and asset management rules as well as status of business operation of the company.
2. Reviewed and verified the asset review and valuation declaration forms submitted by the company, and verified relevant financial records and data of the company, and worked with the company to address problems uncovered in the process.
3. Carried out a comprehensive review and checkup of the fixed-assets of the company according to the declaration forms, and carried out sampling-based examination of physical assets in the current assets of the company.
4. Accessed technical data on major equipment of the company; collected price data on general equipment of the company through market research and consulting relevant documents; learnt the management rules of the company in connection with its buildings and structures, and the maintenance, renovation and expansion of such buildings and structures.
5. Carefully examined the management and operation of the company, including staffing, supply of materials, management system and guidelines, etc.
  6. Analyzed the operation status of the company on the basis of the historic financial data of the company.
7. Checked and collected the documentation and operational materials in connection with the assets to be evaluated, and verified the property ownership materials supplied by the company.
8. Formulate the technical plan for the valuation on the basis of comprehensive analysis of the assets, business model and financial condition of the company.

(III)

Summary phase

The preliminary results were reviewed and summed up. Necessary adjustment, correction and improvement were made to the valuation results.

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(IV) Submission of report

On the basis of the work completed in previous phases, an asset valuation report was drafted; opinions were exchanged with the clients; revised and adjusted the report on the basis of relevant opinions and in accordance with the three-review rules and procedures of the valuation agency for valuation reports.

IX. VALUATION ASSUMPTION

1. There is no major change to relevant laws, regulations and policies as well as the macro economic situation of China; there is no major change in the political, economic and social environments of the regions in which all parties to the proposed transfer are located, and no other unforeseeable and uncontrollable factors result in any significant adverse impact.
2. In light of the actual state of the evaluated assets on the valuation base date, it is presumed that the company will operate on a continuous basis.
3. It is assumed that the managers of the company are responsible and the management of the company is competent for their offices.
4. It is assumed that on the basis of its current management model and management capabilities, the future business scope and approach will be consistent with what they currently are.
5. It is assumed that the accounting policies that the company subject to the valuation will adopt is consistent with the accounting policy that it followed at the time when this report was prepared in all important aspects.
6. No major change will happen to interest rate, exchange rate, base rates of taxes and duties, and policy-based fees and charges.
7. The valuation is based on the current operational capacity of the company on the valuation base date. No consideration is given to expansion in the operational capabilities of the company, which is caused by the management and operational strategy of or additional investment in the company.
8. The valuation does not take into account the effect imposed by the outward equity investment projects of the entity appraised after the valuation base date on its value;
9. All assets evaluated were subject to the amount actually held by the company on the valuation base date. The current market price of relevant assets was subject to the valid domestic price on the valuation base date;
10. For the purpose of the present valuation, it is assumed that the basic materials and financial materials provided by the clients and the company subject to the valuation are true, accurate and complete;

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11. The valuation scope is subject to the valuation declaration forms provided by the company undergoing the valuation. No consideration is made to the possibility that the client or the company may provide assets or liabilities not included on the list they provided;
12. Users of this report are specially reminded that the analyses, judgment and conclusion in the report are subject to the assumptions and qualification conditions in the report. The valuation result generally will become invalid upon any change to the aforementioned assumptions or conditions.

X. VALUATION CONCLUSION

(I) Results of valuation by asset-based method:

As at 31 May 2016, being the valuation base date, the book value of the total assets of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd.) was RMB1,781.1370 million, the book value of the total liabilities was RMB1,927.9383 million, the book value of net assets was RMB-146.8013 million; the total value of the assets was RMB1,981.2915 million, with an added value of RMB200.1545 million, representing an added-value rate of 11.24%; the total value of liabilities was RMB1,927.9383 million; the net value of assets was RMB53.3532 million, with an added value of RMB200.1545 million and representing an added-value rate of 136.34 %. Details of the valuation result are set out in the table below:



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## Consolidated Table of the Asset Valuation Results

Unit: RMB0'000

Items	Book value	Appraisal value	Increased/Decreased amount	Growth rate (%)
Current assets	49,168.95	49,168.95	—	—
Non-current assets	128,944.75	145,518.31	16,573.56	12.85
Among which, available-for-sale financial assets	—	—	—	—
Held-to-maturity investment	—	—	—	—
Long-term receivables	—	—	—	—
Long-term equity investment	—	—	—	—
Investment-orientated real estate	—	—	—	—
Fixed assets	127,754.74	146,205.34	18,450.60	14.44
Work in progress	—	—	—	—
Project materials	—	—	—	—
Liquidation of fixed-assets	—	—	—	—
Productive biological assets	—	—	—	—
Oil and gas assets	—	—	—	—
Intangible assets	1,190.02	2,754.86	1,564.85	131.50
Development expenditure	—	—	—	—
Goodwill	—	—	—	—
Long-term deferred expenses	—	—	—	—
Deferred income tax assets	—	—	—	—
Other non-current assets	—	—	—	—
Total assets	178,113.70	198,129.15	20,015.45	11.24
Current liabilities	45,293.83	45,293.83	—	—
Non-current liabilities	147,500.00	147,500.00	—	—
Total liabilities	192,793.83	192,793.83	—	—
Net assets (ownership interest)	-14,680.13	5,335.32	20,015.45	136.34

## (II) Analysis of the valuation conclusion:

The asset-based method adopts the existing assets of the company as its precondition, the valuation information necessary for the cost method collected by valuers is more adequate, and the selection and confirmation of the evaluation parameter for cost method is scientific and reasonable. Therefore, the result reached by the asset-based method was adopted as the final valuation conclusion in this report.

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In summary, all the shareholder's interest in Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. was evaluated at RMB53.3532 million on 31 May 2016, being the valuation base date.

The valuation conclusion was reached on the basis of the valuation in the preceding parts and is valid subject to the valuation assumption and qualification conditions listed in this valuation report.

XI. STATEMENT ON SPECIAL ISSUES

(I) Defective issues of property right information

1. As of the date of this report, the main workshop, office buildings and other production and non-production occupancy built successively in 2007 of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (33775;33021;27827;21335;20013;21407; 27683; 26377;38480;20844;21496;) didn't apply for property ownership certificate, involved an area of 19839.77 square meters. Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (33775;33021;27827;21335;20013;21407; 27683; 26377;38480;20844;21496;) has provided the construction contract, payment voucher, property declaration and other relevant documents to confirm that all such real estates without licenses are held by it. Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (33775;33021;27827;21335;20013;21407; 27683; 26377;38480;20844;21496;) made promise that such assets are owned by it and that disputes caused by the ownership of such assets is irrelevant to the valuation agency. For such assets, the area is declared by the enterprise according to the field measurement. As for the declared area, the valuers made evaluation with the declared measurement after spot check, the evaluation result should be adjusted with the measurement set out in the property certificate if the measurement is inconsistent with the declared one when the enterprise applies for relevant property certificate.
2. As of the valuation base date, three cars, namely Passat Yu QA5588, Santana Yu QA3655, and Accord Yu Q00689 Accord have been disposed before the base date.

(III) Significant subsequent events

Subsequent events refer to significant issues that occurred after the valuation base date but prior to the release of the valuation report.

There is no significant subsequent event occurred during this valuation.

(IV) Other issues that need to be explained

1. As of 31 May 2016, the long-term borrowing include: RMB1,958,000,000 from China Development Bank Co. Henan branch and book balance of which is RMB1,424,000,000, which is pledged by the legal tariff collection right enjoyed by Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd. (33775;33021;27827;21335;20013;28304; 27683; 26377;38480;20844;21496;) and all its interest thereunder, the principal and interest will be repaid in installments from 2005 to 2025; the principal and interest of the borrowings of RMB400,000,000 of China Huaneng Finance Corporation Limited will be repaid in installments before 27 November 2017.



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2. Fixed asset replacement cost value added tax treatment: added tax is included in the appraisal value for equipment purchased before 1 January 2009; added tax incurring from the purchasing and transportation of equipment is not included in the appraisal value for equipment purchased after 1 January 2009.
3. The clients and the entities evaluated shall be responsible for the accuracy and completeness of the valuation scope and data, statements and other relevant materials provided by them. The ownership certification documents and relevant materials involved in the valuation report were provided by the entity evaluated. The clients and the entity evaluated shall bear the legal responsibility for the accuracy and legality of such documents and materials.
4. Where there is any change to the amount of assets or the pricing standard thereof within the term of validity after the valuation base date, such change should be handled according to the following principles:
  - (1) In the case of any change in the quantity of assets, the quantity of the affected assets should be adjusted in accordance with the original valuation method;
  - (2) If the pricing standard of any asset is changed, which has a notable impact on the valuation result, the clients should timely engage a qualified asset valuation agency to reevaluate the value of such asset;
  - (3) The clients should give full consideration to any change in the quantity or pricing standard of any asset and make the corresponding adjustment.

XII. STATEMENT OF LIMITATION ON THE USE OF THE VALUATION REPORT

- (I) This valuation report can only be used for the purpose as described in the report. Meanwhile, the valuation conclusion in this report is purported to reflect the current fair market value as determined by open market principles and for the purpose of the valuation under this report. It does not take into consideration the impact that any possible pledge or security and additional price that a special party to the transaction may have to pay may have on the valuation price. Furthermore, this report does not take into consideration either changes in state macroeconomic policies and effects of natural forces and other forms of force majeure may have on asset prices. When the above mentioned qualification conditions and the principle of continuous operation are changed, the valuation conclusion will generally lose its validity. This valuation agency may not be held legally responsible for such invalidity of valuation conclusion due to any change in the abovementioned conditions.

The prerequisite for the validity of this valuation report is that the economic activity hereunder complies with any and all applicable state laws and regulations, and is approved by relevant authorities.

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- (II) This valuation report can only be used by the users as specified herein. The use right of the valuation report shall belong to the clients, and the valuation agency will not disclose this report to any other party without the consent of the clients.
- (III) Without permission from the valuation agency and verifying the relevant contents, all or part of the valuation report may not be copied, quoted or disclosed in public media, unless otherwise provided for by laws, regulations and otherwise agreed on by the related entrusting parties.
- (IV) The term of validity of the valuation conclusion: according to the current state regulations, the conclusion of assets valuation report shall be valid for one year, calculated from 31 May 2016, being the valuation base date, and ended on 30 May 2017. After the one-year period expired, new asset valuation shall be carried out.

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XIII.

DATE OF VALUATION REPORT

This valuation report was formally submitted on 14 October 2016.

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Legal representative of the valuation agency Li Xiaohong (26446;26313;32005;)

Certified public valuer Zhang Liang (24373;20142;)

Certified public valuer Hou Xinfeng (20399;26032;39080;)

China Appraisal Associates  
14 October 2016

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The Appendices to Assets Valuation Report (Note)

&#8226; The resolution minutes of the general manager meeting of China Huaneng Group (Edition 34, 2016);

&#8226; Engagement Letter of Asset Valuation;

&#8226; Corporate Business Licenses of the Client and the Entity Evaluated;

&#8226; Special Audit Report of Huaneng Henan Zhongyuan Gas Power Generation Co., Ltd.  
(&#33775;&#33021;&#27827;&#21335;&#20013;&#21407;  
&#27683; &#26377;&#38480;&#20844;&#21496;);

&#8226; Letters of Undertaking from the Client and the Entity Evaluated;

&#8226; Letter of Undertaking from the Undersigned Certified Public Valuer;

&#8226; The Qualification Certificates of Valuation Institutes;

&#8226; Copies of Corporate Business License of Valuation Institutes;

&#8226; The Qualification Certificates of the Undersigned Certified Public Valuer;

&#8226; Name List of Persons Participating in the Valuation Project.

Note: Relevant appendices to the asset valuation report have not been included in this circular.

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Name List of the Valuation Project Team

Certified Public Valuer

Hou Xinfeng

Certified Public Valuer

Zhang Liang

Valuers

Li Xiaosen (26446;26313;26862;)

Peng Leilei (24429;30922;30922;)

Gu Yang (21476;38525;)

Sun Boyu (23403;21338;23431;)

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APPENDIX II

REPORT FROM KPMG ON THE PROFIT  
FORECAST OF SHANDONG POWER

The following is the text of a report received from the Company's auditors, KPMG, Certified Public Accountants, Hong Kong, for inclusion in this circular.

14 October 2016

REPORT ON THE DISCOUNTED FUTURE CASH FLOWS IN CONNECTION WITH THE ASSETS VALUATION OF CERTAIN SUBSIDIARIES OF HUANENG SHANDONG POWER GENERATION CO., LTD.

TO THE BOARD OF DIRECTORS OF HUANENG POWER INTERNATIONAL, INC.

We refer to the discounted future cash flows on which the assets valuation (the "Valuation") dated 10 October 2016 prepared by Zhong He Appraisal Co., Ltd. in respect of the appraisal of the fair value of certain subsidiaries of Huaneng Shandong Power Generation Co., Ltd., including Huaneng Laiwu Power Generation Limited, Huaneng Jinan Huangtai Power Generation Limited, Huaneng Linyi Power Generation Limited, Huaneng Jiaxiang Power Generation Limited, Huaneng Jining Canal Power Generation Limited, Huaneng Zibo Baiyanghe Power Generation Limited, Shandong Rizhao Power Generation Limited, Huaneng Liaocheng Thermal Power Limited, Huaneng Yantai Power Generation Limited, Huaneng Yantai Bajiao Thermal Power Limited, Huaneng Penglai Wind Power Generation Limited, Huaneng Dongying New Energy Limited, Huaneng Rushan Wind Power Generation Limited, Huaneng Shandong Power Generation Maintenance Technology Limited and Huaneng Rongcheng New Energy Limited (the "Target Company") as at 31 May 2016 is based. The Valuation is prepared based on the discounted future cash flows and is regarded as a profit forecast under paragraph 14.61 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "Listing Rules").

Directors' Responsibilities

The directors of Huaneng Power International, Inc. (the "Directors") are responsible for the preparation of the discounted future cash flows in accordance with the bases and assumptions determined by the Directors and as set out in the Valuation. This responsibility includes carrying out appropriate procedures relevant to the preparation of the discounted future cash flows for the Valuation and applying an appropriate basis of preparation; and making estimates that are reasonable in the circumstances.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the Hong Kong Institute of Certified Public Accountants ("HKICPA"), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

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REPORT FROM KPMG ON THE PROFIT  
FORECAST OF SHANDONG POWER

The firm applies Hong Kong Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Auditor's Responsibilities

It is our responsibility to report, as required by paragraph 14.62(2) of the Listing Rules, on the calculations of the discounted future cash flows used in the Valuation. The discounted future cash flows do not involve the adoption of accounting policies.

Basis of opinion

We conducted our engagement in accordance with the Hong Kong Standard on Assurance Engagements 3000 (Revised) "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information" issued by the HKICPA. This standard requires that we plan and perform our work to obtain reasonable assurance as to whether, so far as the calculations are concerned, the Directors have properly compiled the discounted future cash flows in accordance with the bases and assumptions adopted by the Directors as set out in the Valuation. We performed procedures on the arithmetical calculations and the compilations of the discounted future cash flows in accordance with the bases and assumptions adopted by the Directors. Our work is substantially less in scope than an audit conducted in accordance with Hong Kong Standards on Auditing issued by the HKICPA. Accordingly, we do not express an audit opinion.

Opinion

In our opinion, so far as the calculations are concerned, the discounted future cash flows have been properly compiled in all material respects in accordance with the bases and assumptions adopted by the Directors as set out in the Valuation.

Other matters

Without qualifying our opinion, we draw to your attention that we are not reporting on the appropriateness and validity of the bases and assumptions on which the discounted future cash flows are based and our work does not constitute any valuation of the Target Company or an expression of an audit or review opinion on the Valuation.

The discounted future cash flows depend on future events and on a number of assumptions which cannot be confirmed and verified in the same way as past results and not all of which may remain valid throughout the period. Our work has been undertaken for the purpose of reporting solely to you under paragraph 14.62(2) of the Listing Rules and for no other purpose. We accept no responsibility to any other person in respect of, arising out of or in connection with our work.

KPMG  
Certified Public Accountants  
Hong Kong



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LETTER FROM THE FINANCIAL ADVISER ON THE  
PROFIT FORECAST OF SHANDONG POWER

The following is the text of the letter from CITIC CLSA Capital Markets, for inclusion in this circular.

The Board of Directors  
Huaneng Power International, Inc.  
Huaneng Building, 6 Fuxingmennei Street, Xicheng District Beijing, The People's Republic of China

14 October 2016

We refer to the discounted future cash flows on which the assets valuation (the "Valuation") dated 10 October 2016 has been prepared by Zhong He Appraisal Co., Ltd. (the "Independent Valuer") in respect of the appraisal of the market value of certain subsidiaries of Huaneng Shandong Power Generation Co., Ltd., namely Huaneng Laiwu Power Generation Limited, Huaneng Jinan Huangtai Power Generation Limited, Huaneng Linyi Power Generation Limited, Huaneng Jiaxiang Power Generation Limited, Huaneng Jining Canal Power Generation Limited, Huaneng Zibo Baiyanghe Power Generation Limited, Shandong Rizhao Power Generation Limited, Huaneng Liaocheng Thermal Power Limited, Huaneng Yantai Power Generation Limited, Huaneng Yantai Bajiao Thermal Power Limited, Huaneng Penglai Wind Power Generation Limited, Huaneng Dongying New Energy Limited, Huaneng Rushan Wind Power Generation Limited, Huaneng Shandong Power Generation Maintenance Technology Limited and Huaneng Rongcheng New Energy Limited (collectively the "Target Company") as at 31 May 2016. This letter is issued in compliance with the requirement under Rule 14.62(3) of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "Listing Rules").

We have reviewed the underlying forecasts (the "Forecasts") of the Valuation, for which you as the directors of Huaneng Power International, Inc. (the "Company") are solely responsible. We have attended the discussions involving the management of the Company and the Independent Valuer in respect of the bases and assumptions upon which the Forecasts have been made.

We have also considered the letter addressed solely to and for the sole benefit of the directors of the Company from KPMG (the "Auditor") dated 14 October 2016 regarding the calculations upon which the Forecasts have been made as set out in Appendix I to this announcement date 14 October 2016 (the "Announcement") regarding the Valuation.

The Forecasts have been prepared using a set of assumptions that include hypothetical assumptions about future events and other assumptions that may or may not necessarily be expected to occur and, as such, the Forecasts may not be appropriate for purposes other than for deriving the Valuation. Even if the events anticipated under the hypothetical assumptions occur, actual results are still likely to differ from the Forecasts since such anticipated events frequently may or may not occur as expected and the variation may be material.

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LETTER FROM THE FINANCIAL ADVISER ON THE  
PROFIT FORECAST OF SHANDONG POWER

We have not independently verified the computations leading to the Independent Valuer's determination of the market value of the Target Company. We have had no role or involvement and have not provided and will not provide any assessment of the market value of the Target Company and, accordingly, we take no responsibility and express no views therefor. The assessment, review and discussions carried out by us as described in this letter are based on financial, economic, market and other conditions in effect, and the information made available to us, as of the date of this letter and we have, in arriving at our views, relied on information and materials supplied to us by the Company, the Independent Valuer and the Auditor and opinions expressed by, and representations of, the employees and/or management of the Company, the Independent Valuer and the Auditor. We have assumed, without independent verification, that all information, materials and representations so supplied, including all information, materials and representations referred to or contained in the Announcement, for which you as directors of the Company are wholly responsible, were true, accurate, complete and not misleading at the time they were supplied or made and that no material fact or information has been omitted from the information and materials supplied. No representation or warranty, expressed or implied, is made by us on the accuracy, truth or completeness of such information, materials, opinions and/or representations referred to or contained in the Announcement, and we have not assumed any responsibility or liability therefor. Circumstances could have developed or could develop in the future that, if known to us at the time of this letter, would have altered our assessment and review.

On the basis of the foregoing and without giving any opinion on the reasonableness of the valuation methods, bases and assumptions selected by the Independent Valuer, for which the Independent Valuer and the Company are responsible, we are satisfied that the Forecasts, for which you as the directors of the Company are solely responsible, have been made by you after due and careful enquiry.

The work undertaken by us in giving the above opinion has been undertaken for the purpose of reporting solely to you under Rule 14.62(3) of the Listing Rules and for no other purpose. This letter may not be used or disclosed, referred or communicated (in whole or in part) to any party for any other purpose whatsoever, except with our prior written approval. We accept no responsibility to any other person in respect of, arising out of or in connection with our work.

Yours faithfully,  
For and on behalf of  
CITIC CLSA Capital Markets Limited  
Edmund Chan  
Managing Director, Head of M&A

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ASSUMPTIONS IN RELATION TO A SHARE  
PROFIT FORECAST

Assumptions that the A Share Profit Forecast is based are as follows:

(For purpose of this appendix, “the Company” refers to the company which the relevant A Share Profit Forecast is related to.)

1. HUANENG SHANDONG POWER GENERATION CO., LTD.  
(#33775;#33021; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which Huaneng Shandong Power Generation Co., Ltd. and its subsidiaries (the “Group”) is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Group operate its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Group is subject during its operation;
- (4) The production and operation plans of the Group will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Group involves;
- (6) The operational activities of the Group will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Group has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period, and the interest rate will remain stable during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

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Specific Assumptions

- (1) During the forecast period, the Group will be in good standing and operate on a stable and ongoing basis, and will consider, in an objective and reasonable manner, the possible effects of the future development plans of the Group and the overall development plans of industry;
- (2) The on-grid electricity price will be based on the latest benchmarking electricity price released by the Pricing Bureau of Shandong Province, and is arrived at by taking into account the effects of electricity price which consists costs of desulphurization, denitrification and dedusting as well as super-clean emission electricity price, if any, during the forecast period subsequent to retrofitting and acceptance procedures. Apart from these factors, the on-grid electricity price of base power in the forecast period remains stable;
- (3) The heating electricity price will be based on the actual sales price and remains stable during the forecast period, without accounting for the effect of the exemption of VAT for residential heating service on heating sales price;
- (4) Assuming that proportion of the excess power generation (power which is not bulk purchased through the grid, such as power traded on the electricity market and direct power supply) will increase year by year in the future during the forecast period; and the on-grid electricity price of the excess power will be arrived at by reference to the prevailing market price in Shandong Province, which will remain stable during the forecast period, and will change simultaneously with the on-grid electricity prices of base power;
- (5) Assuming that the purchase price of coal by the Group remains stable during the forecast period, and that the unit purchase price of coal for the year 2017 will increase by 1% from the year 2016;
- (6) Assuming that each of the approved investment projects of the Group will be completed and put into operation as planned.

2. HUANENG LAIWU POWER GENERATION CO., LTD.

(#33775;#33021;#33802;#34154; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;

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- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) During the forecast period, the Company will be in good standing and operate on a stable and ongoing basis, and will consider, in an objective and reasonable manner, the possible effects of the future development plans of the Company and the overall development plans of industry;
- (2) The on-grid electricity price will be based on the latest benchmarking electricity price released by the Pricing Bureau of Shandong Province, and is arrived at by taking into account the effects of electricity price which consists costs of desulphurization, denitrification and dedusting as well as super-clean emission electricity price, if any, during the forecast period subsequent to retrofitting and acceptance procedures. The on-grid electricity price of base power in the forecast period remains stable;
- (3) Assuming that proportion of the excess power generation of the Company (power which is not bulk purchased through the grid, such as power traded on the electricity market and direct power supply) will increase year by year in the future during the forecast period; and the on-grid electricity price of the excess power will be arrived at by reference to the prevailing market price in Shandong Province, which will remain stable during the forecast period, and will change simultaneously with the on-grid electricity prices of base power;
- (4) Assuming that the purchase price of coal by the Company remains stable during the forecast period, and that the unit purchase price of coal for the year 2017 will increase by 1% from the year 2016;



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(5) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

3. HUANENG SHANDONG RUYI COAL AND POWER CO., LTD.

(#33775;#33021; #22914;#24847; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) During the forecast period, the Company will be in good standing and operate on a stable and ongoing basis, and will consider, in an objective and reasonable manner, the possible effects of the future development plans of the Company and the overall development plans of industry;



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- (2) The on-grid electricity price will be based on the latest benchmarking electricity price released by the Pricing Bureau of Shandong Province, and is arrived at by taking into account the effects of electricity price which consists costs of desulphurization, denitrification and dedusting as well as super-clean emission electricity price, if any, during the forecast period subsequent to retrofitting and acceptance procedures. Apart from these factors, the on-grid electricity price of base power of the Company in the forecast period remains stable;
- (3) The heating electricity price will be based on the actual sales price and remains stable during the forecast period, without accounting for the effect of the exemption of VAT for residential heating service on heating sales price;
- (4) Assuming that proportion of the excess power generation of the Company (power which is not bulk purchased through the grid, such as power traded on the electricity market and direct power supply) will increase year by year in the future during the forecast period; and the on-grid electricity price of the excess power will be arrived at by reference to the prevailing market price in Shandong Province, which will remain stable during the forecast period, and will change simultaneously with the on-grid electricity prices of benchmark power;
- (5) Assuming that the purchase price of coal by the Company remains stable during the forecast period, and that the unit purchase price of coal for the year 2017 will increase by 1% from the year 2016;
- (6) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

4. HUANENG JIAXIANG POWER GENERATION CO., LTD.

(#33775;#33021;#22025;#31077; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;

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- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan and the exchange rates as announced by the Central Bank during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) During the forecast period, the Company will be in good standing and operate on a stable and ongoing basis, and will consider, in an objective and reasonable manner, the possible effects of the future development plans of the Company and the overall development plans of industry;
- (2) The on-grid electricity price will be based on the latest benchmarking electricity price released by the Pricing Bureau of Shandong Province, and is arrived at by taking into account the effects of electricity price which consists costs of desulphurization, denitrification and dedusting as well as super-clean emission electricity price, if any, during the forecast period subsequent to retrofitting and acceptance procedures. Apart from these factors, the on-grid electricity price of base power in the forecast period remains stable;
- (3) Assuming that proportion of the excess power generation of the Company (power which is not bulk purchased through the grid, such as power traded on the electricity market and direct power supply) will increase year by year in the future during the forecast period; and the on-grid electricity price of the excess power will be arrived at by reference to the prevailing market price in Shandong Province, which will remain stable during the forecast period, and will change simultaneously with the on-grid electricity prices of benchmark power;
- (4) Assuming that the purchase price of coal by the Company remains stable during the forecast period, and that the unit purchase price of coal for the year 2017 will increase by 1% from the year 2016;
- (5) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

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5. HUANENG QUFU THERMAL POWER CO., LTD.

(#33775;#33021;#26354;#38428;#29105; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) During the forecast period, the Company will be in good standing and operate on a stable and ongoing basis, and will consider, in an objective and reasonable manner, the possible effects of the future development plans of the Company and the overall development plans of industry;
- (2) The on-grid electricity price will be based on the latest benchmarking electricity price released by the Pricing Bureau of Shandong Province, and is arrived at by taking into account the effects of electricity price which consists costs of desulphurization, denitrification and



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dedusting as well as super-clean emission electricity price, if any, during the forecast period subsequent to retrofitting and acceptance procedures. Apart from these factors, the on-grid electricity price of base power in the forecast period remains stable;

- (3) The heating electricity price will be based on the actual sales price and remains stable during the forecast period, without accounting for the effect of the exemption of VAT for residential heating service on heating sales price;
- (4) Assuming that proportion of the excess power generation of the Company (power which is not bulk purchased through the grid, such as power traded on the electricity market and direct power supply) will remain stable in the future during the forecast period; and the on-grid electricity price of the excess power will be arrived at by reference to the prevailing market price in Shandong Province, which will remain stable during the forecast period, and will change simultaneously with the on-grid electricity prices of base power;
- (5) Assuming that the purchase price of coal by the Company remains stable during the forecast period, and that the unit purchase price of coal for the year 2017 will increase by 1% from the year 2016;
- (6) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

6. HUANENG JINING HIGH-TECH ZONE THERMAL POWER CO., LTD.  
(#33775;#33021;#28639;#23527;#39640;#26032;#21312;#29105; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;

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- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) During the forecast period, the Company will be in good standing and operate on a stable and ongoing basis, and will consider, in an objective and reasonable manner, the possible effects of the future development plans of the Company and the overall development plans of industry;
- (2) The on-grid electricity price will be based on the latest benchmarking electricity price released by the Pricing Bureau of Shandong Province, and is arrived at by taking into account the effects of electricity price which consists costs of desulphurization, denitrification and dedusting as well as super-clean emission electricity price, if any, during the forecast period subsequent to retrofitting and acceptance procedures. Apart from these factors, the on-grid electricity price of base power in the forecast period remains stable;
- (3) The heating electricity price will be based on the actual sales price and remains stable during the forecast period, without accounting for the effect of the exemption of VAT for residential heating service on heating sales price;
- (4) Assuming that the purchase price of coal by the Company remains stable during the forecast period, and that the unit purchase price of coal for the year 2017 will increase by 1% from the year 2016;
- (5) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

7. HUANENG JINING YUNHE POWER GENERATION CO., LTD.

(#33775;#33021;#28639;#23527;#36939;#27827; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;



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- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) During the forecast period, the Company will be in good standing and operate on a stable and ongoing basis, and will consider, in an objective and reasonable manner, the possible effects of the future development plans of the Company and the overall development plans of industry;
- (2) The on-grid electricity price will be based on the latest benchmarking electricity price released by the Pricing Bureau of Shandong Province, and is arrived at by taking into account the effects of electricity price which consists costs of desulphurization, denitrification and dedusting as well as super-clean emission electricity price, if any, during the forecast period subsequent to retrofitting and acceptance procedures. Apart from these factors, the on-grid electricity price of base power in the forecast period remains stable;
- (3) The heating electricity price will be based on the actual sales price and remains stable during the forecast period, without accounting for the effect of the exemption of VAT for residential heating service on heating sales price;

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- (4) Assuming that proportion of the excess power generation of the Company (power which is not bulk purchased through the grid, such as power traded on the electricity market and direct power supply) will increase year by year in the future during the forecast period; and the on-grid electricity price of the excess power will be arrived at by reference to the prevailing market price in Shandong Province, which will remain stable during the forecast period, and will change simultaneously with the on-grid electricity prices of base power;
- (5) Assuming that the purchase price of coal by the Company remains stable during the forecast period, and that the unit purchase price of coal for the year 2017 will increase by 1% from the year 2016;
- (6) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

8. HUANENG LIAOCHENG THERMAL POWER CO., LTD.

(#33775;#33021;#32842;#22478;#29105; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;



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- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) During the forecast period, the Company will be in good standing and operate on a stable and ongoing basis, and will consider, in an objective and reasonable manner, the possible effects of the future development plans of the Company and the overall development plans of industry;
- (2) The on-grid electricity price will be based on the latest benchmarking electricity price released by the Pricing Bureau of Shandong Province, and is arrived at by taking into account the effects of electricity price which consists costs of desulphurization, denitrification and dedusting as well as super-clean emission electricity price, if any, during the forecast period subsequent to retrofitting and acceptance procedures. Apart from these factors, the on-grid electricity price of base power in the forecast period remains stable;
- (3) The heating electricity price will be based on the actual sales price and remains stable during the forecast period, without accounting for the effect of the exemption of VAT for residential heating service on heating sales price;
- (4) Assuming that proportion of the excess power generation of the Company (power which is not bulk purchased through the grid, such as power traded on the electricity market and direct power supply) will increase year by year in the future during the forecast period; and the on-grid electricity price of the excess power will be arrived at by reference to the prevailing market price in Shandong Province, which will remain stable during the forecast period, and will change simultaneously with the on-grid electricity prices of base power;
- (5) Assuming that the purchase price of coal by the Company remains stable during the forecast period, and that the unit purchase price of coal for the year 2017 will increase by 1% from the year 2016;
- (6) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

9. HUANENG YANTAI POWER GENERATION CO., LTD.

(#33775;#33021;#29017; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;

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- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) During the forecast period, the Company will be in good standing and operate on a stable and ongoing basis, and will consider, in an objective and reasonable manner, the possible effects of the future development plans of the Company and the overall development plans of industry;
- (2) The on-grid electricity price will be based on the latest benchmarking electricity price released by the Pricing Bureau of Shandong Province, and is arrived at by taking into account the effects of electricity price which consists costs of desulphurization, denitrification and dedusting as well as super-clean emission electricity price, if any, during the forecast period subsequent to retrofitting and acceptance procedures. Apart from these factors, the on-grid electricity price of base power in the forecast period remains stable;
- (3) The heating electricity price will be based on the actual sales price and remains stable during the forecast period, without accounting for the effect of the exemption of VAT for residential heating service on heating sales price;
- (4) Assuming that proportion of the excess power generation of the Company (power which is not bulk purchased through the grid, such as power traded on the electricity market and direct power supply) will increase year by year in the future during the forecast period; and the on-



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grid electricity price of the excess power will be arrived at by reference to the prevailing market price in Shandong Province, which will remain stable during the forecast period, and will change simultaneously with the on-grid electricity prices of base power;

- (5) Assuming that the purchase price of coal by the Company remains stable during the forecast period, and that the unit purchase price of coal for the year 2017 will increase by 1% from the year 2016;
- (6) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

10. LIAOCHENG SHANDONG THERMOELECTRIC PROPERTY CO.,  
LTD. ( 32842;22478;29105; 29289;26989; 26377;38480;36012;20219;20844;21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;





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(10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

11. HUANENG TAIAN ZHONGTAI POWER GENERATION CO., LTD.

(#33775;#33021;#27888;#23433;#30526;#27888; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) During the forecast period, the Company will be in good standing and operate on a stable and ongoing basis, and will consider, in an objective and reasonable manner, the possible effects of the future development plans of the Company and the overall development plans of industry;



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- (2) The on-grid electricity price will be based on the latest benchmarking electricity price released by the Pricing Bureau of Shandong Province, and is arrived at by taking into account the effects of electricity price which consists costs of desulphurization, denitrification and dedusting as well as super-clean emission electricity price, if any, during the forecast period subsequent to retrofitting and acceptance procedures. Apart from these factors, the on-grid electricity price of base power in the forecast period remains stable;
- (3) The heating electricity price will be based on the actual sales price and remains stable during the forecast period, without accounting for the effect of the exemption of VAT for residential heating service on heating sales price;
- (4) Assuming that proportion of the excess power generation of the Company (power which is not bulk purchased through the grid, such as power traded on the electricity market and direct power supply) will be stable in the future during the forecast period as the Company's management expected; and the on-grid electricity price of the excess power will be arrived at by reference to the prevailing market price in Shandong Province, which will remain stable during the forecast period, and will change simultaneously with the on-grid electricity prices of base power;
- (5) Assuming that the purchase price of coal by the Company remains stable during the forecast period, and that the unit purchase price of coal for the year 2017 will increase by 1% from the year 2016;
- (6) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

12. LINYI BLUE SKY THERMAL POWER CO., LTD.

(#33256;#27778;#34253;#22825;#29105;#21147;#26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;

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- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) The revenue forecast provided by the management of the Company is based on the sustainable and stable operation of the Company in the future, and objective and reasonable consideration is taken of the potential effects of the future development planning of the Company and the overall development plan of local government;
- (2) It is assumed that the heating rate and thermal procurement cost adopted in the revenue forecast are consistent with those as at the valuation date, and remain unchanged during the period of the revenue forecast; the heating price is based on the actual sales price and remains stable during the period of the revenue forecast, taking no consideration of the impact on heating sales price caused by exemption on heating for residents from value added tax;
- (3) It is assumed that the governmental fiscal department may timely appropriate the urban infrastructure facilities fees in the full amount in the future operation;
- (4) It is assumed that the urban heat supply area for non-residential purpose remains unchanged in the future, and the heating season remains to be 130 days in Linyi;
- (5) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

13. SHANDONG CHANGDAO WIND POWER CO., LTD.

( &#38263;&#23798;&#39080;&#21147; &#26377;&#38480;&#36012;&#20219;&#20844;&#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;



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- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Company is subject during its operation;
- (4) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (5) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (6) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (7) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (8) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (9) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period, and the exchange rate will remain stable during the forecast period;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) It is assumed that the revenue forecast provided by the management of the Company is based on the sustainable and stable operation of the Company in the future, and objective and reasonable consideration is taken of the potential effects of the future development planning of the Company and the overall development plan of industry;
- (2) The tariff on grid adopted in this revenue forecast is determined by the latest price on electricity generated from wind power in Shandong, and in addition to the factor above, the basic tariff on grid remains stable during the forecast period, taking consideration of the renewable energy subsidies in Shandong during the forecast period;

as under the Notice of Value Added Taxation Policies on Products of Comprehensive Utilization of Resources and Other Products

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the State Administration of Taxation, the policy on an immediate 50 % VAT refund for the sales of electricity generated from wind power is implemented. It is assumed that the entity valued still enjoys this preferential policy following the Valuation Date;

- (4) In April 2016, Shandong Changdao National Nature Reserve Management Bureau announced to stop the service of No. 10, 11, 12, 13, 15 units in the Reserve, and no compensation would be made for the future demolition of the five units. In addition, the remaining 28 units are located in the experimental area of the nature reserve, so the Company is handling the rectification make-up formalities as request by the local government. The units may also be urged for shutdown or demolition in case of failure in rectification. The profit forecast is made at the premise of the assumption that those 28 units may be rectified successfully on time and run normally for power generation;
- (5) Assuming that each of the approved investment projects of the Company will be completed and put into operation as planned.

14. HUANENG JILIN POWER GENERATION CO., LTD.

(Huaneng Jilin Power Generation Co., Ltd. (Huaneng Jilin Power Generation Co., Ltd.)) (Pro forma subject)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Pro forma subject is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Pro forma subject operate its business;
- (3) The production and operation plans of the Pro forma subject will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (4) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Pro forma subject involves;
- (5) The operational activities of the Pro forma subject will not be subject to any adverse effect of the severe shortage of resources;
- (6) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (7) The Pro forma subject has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (8) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item;





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- (9) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Group is subject during its operation;
- (10) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (11) There will be no material change to the current exchange rate of Renminbi.

Specific Assumptions

- (1) The electricity price will stand at the current level and will not be subject to any material change during the forecast period;
- (2) During the forecast period, there will be no material change to the revenue from power generation, which is arrived at based on the power plan and quota of power for trade obtained in 2016, as well as the quota of power reasonably estimated and expected to achieve, and by taking into account the on-grid unit price and the unit price as specified in relevant contracts;
- (3) The main generating plant of the pro forma subject is currently operates in normal condition. Apart from regular overhaul, the planned maintenance costs incurred in the normal course of operation will stand at the current level during the forecast period;
- (4) There will be no material change to the remuneration system for the staff of the pro forma subject of this inspection; there will be no significant increase in the number of the staff and the staffing structure is sufficient to meet the operation needs of the Company; remuneration increases according to the remuneration growth plan.

15. HUANENG LINJIANG JUBAO HYDROPOWER CO., LTD.

(#33775;#33021;#33256;#27743;#32858;#23542;#27700; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments or industrial;
- (4) There will be no material change to the Company's development strategy, competition landscape of the industry and market condition of its products;



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- (5) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (6) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (7) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (8) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item;
- (9) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Group is subject during its operation;
- (10) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (11) There will be no material change to the current exchange rate of Renminbi.

Specific Assumptions

- (1) The electricity price will stand at the current level and will not be subject to any material change during the forecast period;
- (2) During the forecast period, the basic power acquired by the Company will be in line with the annual contract power as specified in the Supplementary Agreement on Purchase and Sale of Basic Power of Jilin Province for the Year 2016 and will not be subject to any material change;
- (3) The generators of the Company work normally in current, in addition to major maintenance, planned maintenance expense incurred on daily basis will remain in the current level during the forecast period;
- (4) There will be no significant change to the remuneration system for the staff of the Company; the remuneration of staff is formulated in accordance with the staffing plan and remuneration growth plan of the Company; there will be no significant increase in the number of staff and the staffing structure is sufficient to meet the operational needs of the Company.

16. HUANENG HENAN ZHONGYUAN GAS TURBINE LTD.

(#33775;#33021;#27827;#21335;#20013;#21407; #27683; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;



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- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments or industrial;
- (4) There will be no material change to the Company's development strategy, competition landscape of the industry and market condition of its products;
- (5) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (6) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (7) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (8) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item;
- (9) There will be no unexpected material change to the taxation policies and systems and relevant taxation basis or tax rates to which the Group is subject during its operation;
- (10) There will be no significant change to the benchmark interest rates on deposit and loan as announced by the Central Bank during the forecast period;
- (11) There will be no material change to the current exchange rate of Renminbi.

Specific Assumptions

- (1) The electricity price will stand at the current level and will not be subject to any material change during the forecast period;
- (2) During the forecast period, the basic power acquired by the Company will be in line with the annual contract power as specified in the Purchase and Sale Contract for Basic Power in Respect of the Deployment of Energy-saving and Emission-reduction of Power Generation for the Year 2016 and will not be subject to any material change;
- (3) During the forecast period, there will be no significant change to the proportion of self-generated power and replacement power of the Company, which will be implemented in accordance with the planned level for the year 2016;



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- (4) During the forecast period, there will be no change to the price and the pipeline transportation fees of natural gas purchased by the Company, both of which will be largely consistent with the current level;
- (5) The generators of the Company work normally in the current period, in addition to scheduled overhaul, the expense of planned maintenance incurred daily will remain in the current level during the forecast period;
- (6) During the forecast period, there will be no significant acquisition plan in relation to the fixed assets of the Company;
- (7) There will be no significant change to the remuneration system for the staff of the Company; the remuneration of staff is formulated in accordance with the staffing plan and remuneration growth plan of the Company; there will be no significant increase in the number of staff and the staffing structure is sufficient to meet the operational needs of the Company.

17. HUANENG HEGANG POWER GENERATION CO., LTD.

(#33775;#33021;#40372;#23831; #26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (4) There will be no material change to the distribution and market conditions for our products in respect of industry which the Company involves;
- (5) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
- (6) There will be no significant inflation or deflation in the country and there will be no significant change to the current inflation rate;
- (7) There will be no material change to the current inflation rate, interest rate and the exchange rate of Renminbi;
- (8) The volatility of the loan interest rate related to the operation of the Company will stay within normal range;

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- (9)The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (10)There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1)The electricity price will stand at the current level and will not be subject to any material change during the forecast period;
- (2)During the forecast period, there will be no significant change to the gross power in the year 2016, which is determined in the contract of purchase and sale of power entered into between the Company and power grid companies at the beginning of the year 2016;
- (3)During the forecast period, there will be no significant change to the consolidated electricity consumption rate of the plants, which will remain flat compared with the year 2015;
- (4)During the forecast period, there will be no significant change to the remuneration system for the staff of the Company; the number of staff is basically unchanged and the staffing structure is sufficient to meet the operational needs of the Company;
- (5)The generators of the Company work normally in the current period, in addition to scheduled overhaul, the expense of planned maintenance incurred daily will remain in the current level during the forecast period.

18. HUANENG XINHUA POWER GENERATION CO., LTD.

(#33775;#33021;#26032;#33775; #26377;#38480;#36012;#20219;#20844;#21496;)

Basic Assumptions

- (1)There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2)There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;
- (3)The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (4)There will be no material change to the distribution and market conditions for our products in respect of industry which the Company involves;
- (5)The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;





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- (6) There will be no significant inflation or deflation in the country;
- (7) There will be no material change to the current inflation rate, interest rate and the exchange rate of Renminbi;
- (8) The volatility of the loan interest rate related to the operation of the Company will stay within normal range;
- (9) The Company has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) The electricity price will stand at the current level and will not be subject to any material change during the forecast period;
- (2) During the forecast period, total power in 2016 is determined by the purchase and sale contract entered with the Power Grid in the beginning of 2016, and there will be no significant changes;
- (3) During the forecast period, power consumption rate of integrated plant basically pulls even with that in 2015, and there will have no significant changes;
- (4) During the forecast period, the remuneration system of staff in the Company will have no significant changes; the number of staff will not increase significantly, and structure of the staff can meet the requirement of the Company's operation;
- (5) The generators of the Company work normally in the current period, in addition to scheduled overhaul, the expense of planned maintenance incurred daily will remain in the current level during the forecast period.

19. ZHAODONG HUANENG THERMAL POWER CO., LTD.

(#32903; #33775;#33021;#29105;#21147;#26377;#38480;#20844;#21496;)

Basic Assumptions

- (1) There will be no material change to the current policies, laws and regulations which are imposed by central and local governments and to which the Company is subject;
- (2) There will be no material change to the current political conditions, laws, regulations, policies and the economic environment of the countries and regions where the Company operates its business;

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ASSUMPTIONS IN RELATION TO A SHARE  
PROFIT FORECAST

- (3) The production and operation plans of the Company will be completed as scheduled, and are not subject to the material impact of acts of governments, industrial or labour disputes;
- (4) There will be no material change to the distribution and market conditions for our products in respect of the industry in which the Company involves;
- (5) The operational activities of the Company will not be subject to any adverse effect of the severe shortage of resources;
  - (6) There will be no significant inflation or deflation in the country;
- (7) There will be no material change to the current inflation rate, interest rate and the exchange rate of Renminbi;
- (8) The volatility of the loan interest rate related to the operation of the Company will stay within normal range;
- (9) The Group has sufficient sources of capital, and there will be no capital issue which may result in any difficult materialization of our operational plans;
- (10) There will be no material adverse effects arising out of force majeure or unforeseeable factors or incurred by any non-recurring item.

Specific Assumptions

- (1) During the forecast period, the unit price of heating expenses will remain in the current level and no significant changes will occur;
- (2) During the forecast period, the unit price of subsidiary fees will remain in the current level and no significant changes will occur;
- (3) The generators of the Company work normally in the current period, in addition to scheduled overhaul, the expense of planned maintenance incurred daily will remain in the current level during the forecast period;
  - (4) During the forecast period, the heating cost in per unit area remains stable.

APPENDIX V

GENERAL INFORMATION

1. RESPONSIBILITY STATEMENT

This circular, for which the Directors of the Company collectively and individually accept full responsibility, includes particulars given in compliance with the Hong Kong Listing Rules for the purpose of giving information with regard to the Company. The Directors, having made all reasonable enquiries, confirm that to the best of their knowledge and belief the information contained in this circular is accurate and complete in all material respects and not misleading or deceptive, and there are no other matters the omission of which would make any statement herein or this circular misleading.

2. DISCLOSURE OF INTEREST

(a) Directors and Supervisors of the Company

As at the Latest Practicable Date, none of the Directors, chief executive or Supervisors of the Company has interests or short positions in the shares and underlying shares of the Company or any of its associated corporations (within the meaning of Part XV of the SFO) which are required to be notified to the Company and the Hong Kong Stock Exchange pursuant to Divisions 7 and 8 of Part XV of the SFO (including interests and short positions which they are taken or deemed to have under such provisions of the SFO) or which are required, pursuant to section 352 of the SFO, to be entered in the register referred to therein, or which are required, pursuant to the Model Code for Securities Transactions by Directors of Listed Companies to be notified to the Company and the Hong Kong Stock Exchange.

(b) Substantial Shareholders

As at the Latest Practicable Date, save as disclosed below, so far as is known to the Board, no persons (not being a Director, chief executive or Supervisor of the Company) had an interest or short position in the shares or underlying shares and debentures of the Company which would fall to be disclosed under the provisions of Divisions 2 and 3 of Part XV of the SFO, or, who is, directly or indirectly, interested in 5% or more of the nominal value of any class of share capital carrying rights to vote in all circumstances at the general meeting of any other member of the Company:

## APPENDIX V

## GENERAL INFORMATION

Name of shareholder	Class of shares	Number of shares held	Capacity	Approximate percentage of shareholding in the Company's total issued share capital	Approximate percentage of shareholding in the Company's total issued domestic shares	Approximate percentage of shareholding in the Company's total issued H shares
Huaneng International Power Development Corporation (Note 2)	Domestic shares	5,066,662,118(L)	Beneficial owner	33.33 % (L)	48.25 % (L)	–
China Huaneng Group (Note 3)	Domestic shares	1,672,769,384(L)	Beneficial owner	11.00 % (L)	15.93 % (L)	–
China Huaneng Group (Note 4)	H shares	472,000,000 (L)	Beneficial owner	3.11 % (L)	–	10.04 % (L)
Hebei Construction & Investment Group Co., Ltd.	Domestic shares	603,000,000 (L)	Beneficial owner	3.96 % (L)	5.74 % (L)	–
Blackrock, Inc. (Note 5)	H shares	440,166,376 (L)	Interest of controlled corporation	2.89 % (L)	–	9.36 % (L)
		1,024,000 (S)	Interest of controlled corporation	0.006 % (S)	–	0.028 % (S)
JPMorgan Chase & Co. (Note 6)	H shares	177,194,340 (L)	Beneficial owner	1.16 % (L)	–	3.76 % (L)
		15,007,502 (S)	Beneficial owner	0.09 % (S)	–	0.32 % (S)
		178,132,000 (L)	Investment manager	1.17 % (L)	–	3.78 % (L)
		2,800 (L)	Trustee	0.00001 % (L)	–	0.00005 % (L)
		110,667,219 (P)	Custodian	0.72 % (L)	–	2.35 % (L)

Notes:

- (1) The letter “L” denotes a long position. The letter “S” denotes a short position. The letter “P” denotes interest in a lending pool.
- (2) As of the Latest Practicable Date, Huaneng Group holds 51.98% direct interests and 5% indirect interests in HIPDC.
- (3) Of the 1,672,769,384 domestic shares, China Huaneng Group held 6,246,664 domestic shares through its wholly-owned subsidiary, Huaneng Capital Services Co., Ltd. and 111,398,171 domestic shares through its controlling subsidiary, Huaneng Finance.
- (4) China Huaneng Group held 472,000,000 H shares through its wholly-owned subsidiary, China Hua Neng Group Hong Kong Limited.
- (5) Long position of 6,578,000 shares and short position of 198,000 were held through cash settled derivatives (on exchange).
- (6) Long position of 1,369,400 shares and short position of 3,369,040 shares were held through physically settled derivatives (on exchange). Short position of 2,848,000 shares was held through cash settled derivatives (on exchange). Long position of 7,900,000 shares and short position of 8,342,478 shares were held through physically settled derivatives (off exchange). Long position of 15,615,984 shares and short position of 371,984 shares were held through cash settled derivatives (off exchange).

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GENERAL INFORMATION

Save as disclosed above, the Company is not aware of any other person (other than the directors, supervisors and senior executives of the Company) having any interests or short positions in the shares and underlying shares of the Company as at the Latest Practicable Date as recorded in the register required to be kept by the Company pursuant to section 336 of the SFO.

As at the Latest Practicable Date, save as disclosed below, so far as is known to the Board, no director or supervisor is a director or employee of a company which has an interest or short position in the shares and underlying shares of the Company which would fall to be disclosed under the provisions of Divisions 2 and 3 of Part XV of the SFO:

Directors

- (i) Mr. Cao Peixi is the president of China Huaneng Group and the chairman of Huaneng International Power Development Corporation and Huaneng Renewables Corporation Limited;
- (ii) Mr. Guo Junming is the chief accountant of China Huaneng Group and director of Huaneng International Power Development Corporation;
- (iii) Mr. Liu Guoyue is the deputy general manager of China Huaneng Group and director of Xi'an Thermal Research Institute Company Limited;
- (iv) Mr. Li Shiqi is the general manager of Huaneng International Power Development Corporation;
- (v) Mr. Huang Jian is the assistant to president of China Huaneng Group, chairman of Huaneng Capital Services Company Limited, and chairman of Huaneng Hainan Power Ltd.;
- (vi) Mr. Fan Xiaxia is the vice president of Huaneng Shidaowan Nuclear Power Co., Ltd.; and

Supervisors

- (vii) Ms. Zhang Mengjiao is the manager of the Finance Department of Huaneng International Power Development Corporation supervisor of Huaneng Anyuan Power Generation Limited Liability Company supervisor of Huaneng Duanzhai Coal and Electricity Co., Ltd., supervisor of Huaneng Chaohu Power Generation, Co., Ltd., and Chairperson of the supervisory committee of Huaneng Shaanxi Power Generation Co., Ltd..

3. NO MATERIAL ADVERSE CHANGE

The unaudited net profit attributable to shareholders of the Company for the nine months ended 30 September 2016 decreased by 29.06% compared with the same period of last year (please refer to the Company's Third Quarterly Report of 2016 dated 25 October 2016 for details).

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## GENERAL INFORMATION

Save as disclosed above, as at the Latest Practicable Date, the Directors were not aware of any material adverse change in the financial or business position of the Company and its subsidiaries since 31 December 2015, being the date to which the latest published audited accounts of the Company and its subsidiaries were made up to.

## 4. MATERIAL LITIGATION

As at the Latest Practicable Date, none of the Company and its subsidiaries was engaged in any material litigation or arbitration and there was no litigation or claim of material importance known to the Directors to be pending or threatened by or against the Company and its subsidiaries.

## 5. EXPERTS' QUALIFICATION AND CONSENTS

Each of the following expert has given and has not withdrawn its written consent to the issue of this circular with the inclusion of its letter, reports or statements and references to its name and logo in the form and context in which they are included:

Name	Qualification
Hubei Zhonglian Appraisal Co., Ltd.	PRC Certified Public Valuer
China Appraisal Associates	PRC Certified Public Valuer
CITIC CLSA Capital Markets	a licensed corporation to carry out Type 4 (advising on securities) and Type 6 (advising on corporate finance) regulated activities under the SFO
Gram Capital Limited	a licensed corporation to carry on Type 6 (advising on corporate finance) regulated activity as defined under the SFO
Haiwen & Partners	PRC Legal Adviser
KPMG	Certified Public Accountants in Hong Kong
KPMG Huazhen LLP	Certified Public Accountants in PRC
PricewaterhouseCoopers Zhong Tian LLP	Certified Public Accountants in PRC
ZhongHe Appraisal Co., Ltd.	PRC Certified Public Valuer

To the best knowledge information and belief of the Directors, as at the Latest Practicable Date, each of the above mentioned experts was not beneficially interested in the share capital of the Company and its subsidiaries nor did it have any right, whether legally enforceable or not, to subscribe for or to nominate persons to subscribe for securities in the Company and its subsidiaries.





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GENERAL INFORMATION

As at the Latest Practicable Date, each of the above mentioned experts did not have any direct or indirect interest in any assets which had since 31 December 2015 (being the date to which the latest published audited accounts of the Company were made up) been acquired or disposed of by or leased to the Company and its subsidiaries, or were proposed to be acquired or disposed of by or leased to the Company and its subsidiaries.

6. SERVICE CONTRACTS

As at the Latest Practicable Date, none of the Directors of the Company had entered into any service contract with the Company or its subsidiaries which does not expire or is not terminable by the Company and its subsidiaries within one year without payment of compensation, other than statutory compensation.

7. INTERESTS OF DIRECTORS OR SUPERVISORS IN THE ASSETS OR CONTRACTS OF THE COMPANY AND ITS SUBSIDIARIES

As at the Latest Practicable Date, none of the Directors or Supervisors of the Company had any interest in any assets which had since 31 December 2015 (being the date to which the latest published audited accounts of the Company were made up) been acquired or disposed of by or leased to the Company and its subsidiaries, or were proposed to be acquired or disposed of by or leased to the Company and its subsidiaries.

As at the Latest Practicable Date, none of the Directors or Supervisors was materially interested in any contract or arrangement subsisting at the Latest Practicable Date which was significant in relation to the business of the Company.

8. INTERESTS OF DIRECTORS IN COMPETING BUSINESS

As at the Latest Practicable Date, none of the Directors or their respective associates has interests in the businesses, other than being a Director, which compete or are likely to compete, either directly or indirectly, with the businesses of the Company (required to be disclosed under Rule 8.10 of the Hong Kong Listing Rules should they be controlling shareholders).

9. MISCELLANEOUS

(a) Mr. Du Daming is the Company Secretary and Board Secretary of the Company.

(b) The legal address of the Company is Huaneng Building, 6 Fuxingmennei Street, Xicheng District, Beijing, PRC. The H Share registrar of the Company in Hong Kong is Hong Kong Registrars Limited at Shops 1712-1716, Hopewell Centre, 183 Queen's Road East, Wanchai, Hong Kong.

(c) In the case of any discrepancy, the English text of this circular and form of proxy shall prevail over the Chinese text.

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GENERAL INFORMATION

10. DOCUMENTS FOR INSPECTION

Copy of the following documents will be available for inspection at the office of Herbert Smith Freehills at 23/F., Gloucester Tower, 15 Queen's Road Central, Hong Kong during normal business hours on any weekday (except public holidays) from the date of this circular up to and including 30 November 2016:

- (a) the letter from the Independent Board Committee, as set out in this circular;
- (b) the letter from the Gram Capital, the Independent Financial Adviser, as set out in this circular;
- (c) the Asset Valuation Report (with relevant appendices) of Shandong Power prepared by ZhongHe Appraisal Co., Ltd., the summary of such report is set out in Appendix I(i) to this circular;
- (d) the Asset Valuation Report (with relevant appendices) of Jilin Power prepared by Hubei Zhonglian Assets Appraisal Co., Ltd., the summary of such report is set out in Appendix I(ii) to this circular;
- (e) the Asset Valuation Report (with relevant appendices) of Heilongjiang Power prepared by China Appraisal Associates, the summary of such report is set out in Appendix I(iii) to this circular;
- (f) the Asset Valuation Report (with relevant appendices) of Zhongyuan CCGT prepared by China Appraisal Associates, the summary of such report is set out in Appendix I(iv) to this circular;
- (g) the report from KPMG on the Profit Forecast of Shandong Power, the text of which is set out in Appendix II to this circular;
- (h) the letter from the Financial Adviser on the Profit Forecast of Shandong Power, the text of which is set out in Appendix III to this circular;
- (i) the consent letters referred to in the section headed "Experts' qualification and consents" in this Appendix;
- (j) Transfer Agreement;
- (k) Profit Forecast Compensation Agreement; and
- (l) this circular.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the under-signed, thereunto duly authorized.

HUANENG POWER INTERNATIONAL, INC.

By */s/ Du Daming*

Name: Du Daming  
Title: Company Secretary

Date: November 15, 2016